ISSN: 3088-2397 (online)
Vol.13 No.2 July-December 2026

Organizational Drivers of Digital Literacy in Thai SMEs : A Communication Perspective on the Mediating Role of Innovation Capability

Somsak Klaysung[1], Nattapong Techarattanased[2*], and Chutima Klaysung[3]
Films and Digital Media Major, Communication Arts Program, College of Communication Arts, Suan Sunandha Rajabhat University[1], Faculty of Management Science, Suan Sunandha Rajabhat University,Bangkok, Thailand[2, 3]
**Corresponding Author*. E-mail: nattapong.te@ssru.ac.th

Received August 10, 2026; **Revised** August 27, 2026; **Accepted** September 8, 2026

Abstract

Small and medium-sized enterprises (SMEs) are a pillar of Thailand's economic structure, yet technological and innovation-related gaps hinder their digital literacy and communication readiness in a competitive market. In this context, developing organizational capabilities supporting innovation and digital literacy has become increasingly important for SMEs. These capabilities help them respond to the technological change, improve their competitiveness and adapt efficiently to the continuous demands of digital transformation. This study examines whether five antecedent factors, entrepreneurial orientation, transformational leadership, social capital, knowledge process capability, and total quality management practices, affect SME digital literacy through the mediating role of innovation capability. Data were collected from 508 Thai SME owner-managers, chief executive officers, and senior managers using purposive sampling, and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The findings indicate that transformational leadership ($\beta = 0.190$), social capital ($\beta = 0.101$), and total quality management practices ($\beta = 0.135$) significantly strengthen innovation capability, which in turn shapes digital literacy outcomes ($\beta = 0.147$). Entrepreneurial orientation and knowledge process capability do not exhibit the same direct influence. Innovation capability further mediates the relationship between transformational leadership and digital literacy ($\beta = 0.028$) and between total quality management practices and digital literacy ($\beta = 0.020$). This mediating role does not extend to entrepreneurial orientation, social capital, or knowledge process capability. Situated within Thailand's collectivist, relational, and development-oriented business culture, this study contributes to the theoretical understanding of SME digital literacy and communication competence. The findings also offer actionable implications for policymakers and practitioners.

Keywords: Digital Literacy; Innovation Capability; Entrepreneurial Orientation; Transformational Leadership; Social Capital

Introduction

Small and medium enterprises (SMEs) are a key driver of economic growth and play an important role in the development of global economies as they are the main source of employment, income and economic diversification (Inegbedion et al., 2024). This is even more striking in Thailand. SMEs account for 99.5 percent of the total number of firms in the country, account for 35.3 percent of the total gross domestic product, while also employing about 69.5 percent of the national workforce. It highlights the structural centrality of SMEs to Thailand's economic model (World Bank, 2025). Although Thai SMEs make a significant contribution to the economy, they still face challenges in maintaining digital literacy and communication

ISSN: 3088-2397 (online)
Vol.13 No.2 July-December 2026

readiness in a highly competitive regional and global market. The Thai government has recognized SME development as a strategic national milestone that indicates the tremendous potential, but the continuing digital literacy gap in this sector. Understanding what drives SME digital literacy is not merely an academic exercise, but an issue of national economic importance (NESDC, 2023). Entrepreneurial orientation has a proven tendency to act as one of the most studied antecedents to digital literacy and capability development in the literature on strategic management and communication studies. Accordingly, proactive, risk-taking, and innovative firms are more likely to take advantage of opportunities and to respond to market disruptions (Suder et al., 2025).

Similarly, there have appeared far more studies on transformational leadership as a way in which leaders inspire vision, intellectual creativity, and organizational commitment in the workforce, to allow firms to better pursue growth and communication-driven innovation (Agazu et al., 2025). Concurrently, social capital, defined as the connections and trust that firms develop with external stakeholders, has been seen as a vital resource for knowledge exchange, access to resources, and collaborative advantage (Do et al., 2026). These factors, as a whole, are the individual and relational aspects of organizational capability and they also influence firms' digital literacy (Raharjo et al., 2024).

Outside of orientation and leadership, the internal processes by which a firm develops, stores, and deploys knowledge have received more attention as a strong catalyst to competitive success (Durst et al., 2023; Wierzbiński et al., 2023). Knowledge process capability can refer to the ability of an organization to capture, communicate, share, and leverage knowledge resources, for the purpose of creating strategic value (Hernández-Linares et al., 2024). At the same time, total quality management practices encompassing continuous improvement, customer focus, process management, and employee empowerment are closely related to operational excellence and conducive to creating the conditions for innovation (Yirga & Beshir, 2025). When effectively designed and applied, such capabilities provide the internal conditions for firms to create and maintain innovation capability, which in turn provides for translation of organizational inputs into measurable digital literacy outcomes (Zahoor et al., 2023).

Innovation capability is a very high-priority aspect of the modern business concept. The capability to develop new goods, services, and processes is no longer a competitive differentiator for some it is a survival imperative for all (Jalil et al., 2022). In Thailand, the difficulties are particularly daunting. Only 11.9 percent of Thai firms incorporate innovation into their production processes in comparison to 40.9 percent in the Philippines, 37.9 percent in Vietnam, and 37.3 percent in Malaysia, placing Thailand at the bottom of the ASEAN innovation rankings (World Bank, 2025).

Nevertheless, despite increasing attention paid to the nuances of how each of these constructs relates to digital literacy, there are still a number of critical gaps in the research literature (Zahoor et al., 2023). One, most of these studies have been designed in developed-economy contexts where Southeast Asian emerging markets have been vastly under-researched (Reshi et al., 2025; Suttipun & Insee, 2024). Second, although several previously published works have investigated the couple or triad of these constructs, very few analyses to date have incorporated all five antecedents into a single, unified framework. Thirdly, there has been little empirical research on innovation capability as a mediator between the antecedents mentioned above and digital literacy in the Thai SME environment (Panya & Petchsawang, 2025). Fourth, the unique institutional and cultural environment prevalent in Thailand, which is characterised by relational business norms, collectivist values and the government-led Thailand agenda, shape these relationships in ways that findings from other contexts may not be able to fully account for (Thawesaengskulthai et al., 2024).

ISSN: 3088-2397 (online)
Vol.13 No.2 July-December 2026

Research Objectives

The present study attempts to fill these gaps through the following objectives:

1. To investigate the direct relationships between entrepreneurial orientation, transformational leadership, social capital, knowledge process capability, and total quality management practices, and innovation capability of Thai SMEs.
2. To explore the direct effect of innovation capability on digital literacy.
3. To test the mediating role of innovation capability in the relationship between each of the five independent variables and digital literacy.
4. To contribute to the developing literature on SME digital literacy in Southeast Asia by providing empirical evidence grounded in the Thai context, offering theoretical contributions to the strategic management and communication literature and practical insights for SME owners, managers, and policymakers.

Literature Review

This study is theoretically grounded in the resource-based view (RBV) of the firm, originally formulated by Barney (1991). Fundamentally, RBV argues that organizations do not maintain persistent competitive advantage and superior performance because their positions in the external markets are highly competitive, but because they possess and utilize internal resources and capabilities valuable, rare, inimitable, and non-substitutable. This study argues that entrepreneurial orientation, transformational leadership, social capital, knowledge process capability, and TQM practices jointly foster innovative capacity and hence are the proximate determinants of digital literacy.

The study of Qasim et al. (2025) found that entrepreneurial orientation gives a firm a positive relationship and enhances the resilience of innovatory abilities of firms in SME contexts in a variety of emerging economies. Theoretical evidence suggests that innovativeness, proactiveness, and risk-taking each have independently positively affected innovation performance in firms in competitive and dynamic settings (Singh & Singh, 2024). Together, these findings consistently support the role of entrepreneurial orientation in enhancing firms' innovation capability. Hence, this study postulates:

H1: Entrepreneurial orientation has a significant effect on innovation capability.

Idealized influence develops the trust and psychological safety that employees require to feel driven to experiment and generate ideas, and individualized consideration identifies, grows, and directs each individual's creative talent through targeted communication and feedback to be relevant to the organization's innovation objectives (Huang et al., 2026). Transformational leaders have a significant impact on promoting explorative and exploitative innovation activities among SMEs, as shown in previous research (Jabbour Al Maalouf et al., 2025). Although both studies support the association, they highlight different mechanisms by which transformational leadership can foster innovation. Accordingly, this study hypothesizes that:

H2: Transformational leadership has a significant effect on innovation capability.

Social capital is framed as being one of the sum of the existing (actual and potential) resources which are within the network of relationships of a persons or organisation as well as the resources that may arise from that network (Nahapiet & Ghoshal, 1998). Furthermore, Do et al. (2026) pointed out the positive and significant relationship between social capital initiatives among SMEs, which is interpersonal and also among organizations, and their behavior toward innovation, and they propose that social capital is a positive and relevant route to improve the digital literacy through the indirect channels. As Thai SMEs are embedded in relational (network-oriented) business contexts, social capital is a particularly relevant tool for the organisation to promote and maintain innovation ability. Therefore, this study postulates that:

ISSN: 3088-2397 (online)
Vol.13 No.2 July-December 2026

H3: Social capital has a significant effect on innovation capability.

The prior study of Migdadi (2022) found that knowledge management processes are closely connected, and together they constitute innovation capability, which, in turn, serves as an organizational infrastructure for driving increased digital literacy outcomes. Moreover, previous studies have found that knowledge management capabilities enhance innovation performance through environmental dynamism, something that is particularly relevant for the fast-changing competition among Thai SMEs (Kamasak et al., 2016). Therefore, the following hypothesis is formulated in this study:

H4: Knowledge process capability has a significant effect on innovation capability.

Total Quality Management (TQM) is a widely accepted holistic management philosophy that embeds quality in every aspect of an organization's operations to attain continuous improvement, customer satisfaction, and operational excellence (Duh et al., 2012; Yirga & Beshir, 2025). Organizations that practice TQM complementing with knowledge management not only control their activities better, they are also more innovative, further illustrating the importance of the complementary and synergistic link between quality practices and innovation capability (Soufeljil et al., 2026). Yet, the evidence remains somewhat inconsistent, as Yusr et al. (2022) reported no direct influence of TQM on product innovation performance among Malaysian SMEs, suggesting that the relationship may be contingent upon complementing organisational capabilities. In the face of the informal and inconsistent processes management of Thai SMEs, systematic TQM practice has emerged as an approach that allows organizations to develop the organisational discipline, as well as the learning culture required for continued innovation capability. Accordingly, this study hypothesizes that:

H5: Total quality management practices have a significant effect on innovation capability.

Innovation capability is understood by most researchers as the ability of a firm to consistently transform knowledge, ideas, and organizational resources into new products, processes, services, and business models that provide value to the market and drive firms' competitive position (Lin, 2007; Moreira et al., 2024). The relationship between innovation-related capabilities and digital literacy was reinforced to further ensure the practical relevance of this relationship to the Thai situation (Sriboonlue & Sriboonlue, 2026). This mediating logic is supported by empirical evidence in all five proposed pathways: entrepreneurial orientation (Qasim et al., 2025), transformational leadership (Agazu et al., 2025), and social capital, which enhanced digital literacy indirectly by enhancing the innovations it facilitates (Do et al., 2026). Regarding knowledge process capability, Migdadi (2022) verified that knowledge management processes generate digital literacy through the innovation capability they cultivate. Regarding TQM practices, innovation capability serves as the key mediator between quality behaviour and digital literacy outcomes (Khalfallah et al., 2022). Studies within the Thai SME context revealed a strong positive and significant effect of innovation capacity on digital literacy (Panya & Petchsawang, 2025). Taken together, these findings across various geographical and sectoral contexts provide a solid basis for the following mediation hypotheses, illustrated in figure 1. Accordingly, this study proposes that:

H6: Innovation capability has a significant effect on digital literacy.

H7: Innovation capability mediates the relationship between entrepreneurial orientation and digital literacy.

H8: Innovation capability mediates the relationship between transformational leadership and digital literacy.

H9: Innovation capability mediates the relationship between social capital and digital literacy.

ISSN: 3088-2397 (online)
Vol.13 No.2 July-December 2026

H10: Innovation capability mediates the relationship between knowledge process capability and digital literacy.

H11: Innovation capability mediates the relationship between TQM practices and digital literacy.

Taken together, these theoretical and empirical foundations establish a coherent framework linking organizational resources, innovation capability, and digital literacy among Thai SMEs.

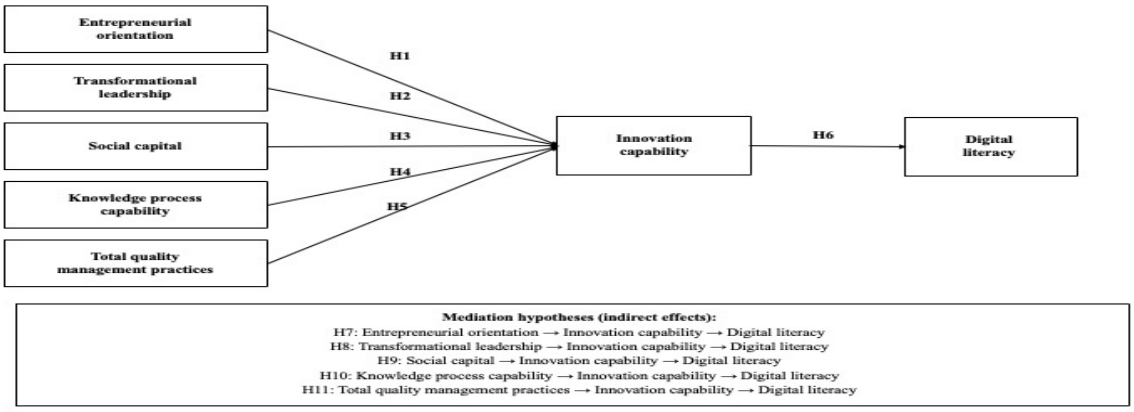


Figure.1 Conceptual Framework

Research Methodology

This study employs a quantitative cross-sectional research design to empirically examine the relationships among entrepreneurial orientation, transformational leadership, social capital, knowledge process capability, TQM practices, innovation capability, and digital literacy among Thai SMEs. All measurement items were adapted from existing and validated scales, and were anchored on a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). Such an approach is also consistent with the literature in strategic management and communication studies that focuses on firm-level constructs using key informant surveys (Hair et al., 2019). The survey instrument comprised 56 items across seven constructs: entrepreneurial orientation measured with nine items adapted from Mahmood and Hanafi (2013), transformational leadership measured with seven items adapted from Carless et al. (2000), social capital measured with eight items adapted from Kouvonen et al. (2006), knowledge process capability measured with twelve items adapted from Wu and Chen (2014), total quality management practices measured with seven items adapted from Duh et al. (2012), innovation capability measured with six items adapted from Lin (2007), and digital literacy measured with seven items adapted from Ji and Zhuang (2023). Owner-managers, chief executive officers, and senior managers in Thai SMEs are thus considered as the target population as they also have the organizational knowledge and strategic visibility required to reliably answer items across all constructs analyzed in this study. A purposive sampling approach was applied in order to meet the exact specifications for both theoretical relevance as well as the adequacy of data and the study has obtained 508 usable responses. Prior to the primary data collection, a pretest was carried out with a panel of 3 academics and 4 SME practitioners to assess the clarity, readability, and content validity of the questionnaire items. In the wake of pretest feedback, minor changes to item wording were made to enhance meaning within the context of Thai business. To mitigate against common method bias an established issue in single-source survey research both procedural and statistical solutions were employed. Respondent anonymity was assured, the research purpose was stated clearly,

ISSN: 3088-2397 (online)
Vol.13 No.2 July-December 2026

and items from different constructs were separated within the questionnaire to reduce item proximity effects (Memon et al., 2021; Podsakoff et al., 2003). Harman's single-factor test was used as an initial diagnostic step, along with a rigorous unmeasured latent method construct approach to test whether common method variance put the validity of the findings at risk (Liang et al., 2007).

Demographic variables included respondent gender, age, educational level, and position in the enterprise, as well as firm-level characteristics including years of business operation, firm size by number of employees, and industry sector. Among the respondents, 52 percent were male and 48 percent were female. In terms of age, the largest group fell within the 30 to 39 age range (31%), followed by those aged 40 to 49 (29%). Regarding educational background, the majority of respondents held a bachelor's degree (43%), followed by master's degree holders (29%). The service sector represented the largest industry group (31%), followed by trade and retail (28%) and manufacturing (23%). In terms of firm size, the majority of firms employed between 6 and 30 employees (49%), followed by those employing between 31 and 50 employees (31%). While firms operating between 6 and 10 years constituted the dominant firm age category (34%). Regarding respondent position, owner-managers represented the largest group (54%), followed by senior managers (29%). Participants were informed in writing of the voluntary nature of participation, the confidentiality of their responses, and their right to withdraw at any stage without penalty. Information was gathered from online and in-person dissemination of the questionnaire in various Thai provinces to enhance the geographical diversity and sample representativeness. Data was analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) using SmartPLS 4 with 5,000 bootstrap resamples, selected because of its suitability for complex path model architectures with reflective constructs and its performance under non-normal data conditions (Raza et al., 2024).

Research Finding

All indicator loadings exceeded the recommended threshold of 0.60, confirming that each item sufficiently represents its respective latent construct. Loadings across all constructs ranged from 0.609 to 0.796, demonstrating acceptable to strong item-level reliability. The lowest loading observed was EO5 (0.609) under entrepreneurial orientation, which still meets the minimum acceptable criterion. The highest loading was KPC1 (0.796) under knowledge process capability, reflecting a particularly strong item-construct relationship. Cronbach's alpha values for all constructs surpassed the commonly accepted threshold of 0.70, ranging from 0.834 (innovation capability) to 0.923 (knowledge process capability). These values indicate satisfactory internal consistency across all scales. Composite reliability (CR) values further confirmed this finding, with scores ranging from 0.877 to 0.933, all exceeding the threshold of 0.70. Knowledge process capability recorded the highest CR value of 0.933, while innovation capability recorded the lowest at 0.877, both well above the acceptable benchmark. Convergent validity was assessed using the average variance extracted (AVE). The majority of constructs met the recommended AVE threshold of 0.50, including transformational leadership (0.571), social capital (0.540), total quality management practices (0.549), innovation capability (0.544), knowledge process capability (0.537), and digital literacy (0.520). Entrepreneurial orientation (AVE = 0.505) recorded a value marginally at or near the threshold. Overall, the measurement model demonstrates satisfactory psychometric properties. The constructs exhibit strong internal consistency, acceptable indicator reliability, and adequate convergent validity. These results collectively confirm that the measurement instruments used in this study are reliable and valid, providing a sound foundation for proceeding with structural model analysis and hypothesis testing.

ISSN: 3088-2397 (online)
Vol.13 No.2 July-December 2026

Discriminant validity was assessed using the Heterotrait-Monotrait ratio (HTMT). All HTMT values across the seven constructs of entrepreneurial orientation, digital literacy, innovation capability, knowledge process capability, social capital, total quality management practices, and transformational leadership fell well below the conservative threshold of 0.85 (Henseler et al., 2015). Values ranged from a low of 0.082 (digital literacy and TQM practices) to a high of 0.242 (transformational leadership and innovation capability). Since no pair of constructs exceeded the threshold, discriminant validity is fully established. This confirms that each construct is empirically distinct, strengthening the overall integrity of the measurement model.

Prior to testing the structural paths, collinearity among the predictor constructs was assessed using the variance inflation factor (VIF). VIF values for the paths to innovation capability ranged from 1.032 to 1.091, and the VIF for the path from innovation capability to digital literacy was 1.000, all well below the threshold of 5 (Hair et al., 2019), indicating no multicollinearity concern. The model explained 9.6 percent of the variance in innovation capability ($R^2 = 0.096$, adjusted $R^2 = 0.087$) and 2.1 percent of the variance in digital literacy ($R^2 = 0.021$, adjusted $R^2 = 0.020$). Effect sizes (f^2) for the paths to innovation capability ranged from 0.002 (knowledge process capability) to 0.039 (transformational leadership), and the path from innovation capability to digital literacy showed an f^2 of 0.022, indicating small effect sizes overall (Hair et al., 2019). Predictive relevance was confirmed through Q^2predict values greater than zero for both innovation capability (Q^2predict = 0.065) and digital literacy (Q^2predict = 0.011). The model showed an acceptable fit, with a standardized root mean square residual (SRMR) of 0.048, below the 0.08 threshold (Hair et al., 2019).

Table 1 Hypothesis of study

	Original sample	Sample mean	STDEV	T statistics	P values	Decision
H1: Entrepreneurial Orientation -> Innovation Capability	0.078	0.092	0.043	1.82	0.069	Rejected
H2: Transformational Leadership -> Innovation Capability	0.19	0.192	0.044	4.345	0	Accepted
H3: Social Capital -> Innovation Capability	0.101	0.109	0.038	2.643	0.008	Accepted
H4: Knowledge Process Capability -> Innovation Capability	0.042	0.057	0.045	0.943	0.346	Rejected
H5: Total Quality Management Practices -> Innovation Capability	0.135	0.14	0.039	3.47	0.001	Accepted
H6: Innovation Capability -> Digital Literacy	0.147	0.162	0.04	3.652	0	Accepted
H7: Entrepreneurial Orientation -> Innovation Capability -> Digital Literacy	0.011	0.015	0.008	1.397	0.162	Rejected
H8: Transformational Leadership -> Innovation Capability -> Digital Literacy	0.028	0.031	0.01	2.83	0.005	Accepted
H9: Social Capital -> Innovation Capability -> Digital Literacy	0.015	0.018	0.008	1.808	0.071	Rejected
H10: Knowledge Process Capability -> Innovation Capability -> Digital Literacy	0.006	0.009	0.008	0.799	0.424	Rejected
H11: Total Quality Management Practices -> Innovation Capability -> Digital Literacy	0.02	0.023	0.009	2.258	0.024	Accepted

ISSN: 3088-2397 (online)
Vol.13 No.2 July-December 2026

As shown in Table 1, transformational leadership, social capital, and total quality management practices had a significant positive effect on innovation capability, while entrepreneurial orientation and knowledge process capability did not reach statistical significance. Innovation capability, in turn, had a significant positive effect on digital literacy. Furthermore, innovation capability significantly mediated the relationships between transformational leadership and digital literacy, and between total quality management practices and digital literacy, while the indirect paths through entrepreneurial orientation, social capital, and knowledge process capability were not significant.

Discussions and Conclusion

Transformational leadership emerged as the strongest predictor of innovation capability. When leaders articulate a clear vision, motivate employees, and encourage creative thinking, the organization's capacity for innovation is meaningfully enhanced (Agazu et al., 2025; Tran et al., 2025). Total quality management (TQM) practices also demonstrated a significant positive effect on innovation capability. Organizations that embed quality principles into their operations appear better positioned to generate and sustain innovative outputs (Khalfallah et al., 2022; Soufeljil et al., 2026; Yirga & Beshir, 2025). Social capital similarly exerted a significant influence on innovation capability, highlighting the value of relational networks, trust, and inter-organizational ties in enabling knowledge sharing and collaborative innovation. Access to diverse social networks provides firms with external ideas and resources that stimulate innovative activity (Do et al., 2026; Pal et al., 2026; Zhou et al., 2022). By contrast, entrepreneurial orientation failed to reach statistical significance in predicting innovation capability, falling just short of the conventional 0.05 threshold. While the relationship is positive, suggesting a theoretical alignment, the effect was not strong enough to be confirmed in this sample (Reshi et al., 2025; Suder et al., 2025). Within the Thai SME context, this might imply that an entrepreneurial orientation by itself is not enough to improve innovation capability. Its impact may be contingent upon other relational and organisational capabilities (Jirawuttinunt & Wongsahai, 2021). Similarly, knowledge process capability did not significantly predict innovation capability, which is a notable finding. This may suggest that possessing knowledge management processes alone is insufficient unless those processes are actively leveraged and aligned with innovation strategies (Hashem et al., 2024; Kamasak et al., 2016). This interpretation is also relevant to Thai SMEs where the contribution of knowledge-related capabilities to innovation may depend on the complementary leadership and organisational mechanisms that enable the effective application of knowledge (Chaithanapat et al., 2022). Innovation capability significantly and positively predicted digital literacy, confirming that firms which develop stronger innovative competencies are better able to achieve superior digital literacy outcomes (Lestan & Clausen, 2026; Panya & Petchsawang, 2025). Among the indirect effects tested, two were statistically supported. Transformational leadership significantly influenced digital literacy through innovation capability, and TQM practices similarly exerted a significant indirect effect. These findings confirm that innovation capability serves as a meaningful mechanism through which leadership and quality management translate into improved digital literacy (Agazu et al., 2025; Khalfallah et al., 2022; Tran et al., 2025). In contrast, the indirect paths through entrepreneurial orientation, knowledge process capability, and social capital were not significant, indicating that innovation capability does not mediate these relationships in a statistically meaningful way within this study's context (Hashem et al., 2024; Kusa et al., 2024). Taken together, the results highlight transformational leadership and TQM practices as the most influential drivers of innovation and digital literacy, while

ISSN: 3088-2397 (online)
Vol.13 No.2 July-December 2026

indicating contextual limitations in the roles of entrepreneurial orientation and knowledge process capability.

Recommendation

The implications of this study have importance for Thai SME practitioners, entrepreneurs and policymakers that must work for the design and adoption of SME development projects. The key takeaway for business leaders and managers is that transformational leadership emerged as the most promising predictor of their ability to innovate. Transformational leadership training, with an emphasis on communication skills and inspirational messaging, should be mainstreamed in the leadership development courses provided by government-funded organizations in their SME capacity-building programs. The conclusion that TQM practices greatly improve capability for innovation has direct implications for Thai SMEs. Business owners should recognize and integrate quality-oriented processes and standards, as they are both a compliance mechanism and an innovation enabler. It is recommended that policymakers establish more awareness and practice in TQM principles among Thai SMEs, particularly the small and micro enterprises, through targeted grants, mentor programs, and simplified paths for excellence certification. Moreover, social capital had positive impacts on innovation capability, indicating that relational networks are a company's strategic capital. Thai SME owners can regard involvement in associations and development networks, as well as government-sponsored SME clusters, as deliberate investments in their companies' external knowledge pools and communication channels. For policymakers, the non-significant direct effects of entrepreneurial orientation and knowledge process capability on innovation capability mean that, without structural and relational conditions, these factors may struggle to function as effective agents or mechanisms of innovation.

Limitations

This study also has several shortcomings. The application of purposive sampling could restrict the generalizability of the findings to the participating Thai SMEs. The cross-sectional design of the survey captures relationships between constructs at a single point in time and does not allow observation of changes in these associations over time. In addition, the study was conducted in the Thai context of SMEs and therefore the results may not be directly generalized to the SMEs in other national and cultural contexts.

New Knowledge

This study contributes significantly to the literature on business excellence, entrepreneurship and digital literacy in emerging economies by supporting the resource-based view empirically in the context of Thai SMEs. The findings explicitly separate organisational resources that engage through innovation capability from those whose effect is restricted to innovation capability itself. Transformational leadership and TQM practices foster digital literacy through innovation capability, whereas social capital enhances innovation capability without having a significant indirect impact on digital literacy. Accordingly, the research broadens the concept of innovation capability beyond a mere organisational attribute by demonstrating that its mediating role is contingent upon the specific type of organisational resource. The mediation was affirmed for transformational leadership and TQM practices, yet not for entrepreneurial orientation, social capital, or knowledge process capability. Additionally, this study advances cross-cultural management and communication studies since it shows that constructs that have been evaluated largely within Western and East Asian contexts retain theoretical relevance, although their empirical effects vary in consideration of Thailand's particular cultural environment.

ISSN: 3088-2397 (online)
Vol.13 No.2 July-December 2026

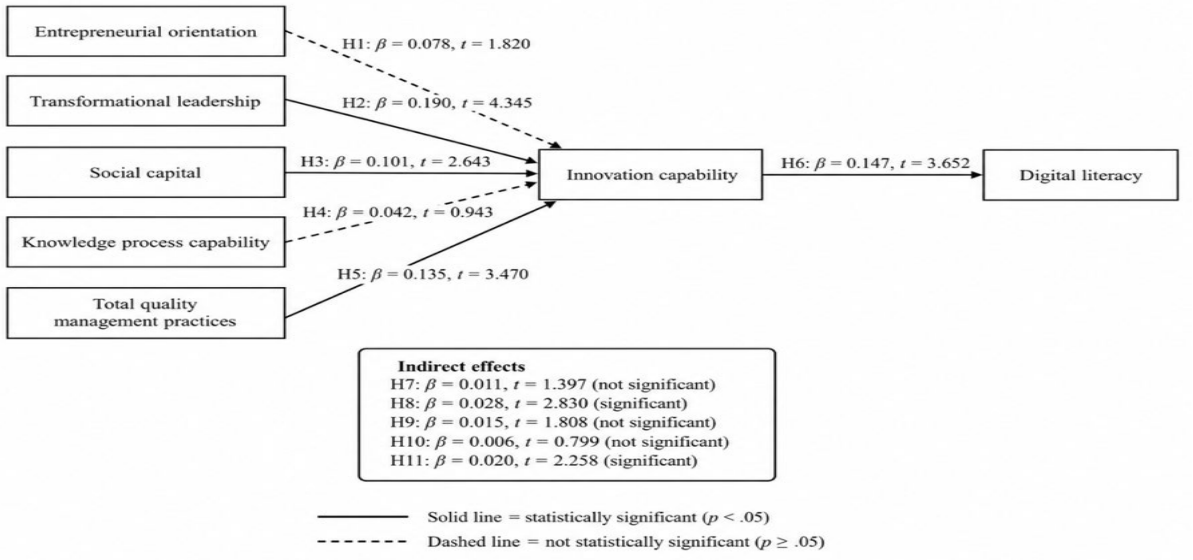


Figure.2 Confirmed Model

References

Agazu, B. G., Kero, C. A., & Debela, K. L. (2025). Transformational leadership and firm performance: a systematic literature review. *Journal of Innovation and Entrepreneurship, 14*(1), 29.

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management, 17*(1), 99–120.

Carless, S. A., Wearing, A. J., & Mann, L. (2000). A short measure of transformational leadership. *Journal of Business and Psychology, 14*(3), 389–405.

Chaithanapat, P., Punnakitikashem, P., Oo, N. C. K. K., & Rakthin, S. (2022). Relationships among knowledge-oriented leadership, customer knowledge management, innovation quality and firm performance in SMEs. *Journal of Innovation & Knowledge, 7*(1), 100162.

Do, H., Nguyen, B., & Dao, M. (2026). Social capital and SME innovations: the importance of knowledge combination and customer demands. *Small Business Economics, 66*(1), 323–360.

Duh, R.-R., Hsu, A. W.-H., & Huang, P.-W. (2012). Determinants and performance effect of TQM practices: an integrated model approach. *Total Quality Management & Business Excellence, 23*(5–6), 689–701.

Durst, S., Edvardsson, I. R., & Foli, S. (2023). Knowledge management in SMEs: a follow-up literature review. *Journal of Knowledge Management, 27*(11), 25–58.

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, *31*(1), 2–24.

Hashem, G., Aboelmaged, M., & Ahmad, I. (2024). Proactiveness, knowledge management capability and innovation ambidexterity: an empirical examination of digital supply chain adoption. *Management Decision, 62*(1), 129–162.

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*, 115–135.

Hernández-Linares, R., López-Fernández, M. C., García-Piqueres, G., Pina e Cunha, M., & Rego, A. (2024). How knowledge-based dynamic capabilities relate to firm performance: the mediating role of entrepreneurial orientation. *Review of Managerial Science, 18*(10), 2781–2813.

ISSN: 3088-2397 (online)
Vol.13 No.2 July-December 2026

Huang, M., Mansor, A. N., & Mohd Kamaruzaman, F. (2026). Transformational leadership and organizational identification: mapping the mechanisms, boundaries, and outcomes through a systematic review. *Cogent Business & Management, 13*(1), 2621436.

Inegbedion, H. E., Thikan, P. R., David, J. O., Ajani, J. O., & Peter, F. O. (2024). Small and medium enterprise (SME) competitiveness and employment creation: the mediating role of SME growth. *Humanities and Social Sciences Communications, 11*(1), 11.

Jabbour Al Maalouf, N., El Achi, S., & Balouza, M. (2025). Transformational leadership, innovation, and performance of SMEs in Europe. *Cogent Business & Management, 12*(1), 2473683.

Jalil, M. F., Ali, A., & Kamarulzaman, R. (2022). Does innovation capability improve SME performance in Malaysia? The mediating effect of technology adoption. *The International Journal of Entrepreneurship and Innovation, 23*(4), 253–267.

Ji, S., & Zhuang, J. (2023). The impact path of digital literacy on farmers' entrepreneurial performance: based on survey data in Jiangsu Province. *Sustainability, 15*(14), 11159.

Jirawuttinunt, S., & Wongsahai, E. (2021). The effects of social capital orientation on innovation performance of SME sector in Thailand. *Humanities, Arts and Social Sciences Studies*, 109–120.

Kamasak, R., Yavuz, M., & Altuntas, G. (2016). Is the relationship between innovation performance and knowledge management contingent on environmental dynamism and learning capability? Evidence from a turbulent market. *Business Research, 9*(2), 229–253.

Khalfallah, M., Ben Salem, A., Zorgati, H., & Lakhal, L. (2022). Innovation mediating relationship between TQM and performance: cases of industrial certified companies. *The TQM Journal, 34*(3), 552–575.

Kouvonen, A., Kivimäki, M., Vahtera, J., Oksanen, T., Elovainio, M., Cox, T., Virtanen, M., Pentti, J., Cox, S. J., & Wilkinson, R. G. (2006). Psychometric evaluation of a short measure of social capital at work. *BMC Public Health, 6*(1), 251.

Kusa, R., Suder, M., Duda, J., Czakon, W., & Juárez-Varón, D. (2024). Does knowledge management mediate the relationship between entrepreneurial orientation and firm performance? *Journal of Knowledge Management, 28*(11), 33–61.

Lestan, F., & Clausen, T. H. (2026). Innovation capabilities and firm performance: a meta-analysis of the Schumpeter's hypothesis. *Journal of Innovation & Knowledge, 13*, 100943.

Liang, H., Saraf, N., Hu, Q., & Xue, Y. (2007). Assimilation of enterprise systems: the effect of institutional pressures and the mediating role of top management. *MIS Quarterly, 31*(1), 59–87.

Lin, H. (2007). Knowledge sharing and firm innovation capability: an empirical study. *International Journal of Manpower, 28*(3–4), 315–332.

Mahmood, R., & Hanafi, N. (2013). Entrepreneurial orientation and business performance of women-owned small and medium enterprises in Malaysia: competitive advantage as a mediator. *International Journal of Business and Social Science (IJBSS), 4*(1), 82–90.

Memon, M. A., Ramayah, T., Cheah, J.-H., Ting, H., Chuah, F., & Cham, T. H. (2021). PLS-SEM statistical programs: a review. *Journal of Applied Structural Equation Modeling, 5*(1), 1–14.

ISSN: 3088-2397 (online)
Vol.13 No.2 July-December 2026

Migdadi, M. M. (2022). Knowledge management processes, innovation capability and organizational performance. *International Journal of Productivity and Performance Management, 71*(1), 182–210.

Moreira, A., Navaia, E., & Ribau, C. (2024). Innovation capabilities and their dimensions: a systematic literature review. *International Journal of Innovation Studies, 8*(3), 313–333.

Nahapiet, J., & Ghoshal, S. (1998). Social capital, intellectual capital, and the organizational advantage. *Academy of Management Review, 23*(2), 242–266.

National Economic and Social Development Council. (2023). The Thirteenth National Economic and Social Development Plan (2023–2027). https://www.nesdc.go.th/wp-content/themes/plant3-child/assets/pdf/13/article_file_20230615134223.pdf

Pal, A., Gupta, K., Gaur, D., Tiwari, C. K., & Bhat, M. A. (2026). Enabling entrepreneurial breakthroughs: the synergistic role of social capital, dynamic capabilities and innovative thinking. *Journal of Innovation and Entrepreneurship, 15*(1), 15.

Panya, F., & Petchsawang, P. (2025). Innovation capability as a mediator of the relation between talent management and entrepreneurial firm performance. *Journal of Small Business and Enterprise Development, 32*(1), 56–75.

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*(5), 879.

Qasim, D., Shuhaiber, A., & Rawshdeh, Z. (2025). The impact of entrepreneurial orientation on innovation performance: the role of knowledge sharing as a mediating factor. *Journal of Innovation and Entrepreneurship, 14*(1), 83.

Raharjo, K., Afrianty, T. W., & Prakasa, Y. (2024). Digital literacy and business transformation: social-cognitive learning perspectives in small business enterprises. *Cogent Business & Management, 11*(1), 2376282.

Raza, M., Khalid, R., Loureirco, S. M. C., & Han, H. (2024). Luxury brand at the cusp of lipstick effects: turning brand selfies into luxury brand currency to thrive via richcession. *Journal of Retailing and Consumer Services, 79*, 103850.

Reshi, Z. M., Saqib, N., & Nazir, H. (2025). Entrepreneurial orientation: a systematic literature review and future research. *Journal of Management History*, 1–34.

Singh, S., & Singh, M. (2024). How entrepreneurial orientation improves new-venture performance: the mediating role of innovation ambidexterity. *Journal of Research in Marketing and Entrepreneurship, 26*(4), 740–759.

Soufeljil, M., Zorgati, H., & Lakhal, L. (2026). Knowledge management and innovation in the certified family SME: the mediating role of TQM. *VINE Journal of Information and Knowledge Management Systems, 56*(2), 598–615.

Sriboonlue, O., & Sriboonlue, U. (2026). Unlocking export performance: the strategic impact of international entrepreneurial orientation and dynamic capabilities in Thai SMEs. *Cogent Business & Management, 13*(1), 2656052.

Suder, M., Kusa, R., Duda, J., & Karpacz, J. (2025). Exploring impact of entrepreneurial orientation on firm performance–moderators' variability under changing market conditions. *Review of Managerial Science, 19*(3), 797–842.

Suttipun, M., & Insee, K. (2024). R&D intensity and firm performance of SME firms in Thailand: the moderating role of firm size. *Cogent Business & Management, 11*(1), 2304370.

ISSN: 3088-2397 (online)
Vol.13 No.2 July-December 2026

Thawesaengskulthai, N., Chatmarathong, A., & Koiwanit, J. (2024). Impact and policy supporting Thailand innovation driven enterprise: orchestrating university innovation and entrepreneurship ecosystem with public and private stakeholders. *Journal of Innovation and Entrepreneurship, 13*(1), 16.

Tran, Y. T., Chau, T. H. P., & Pham, Q. T. (2025). Transformational leadership and firm performance: the mediating roles of innovation capacity and management accounting systems usage. *Sustainable Futures*, 100988.

Wierzbiński, B., Zaborek, P., Wosiek, M., & Surmacz, T. (2023). Knowledge management orientation as a driver of competitive performance: evidence from Polish SMEs in the aviation industry. *Entrepreneurial Business and Economics Review, 11*(1), 93–112.

World Bank. (2025). Thailand Economic Monitor February 2025: Unleashing Growth – Innovation, SMEs and Startups. https://www.worldbank.org/en/country/thailand/publication/thailand-economic-monitor-february-2025-unleashing-growth-innovation-smes-and-startups

Wu, I.-L., & Chen, J.-L. (2014). Knowledge management driven firm performance: the roles of business process capabilities and organizational learning. *Journal of Knowledge Management, 18*(6), 1141–1164.

Yirga, S. A., & Beshir, M. A. (2025). The effect of total quality management practices on innovation: evidence from selected agricultural technical and vocational education training colleges in Ethiopia. *Journal of Innovation and Entrepreneurship, 14* (1), 21.

Yusr, M. M., Mokhtar, S. S. M., Perumal, S., & Salimon, M. G. (2022). The impact of customer knowledge management, TQM and marketing capabilities on product innovation performance of Malaysian SMEs: an empirical study. *International Journal of Innovation Science, 14*(2), 316–338.

Zahoor, N., Zopiatis, A., Adomako, S., & Lamprinakos, G. (2023). The micro-foundations of digitally transforming SMEs: how digital literacy and technology interact with managerial attributes. *Journal of Business Research, 159*, 113755.

Zhou, X., Min, M., & Zhang, Z. (2022). Research on the social capital, knowledge quality and product innovation performance of knowledge-intensive firms in China. *Frontiers in Psychology, 13*, 946062.