

PRIMARY RESEARCH

Enhancing sustainable performance through innovation: The roles of tacit knowledge and affective trust in UAE industrial organizations

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Keywords

United Arab Emirates (UAE)
Tacit Knowledge Management Process (TKMP)
Tacit knowledge acquisition
Tacit knowledge sharing
Tacit knowledge application
Affective Trust (AT)
Innovation Capability (IC)
Sustainable Performance (SP)

Abstract

Since tacit knowledge is now crucial for innovation and organizational longevity, it is difficult to maintain a knowledge monopoly. This study's goal was to investigate the connections between the tacit knowledge management process and sustainable performance in UAE industrial organizations, as well as the mediating and moderating roles of innovation capability and affective trust. A conceptual model based on the Resource-Based View (RBV) was created and verified using the Partial Least Squares-Structural Equation Modelling (PLS-SEM) technique, considering a sample of 355 respondents from industrial backgrounds in the United Arab Emirates (UAE). Innovation capability was found to be strongly, favorably, and significantly impacted by the tacit knowledge management approach. Furthermore, it was discovered that Innovation Capability (IC) significantly and favorably affected sustainable performance. Nonetheless, The tacit Knowledge Management Process (TKMP) has a notable indirect impact on Sustainable Performance (SP) through IC. Affective trust had a significant interaction effect on the relationship between IC and SP, according to the moderation. Practically, results provide UAE managers with useful advice to implement the formalization of tacit knowledge and strategically, to balance affective trust with extensive performance monitoring to meet the sustainability agendas of the nation.

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INTRODUCTION

The global economy is influenced by two opposing imperatives: a heightened state of competition driven by technological change and a fundamental necessity for firms to be viable through sustainable business (Al Khatib et al., 2025). For industrial firms operating in the fast-changing environment of the United Arab Emirates (UAE) region, navigating such an environment necessitates more than simply technology adoption; it also requires the use of internal, human capital assets (M. Abbas et al., 2025; Hamid, 2025; Subramanian Iyer, 2024). Sustainable performance extends beyond traditional financial metrics to include a triple bottom line: economic profits, environmental development (e.g., resource efficient, reduced-carbon emissions), and social contribution (e.g., employee safety, community in-

volvement). For the industrial sector, sustainable performance is not only a compliance issue but a long-term national objective that supports the UN Sustainable Development Goals and domestic policies, such as the Circular Economy Policy 2021-2031 (Al Khatib et al., 2025; Subramanian Iyer, 2024). Organizations that serve their stakeholders well, while pursuing a successful integration of the three areas of performance, gain long-lasting security and resilience, making them future-proof at the front of the pack in a marketplace that continues to demand businesses to act ethically and environmentally-friendly (Jam et al., 2025; Somwethee et al., 2023).

Organizations must constantly innovate to stay competitive and promote sustainable growth in today's highly competitive business environment (Zhang et al., 2025). For long-term, sus-

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tainable growth, a business must be able to develop and market innovative goods and services (Zia et al., 2024). A company's ability to manage information, retain knowledge, and create new knowledge is closely related to how quickly new goods are introduced (Kumar et al., 2025). Knowledge must be appropriately and successfully managed since it is the most significant and vital component of any element in an economic operations (Ng, 2023). Additionally, tacit knowledge management is essential for both organisational success and creativity (Le & Nguyen, 2023). Tacit knowledge is more difficult to define than explicit knowledge and is influenced by an individual's behaviors, experiences, attitudes, beliefs, and emotions (Correa et al., 2023).

Tacit knowledge, often referred to as "know-how", is composed of the deeply embedded skills, experiences and intuitions that people possess that are very difficult to articulate, codify or formalize (Kumar et al., 2025). In the industrial context, this could refer to a machine operator's expertise in fine-tuning a piece of machinery or an engineer's intuitiveness to solve problems, and tapping this resource must be done through the tacit knowledge management process (Shehzad et al., 2022). The TKMP contains three primary dimensions: knowledge acquisition (the process of identifying and gaining access to hidden expertise), knowledge sharing (the transfer of expertise by way of mentoring or collaboration) and knowledge application (the way expertise is absorbed into organizational routines) (Le & Nguyen, 2023; Zhang et al., 2025).

Successful innovation capability is facilitated by the management of implicit knowledge (Kumar et al., 2025). The most important aspect affecting a company's profitability is its capacity for innovation. This claim is based on the finding that a company's innovation efforts are positively correlated with its sustainable performance, which eventually results in the creation of profits (Zia et al., 2024). In the current marketplace, innovation is no longer optional but a necessary driver of long-term viability, particularly as the technology adoption in its industrial sector. Innovation capability refers to an organization's systemic ability to consistently bring new products, processes, or organizational approaches that will result in competitive advantage and value (Zhang et al., 2025). The capacity for creative and advantageous innovation is intrinsically related to organizational performance; therefore, we posit two vital relationships with this variable. Although innovation capability has frequently been examined in the past as a mediator in the interplay of diverse knowledge types and factors (Somwethee et al., 2023; Taleb et al., 2023), its function as a mediator between TKMP and SP is still restricted (Zia et al., 2024).

Interpersonal organizational strategies for acquiring, promoting,

integrating, utilizing, and transferring knowledge resources are known as affective trust. Depending on the degree of affective trust, there may be different relationships between the ability to innovate and the management of tacit knowledge. Actions that demonstrate how considerate and compassionate knowledge suppliers and recipients are for one another are the main emphasis of affective trust (Sheng, 2017). Affective trust, distinct from cognitive (competence) trust, is an affective connection or willingness to be vulnerable with another individual because of care and mutual values. In an industrial organization's interdependent, high-stakes environment, this relational aspect is pivotal for mitigating the barriers to sharing context-dependent tacit knowledge inherent in complexity. When employees feel a connection and have faith that their colleagues have altruistic intent, they will be more likely to risk sharing a new idea or revealing a flaw in a process; both of which are key to being innovative.

As a result, affective trust facilitates cooperation between knowledge providers and recipients, makes it simpler for companies to get past obstacles to information transfer, ultimately enhancing creative concepts and knowledge that can help find and seize new opportunities (A. Abbas et al., 2024; Zhang et al., 2025). Additionally, affective trust has improved information sharing and teamwork inside a company (Karagöz et al., 2023; Le & Nguyen, 2023). Therefore, it makes sense to assume that affective trust could moderate innovation capacity and its effect on long-term performance (Ng, 2023). To better understand the similarities and differences between innovative capability and sustainable performance, this study's main objective is to evaluate how affective trust influences this relationship.

This research provides several important contributions. First, it is one of the studies to bring together TKMP, innovation capability, affective trust, and sustainable performance into an integrated model within the critical industrial context of the UAE. Based on the empirical testing of the mediation and moderation effects, the study will contribute fine-grained evidence of how intangible assets (i.e. tacit knowledge) can be transformed into holistic organizational outcomes (i.e. sustainable performance) (Zhang et al., 2025). Second, the results will provide useful implications for industrial managers in UAE, outlining what specific knowledge management processes and relational trust dimensions to focus on to comply with national sustainability regulations, while simultaneously achieving sustainable competitive advantage (Kumar et al., 2025). Based on the discussion above, the final model presented in the context of Figure 1 seeks to explore the following questions:

- Does the TKMP (knowledge acquisition, knowledge sharing and knowledge application) has direct impact on in-

novation capability?

- Does the innovation capability has direct impact on sustainable performance?
- Does the innovation capability has mediating relationship between TKMP (knowledge acquisition, knowledge

sharing and knowledge application) and sustainable performance?

- Does the effective trust have moderating impact on innovation capability and sustainable performance?

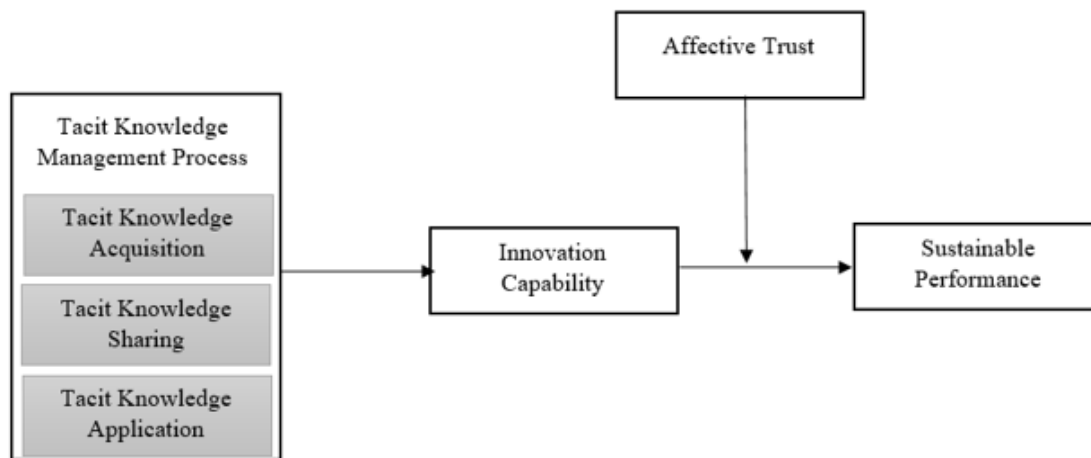


FIGURE 1. Conceptual model

The study's following portions are organized as follows: To improve the comprehension of the relationships between variables: The Resource-Based View (RBV) theory and contemporary research are first examined. Next the research methodology employed to assess the proposed model is presented. This is followed by the presentation of empirical findings based on data analysis. Finally, the discussions, conclusion, and research limitations are provided in the last section.

LITERATURE REVIEW

Resource-Based View (RBV) Theory

This study employs the Resource-Based View (RBV) of the firm as its primary theoretical lens. The RBV maintains that the only potential source of sustained competitive advantage comes from the ownership and utilization of (VRIO) Valuable, Rare, Inimitable, and non-substitutable resources and capabilities (Wernerfelt, 1984). Based upon the RBV, the study shifts emphasis from external market dynamics to value behind internal organizational resources and explains why firms competing in the same industry may have different result outcomes. Resources under RBV include both tangible resources (such as machines, and operating equipment) but primarily include intangible resources (like knowledge, routines, and reputation) (Mahoney & Pandian, 1992). The RBV also has a dynamic capabilities aspect that emphasizes not only the organization's capabilities to apply, utilize, or even leverage internal and externally held competences, but whether, and to what degree

the organization is continuously building, integrating, or re-configuring competences to continue to thrive in a changing environment, this is highly related to dynamic markets like the industrial sector. This study is centered on the premise that the knowledge -based resource and capacity to exploit it are the actual sources of sustained inimitable advantage (Lockett et al., 2009). "Tacit knowledge", - knowledge that cannot necessarily be codified, it will be held through experience when exposed to the users. This type of expert knowledge held by industrial personnel is a prime example of VRIO (especially in its inimitable nature, as knowledge is developed through experience along the continuum of culture and routines, meaning competitors could not replicate the knowledge in the same way) (Ávila, 2022).

Innovation capability, which implies the firm's distinctive ability to produce new processes and products in a formal way, is the observable or measurable manifestation of this dynamic knowledge management, as an essential internal capability that allows the firm to innovate and lead in the quest for higher levels of competitive and sustainable performance (Jalil et al., 2022). Lastly, the RBV perspective also provides a rigorous explanation for the relationship of affective trust and the access to sustainable performance. Sustainable competitive advantage, which we assess as sustainable performance with its economic, environmentally, and social dimensions, is generally achieved through mechanisms called social complexity, referring to organizational phenomena that cannot be managed through simple

explicit rules (Dey et al., 2022). Affective trust, as an affective and relational bond, is a perfect example of this social complexity and yields an essential inimitable resource for reducing transaction costs, open and flexible development of knowledge exchange to TKMP, and risk taking for radical innovation (Malik et al., 2022).

Tacit Knowledge Management Process (Knowledge Acquisition, Knowledge Sharing and Knowledge Application) and Innovation Capability

Collaboration between knowledge and innovation is a major challenge for researchers and professionals in today's dynamic corporate environment (Kumar et al., 2025). Improving innovation and organisational success requires effective knowledge and technology management, with a growing emphasis on tacit knowledge (Le & Nguyen, 2023). However, it is still difficult to convey tacit knowledge, which comprises a person's experiences, beliefs, values, and emotions (Correa et al., 2023). Because it transcends technology and techniques, implicit knowledge is unique. It's about fostering connections between people, allowing information to move freely within a company, and promoting teamwork among staff members (Mohiya, 2023). According to Zia et al. (2024), innovation is the process of continuously developing new goods, processes, information, or services, either by applying recently undiscovered information to solve previously intractable issues or by utilising existing knowledge.

Innovation capability the systemic ability of an organization to deploy new products, processes, and methods is not a built-in attribute of an organization, but a leveraged capacity; one developed through the strategic activation of organizational intellectual resources, primarily knowledge (Phaladi & Ngulube, 2022). The tacit knowledge management process encompassing knowledge acquisition, knowledge sharing, and knowledge application is consistently identified as the dynamic capability that converts distributed individual knowledge into collective organizational innovation. Knowledge acquisition is the raw material for fresh ideas via influxes of knowledge from outside the organization or capturing tacit knowledge existing inside the organization (Migdadi, 2022). However, important to knowledge acquisition, is knowledge sharing as the engine of collective innovation; there is evidence in the literature that explicit and purposeful transfers of uncodified, experience-based "know-how" among organizational members break down organizational silos and initiate the vital combination of ideas (Cao et al., 2022; Malik et al., 2022). While acquisition and sharing may set the stage for innovation, it is the codified or applied fusion of knowledge into the organization's processes, products, or services with a

measure of innovation capability (Baronian, 2022). Research on the innovation capability process in the industrial sector has mostly focused on technology and research and development (Ávila, 2022). Businesses, mostly in developed nations, have explored innovation as a source of competitive advantage (Correa et al., 2023; Zia et al., 2024). In fact, there is a dearth of information about businesses in developing nations. Thus;

H1: Tacit knowledge management process (knowledge acquisition, knowledge sharing and knowledge application) has direct impact on innovation capability.

Innovation Capability and Sustainable Performance

Innovation capability is acknowledged as a key component in determining a company's competitiveness (Somwethee et al., 2023). According to RBV, innovation capability is a unique business capacity that enables a company to adopt cutting-edge operational techniques (Zia et al., 2024). In order to attain better performance, researchers contend that IC is a link that transforms sustainable performance into new goods and services (Kumar et al., 2025; Shehzad et al., 2022). According to Elgarhy and Abou-Shouk (2023), IC is the ongoing development of resources and skills that allow a company to explore and seize new chances to create new products and satisfy consumer wants. Sarfraz et al. (2022) state that while there are many different types of innovation capability, two basic types that represent two essential capacities of innovation in intricate and quickly evolving corporate contexts are product and process innovation. Product innovation is the ability of businesses to offer unique or novel goods and services to the market to win over customers. According to Malik et al. (2022), process innovation refers to a company's ability to provide a better process than its current operation to achieve greater performance.

Innovation capability is an important type of dynamic capability leveraged in the context of the resource-based view to achieve this transition (Kumar et al., 2025). Firms identified as having high innovation capability are not simply developing new products; they are planning and implementing on a systematic basis efficiency and resource usage improvements, which are the first steps in achieving sustainability objectives (Cao et al., 2022). Organizations that are successful with Innovation capability can proactively implement a closed loop systems design approach, cleaner technology, and increase lifecycle design of products that turn sustainability challenges into opportunities for competitive advantage (Borah et al., 2022). Ávila (2022) demonstrates systematic competence to innovate in regard to both product and process development is the principal environmental and economic benefit innovation capability provides; specifically citing that innovation capability can provide physical

ways to achieve solutions to reduce (1) operation costs (economic), (2) ecological footprints (environmental), and (3) value to stakeholders (social). Organizational innovation can also be innovations such as new internal safety protocols or new models for community engagement that each are part of the social aspect of sustainable performance (Somwethee et al., 2023; Taleb et al., 2023). Thus, innovation capability is the strategic integrator that ensures that a firm's internal knowledge-based resources and technology are applied toward value creation in a purposeful three-dimensional model for value (Zhang et al., 2025). These findings confirm the direct positive relationship hypothesized to sustainable performance regarding innovative capability.

H2: Innovation capability has direct impact on sustainable performance.

Innovation Capability as Mediating Role

A company with a strong information-sharing culture will foster social connections between people and organizations, increasing the likelihood of knowledge transfer and innovation (Migdadi, 2022; Taleb et al., 2023). Effective tacit knowledge management procedures must therefore address issues and motivate staff members to cooperate and share knowledge. A company's knowledge-sharing culture has an impact on how tacit information is communicated, captured, and used to support the creation and launch of innovative products (Migdadi, 2022; Phaladi & Ngulube, 2022). Tacit knowledge is largely responsible for successful product creation. According to Le and Nguyen (2023), tacit information is transferred through observation and interaction, application of tacit knowledge, and analysis of its use and importance. In order to achieve product and service innovation, tacit knowledge is necessary (Cao et al., 2022; Ng, 2023). Employing innovative people and utilizing a tacit knowledge management strategy are two ways that businesses obtain new products and services (Alves & Pinheiro, 2022; Migdadi, 2022). Tacit knowledge is related to both product development and creativity. For instance, studies have demonstrated that employees' sharing of implicit knowledge can boost sustainable performance, increase the frequency of new product and service innovations, and improve the quality and speed of new product development (Ng, 2023; Zia et al., 2024).

The dynamic capabilities perspective of resource-based view states that internal knowledge resources will influence complex outcomes like sustainable performance only through a higher-order competence (Borah et al., 2022). Somwethee et al. (2023) assert that an essential higher-order competence is innovation capability, representing the ability to convert the

potential value of the tacit knowledge acquired, shared, and integrated to measurable performance outcomes measured in three dimensions. A firm may be capable of managing its internal knowledge successfully; however, in absence of the structured capacity the innovation capability to convert that knowledge into a new product marketable to consumers or an efficient green process, the achievement of economic profitability or reduced environmental footprint (Chowdhury et al., 2022). Asserts that the systematic acquisition, sharing, and application of inimitable tacit knowledge of great value, directly increases the firm's innovation capacity through a combination of intellectual raw material, and a means to combine existing ideas (Borah et al., 2022). This supports the claim that the innovation capability is the effective approach to sustainable value creation, enabling the firm to enact the eco-efficient processes and socially responsible products needed to be successful at the TBL level (Elgarhy & Abou-Shouk, 2023; Sarfraz et al., 2022).

Studies conducted in different industries, including manufacturing and technology, provide strong evidence supporting the mediated model, suggesting learning knowledge management practices need to be mediated by an innovation capability before they will lead to enhanced organizational performance (Dey et al., 2022). Sustainable performance requires systematic changes in the way production methods and supply chains are organized, which does not happen from transferring knowledge through sharing knowledge sporadically (Chowdhury et al., 2022). The knowledge must be institutionalized. The innovation capability is the institutionalizing mechanism which abstracts, systemic, and shared knowledge "know-how" (TKMP), into formalized, repeatable, and scalable, new routines. Without an organizationally formal, systematic capability, the positive increase of TKMP effect on SP exists temporarily with individuals and not as an organization (Liborius & Kiewitz, 2022). Therefore, TKMP is the input, innovation capability is the throughput mechanism, and sustainable performance is the final output. The innovation capability gives management the clarity to strategically invest in not just in knowledge exchange but also in the particular structures and routines to professionalize and leverage the knowledge into a repeatable and sustainable competitive advantage (Phaladi & Ngulube, 2022; Shehzad et al., 2022). Thus;

H3: Innovation capability has mediating relationship between tacit knowledge management process (knowledge acquisition, knowledge sharing and knowledge application) and sustainable performance.

Affective Trust as Moderating Role

Affective or affective feelings towards another person or entity are the foundation of affective trust (Ng, 2023). It is the conviction that, even in ambiguous or dangerous circumstances, the other person has good intentions and would behave honorably. Employee affective trust has a direct impact on a company's capacity to develop new products. According to Karagöz et al. (2023), affective trust can serve as an organizational resource that enhances the efficacy of tacit knowledge. Recurring bilateral behaviors that show how much knowledge givers and recipients care and are concerned are known as affective trust (Le & Nguyen, 2023). Affective trust may develop when both parties exhibit these behaviors. Affective trust can lower the perception of risk and lead to a greater sense of security (Karagöz et al., 2023). More affective trust makes it easier for people to get past barriers to information transfer, which promotes knowledge exchange and the creation of fresh concepts. A person's likelihood of being trustworthy increases with their level of affective trust. Affective trust may have an impact on how well the TKMP promotes innovation capability (Baronian, 2022; Ng, 2023). Higher affective trust increases the likelihood that someone will feel good about another person and directly affects the capacity for product creation (Zhang et al., 2025). To build an affective bond that increases their confidence while utilizing tacit knowledge, coworkers require a significant amount of relational capital (Liborius & Kiewitz, 2022). Additionally, a favourable and encouraging work atmosphere that promotes creativity, and innovation is facilitated by affective trust.

Affective trust, in the context of resource-based view, is a multifaceted, socially embedded and often termed "social complexity" resource that is extremely difficult for competitors to imitate, constituting an important foundation of sustained competitive advantage (Zhang et al., 2025). While innovation capability is what a firm can accomplish technologically, Affective trust is more foundational and often the issue in how well the innovation is integrated and sustained organizationally (Somwethee et al., 2023). The basis for this moderation has to do with risk and commitment issues. Innovation and sustainability are high-risk efforts, and inherent in risk is fear and commitment. In low affective trust environments, employees and managers may not often feel completely safe committing to risky, new, large-scale changes because they fear blame, possibly some opportunism, or a break in commitment/support if the innovation does not work. Elsayed (2024) is feelings of not being fully committed, resistance to organizational change, and the failure to convert innovation output into demonstrable improvements in economic, environmental or social sustainability. Affective Trust provides a psychological safety net which promotes high levels

of commitment, proactive communication, and organizational resilience in a disruptive, complex, and often transformational change such as sustainable innovation (Al Khatib et al., 2025; Kumar et al., 2025).

Sustainable capability is dependent on the dynamic integration of different internal and external stakeholders: from engineering to production to regulatory agencies to the local community (Zia et al., 2024). Affective trust forms the relational backdrop for that collaboration and reduces the need for expensive formal contracts and associated monitoring (Zhang et al., 2025). When trust is high, the propensity to adopt new ideas designed to create sustainable benefits is much greater both across boundaries and with a greater level of fidelity and ethical commitment, so that the predicted positive impact on the TBL is realized over the long term (Ng, 2023; Zhang et al., 2025). Thus, affective trust does more than facilitate innovation, it acts as a critical moderating variable that fully enables and maximizes sustained, realization of value from innovation capability, while providing the requisite resilience and efficiency, in the pursuit of long-term sustainable value (Kumar et al., 2025; Somwethee et al., 2023). Thus;

H4: Affective trust has moderating impact on innovation capability and sustainable performance.

RESEARCH METHODOLOGY

Research Design and Methodology

The study used a quantitative, cross-sectional questionnaire survey approach to evaluate the hypothesized relationships among the latent variables, which include Tacit Knowledge Management Process (TKMP), Affective Trust (AT), Innovation Capability (IC), and Sustainable Performance (SP). Survey methodology is established as a credible and productive method of collecting perceptual data pertaining to all facets of inquiry in social science and management research. The questionnaire comprised six parts: demographic information, TKMP (acquisition, sharing, and application), innovation capability, affective trust, and sustainable performance.

Questionnaire Development and Distribution

The instruments employed in the questionnaire were adapted from previous validated studies in the literature on knowledge management, innovation, and performance. The original English questionnaire was translated into Arabic (the primary business language in the region) to enhance both clarity and comprehension for the respondents, following a standard back-translation procedure to ensure linguistic equivalence. Prior to being widely distributed, the survey was piloted with an initial group of 30 industrial professionals, including middle manage-

ment, and higher management. The pilot facilitated clarification of any ambiguities, ensured that it drew effectively on the unique context of the UAE industrial sector, and established the clarity of terms such as 'tacit knowledge' and 'sustainable performance.' In total, 560 questionnaires were distributed both digitally and physically to management personnel across levels of authority and with appropriate authorization. After two follow-up rounds, we received 420 responses, with 355 complete and legitimate questionnaires, yielding a healthy response rate of approximately 63.4 percent.

Sample Selection and Data Collection

Data collected for this study was obtained from the final sampling of 355 participants associated with industrial organizations from across the United Arab Emirates (UAE). The intended population consisted solely of individuals who were employed at the management staff level and had relevant strategic knowledge of the businesses in which they operated, processes used, and sustainability practices (Elsayed, 2024). The research employed a convenience sampling approach, in which staff working in key emirates were targeted (i.e., Dubai, Abu Dhabi, Sharjah) in the industrial sector while also using professional networks and industry organizations to support the relevance. The first functional question in the survey was to confirm that they participants came from industrial background and held a management or supervisory position to again ensure contextual relevance for proceeding with the remainder of the questionnaire.

Common Method Bias (CMB) Evaluation

Since data for all variables were obtained from a single source (participants), it was important to address Common Method Bias (CMB) to provide assurance of the results (Podsakoff et al., 2003). Therefore, Harman's single-factor test was carried out in the preliminary analysis. It is established that a VIF value less than or equal to 3.3 will serve as evidence that data is not notably biased by common method variance established in structural model testing phase. To deal with the possible danger of non-response bias, a *t*-test comparison was conducted between the demographic characteristics (i.e., age, gender) of the first 85 respondents and those of the final 85 respondents. The analysis showed there were no statistically significant differences between the two responder groups ($p > 0.05$), which indicates that non-response bias is not a concern for the final sample.

Measurements

The measurement tool used previously used validated constructs to ensure the validity and generalizability of the data collected. All latent variables were operationalized in a 5-point Likert scale, with a range from 1 (Strongly Disagree) to 5 (Strongly Agree). This scale was used due to its effectiveness in obtaining meaningful variability in attitudes and opinions, with a reasonable number of options which resulted in better quality of responses (Taherdoost, 2019).

The independent variable, tacit knowledge management process was operationalized using its three dimensions: tacit knowledge acquisition 4 items, adapted from Zhang et al. (2025), tacit knowledge sharing 4 items, adapted from Zhang et al. (2025), and tacit knowledge application 4 items, adapted from Zhang et al. (2025). The mediating variable, innovation capability, was measured using four items derived from the study completed by Kumar et al. (2025). The moderating variable, affective trust, was assessed using five items from Zhang et al. (2025). Lastly, the dependent variable, sustainable performance, was operationalized using five items based on the study completed by Sarfraz et al. (2022).

RESULTS

Measurement Model Assessment

The evaluation was conducted using SmartPLS 3.0 software (Hair et al., 2024). The model comprised two steps of evaluation. The first step was to evaluate the reliability of the outer model, while validity was evaluated in the second step of the evaluation and followed by path model evaluation (Hair et al., 2024). Reliability of the construct was assessed using Cronbach's alpha and composite reliability. Reliability of each indicator was assessed using the factor loadings, discriminant validity using the Fornell-Larcker method, and convergent validity with AVE and Heterotrait-Monotrait (HTMT) criteria (Hair et al., 2024). Table 1 shows that all constructs had Cronbach's alpha values range (0.878 - 0.935). The Average Variance Extracted (AVE) and composite reliability also exceeded the prescribed cut-off values (Fornell & Larcker, 1981). All constructs' indicator values (Table 1) were above 0.70, establishing reliability for the constructs' indicators range (0.899 – 0.954). Moreover, we assessed the discriminant validity of the scales using HTMT values, cross-loadings, and the Fornell-Larcker criterion. According to Fornell-Larcker, the square root of AVE should be greater than the correlations among each of the construct pairs (Table 1).

TABLE 1. Reliability, validity and AVE

Constructs	Cronbach's Alpha	Composite Reliability	AVE	AT	IC	SP	TKMP
AT	0.932	0.949	0.788	0.888			
IC	0.935	0.954	0.837	0.767	0.915		
SP	0.915	0.937	0.748	0.752	0.782	0.865	
TKMP	0.878	0.899	0.797	0.711	0.755	0.641	0.856

The HTMT technique was also achieved in the current study, which can be thought of as a correlation estimator between the

factors and should be less than one (Fornell & Larcker, 1981) (Table 2).

TABLE 2. HTMT

	AT	IC	SP	TKMP
AT				
IC	0.817			
SP	0.811	0.838		
TKMP	0.754	0.781	0.698	

Every indicator showed the highest loadings versus the other indicators (Table 3). There were no multi-collinearity concerns since the VIF values ranged from 1 to 3.5 which is below the critical value of 5 and nearer to 3 (Hair et al., 2024). Since the data used on this study came from a cross-sectional survey this may lead to Common Method Variance (CMV), thus may lead to common method bias, based on (Hair et al., 2024). CMV oc-

curs when a single method creates shared error variance, which inflates or deflates the true correlation between the variables. The potential for CMV is a strong concern in survey research especially because the same participants provide information on all variables leading to systematic bias in the estimates (Hair et al., 2024).

TABLE 3. Cross loading

	AT	IC	SP	TKMP
AT1	.842	.536	.608	.630
AT2	.915	.728	.725	.635
AT3	.927	.727	.706	.661
AT4	.909	.731	.709	.653
AT5	.840	.666	.571	.572
IC1	.711	.922	.725	.662
IC2	.663	.911	.719	.657
IC3	.685	.915	.707	.685
IC4	.745	.912	.712	.754
SP1	.654	.617	.871	.478
SP2	.612	.513	.775	.593
SP3	.689	.753	.897	.571
SP4	.666	.742	.892	.581
SP5	.632	.727	.884	.558
TKA1	.399	.366	.395	.882
TKA2	.350	.305	.297	.770
TKA3	.274	.203	.283	.831
TKA4	.357	.321	.377	.631

Cont.....	AT	IC	SP	TKMP
TKAp1	.358	.444	.325	.760
TKAp2	.406	.564	.533	.618
TKAp3	.387	.531	.527	.776
TKAp4	.431	.596	.530	.604
TKS1	.619	.575	.420	.795
TKS2	.527	.474	.361	.769
TKS3	.648	.629	.430	.769
TKS4	.599	.553	.406	.771

Structural Model Assessment

Path coefficients and *R* square values were used to assess the structural model (Hair et al., 2024). To verify the prediction of the proposed model and report it, the model was first tested

for R^2 , which was also calculated using SmartPLS 3.0 (Hair et al., 2024). *R* square is the degree to which values of the latent endogenous constructs obtained from exogenous constructions is quantified.

TABLE 4. *R*-Square values

	<i>R</i> Square	<i>R</i> Square Adjusted
Innovation Capability	0.570	0.568
Sustainable Performance	0.668	0.667

The method used was bootstrapping 5,000 samples (Hair et al., 2024). Path coefficients indicate hypotheses H1–H4 are supported in the current study (Table 5, Figure 2). The structural equation model analysis successfully demonstrated the statistical significance of all hypothesized relations ($p < 0.001$). The tacit knowledge management process was found to have a strong, positive, and significant effect on innovation capability ($\beta = 0.755$). Additionally, IC was found to have a significant

and positive effect on sustainable performance ($\beta = 0.657$). H3 demonstrated a significant indirect effect of TKMP on SP via IC ($\beta = 0.496$), confirming that the management of tacit knowledge is a mechanism that drives sustainable performance through innovation. The moderation hypothesis (H4) revealed a significant interaction effect of affective trust on the relation between IC and SP ($\beta = -0.195$).

TABLE 5. Hypothesis testing: Direct, mediation and moderation

Paths	β	Mean	SD	<i>T</i> Statistics	<i>p</i> Values
TKMP → IC	0.755	0.756	0.020	38.147	0.000
IC → SP	0.657	0.657	0.067	9.783	0.000
TKMP → IC → SP	0.496	0.497	0.054	9.219	0.000
AT * IC → SP	-0.195	-0.195	0.038	5.185	0.000

DISCUSSION AND CONCLUSION

The objective of this study was to examine the relationships among the tacit knowledge management process and sustainable performance, mediation moderation role of innovation capability, affective trust, in industrial organizations in the UAE. The empirical findings predominantly agree with the precepts of the resource-based view and its dynamic capabilities extension, lending credence to the important power of internal, inimitable assets to sustain a competitive advantage. Businesses are under tremendous pressure to improve their quality and efficiency due to the rapid improvements in technology and the ensuing

fierce competition. Although the significance of tacit knowledge for an organization's competitiveness and creativity is well recognized, there hasn't been nearly enough research on it (Zhang et al., 2025). Most significant is the acknowledgment that even when intangible resources act as antecedents to performance, their effects are not always straight-forward; high affective trust must be managed, especially by UAE industrial managers in the context that establishing a high level of affective trust leads to knowledge sharing, even if it may sometimes lead to complacency in maintaining the disciplined required for converting innovative output into tangible, demonstrable,

sustainable economic, environmental, and social performance. All four hypothesized relationships were statistically significant

($p < 0.001$), providing conviction for the conceptual model.

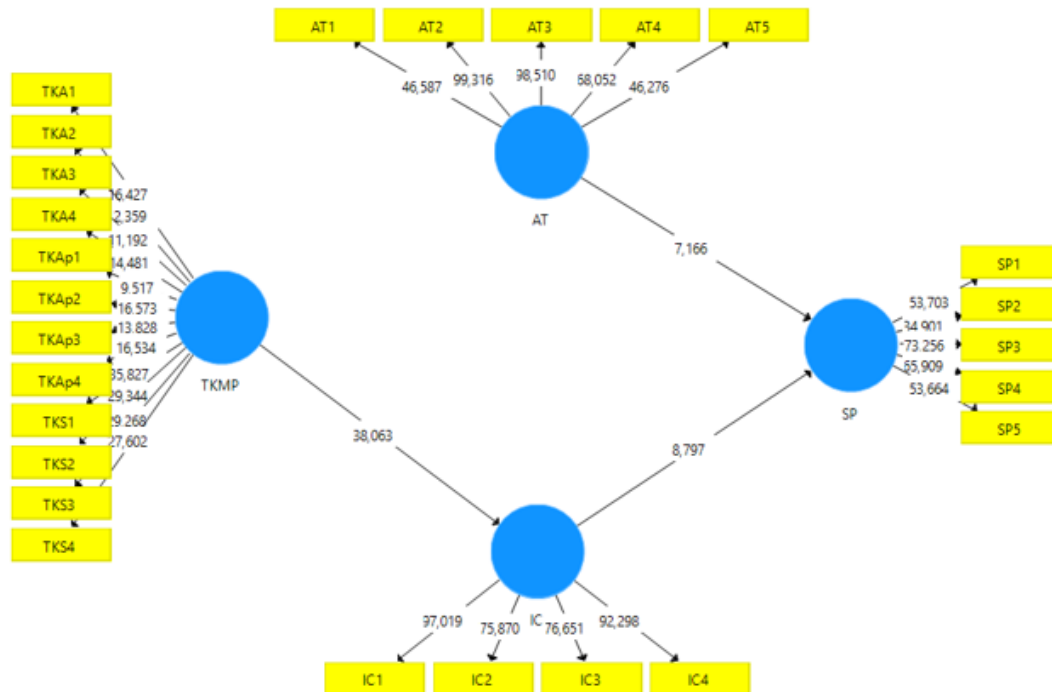


FIGURE 2. Assessment of direct and indirect hypothesis

With respect to Hypothesis 1, the findings demonstrated a strong positive, and highly significant relationship. This provides strong evidence for the position that managing tacit knowledge (acquisition, sharing, and application) is the primary mechanism for creating a firm's innovation capacity. In accordance with the RBV, the results confirmed tacit knowledge to be an action-oriented, unique, dynamic capability that reconfigures internal resources to develop new solutions (Zhang et al., 2025). By managing the codification and combination of disparate internal expertise, a well-level functioning TKMP will systematically provide the intellectual raw material for innovation capabilities to be developed (Zhang et al., 2025).

Hypothesis 2 is confirmed and indicates a strong, positive relationship. This finding confirms that innovation capability represents an essential dynamic capability for achieving the triple bottom line. As discussed in the literature Kumar et al. (2025), the capacity to intentionally embed new processes and techniques enables firms to create economic value while also addressing (natural) resource efficiency and engaging with (social) stakeholders. Such strategic competence ensures the industrial firm can pivot sustainability challenges into advantages for competing in its market, which directly supports the conclusion that innovation is required to facilitate comprehensive sustainable

performance.

Similarly, Hypothesis 3 was confirmed, as the analysis revealed a significant indirect pathway. This finding supports the proposed mediation, confirming the role of innovation capability as the crucial mechanism through which TKMP has an influence on sustainability outcomes. In essence, the results support a dynamic capabilities perspective, where knowledge management processes must be institutionalized and channeled through a higher-order competence, before they lead to strategic outcomes (Zhang et al., 2025). The management of tacit knowledge was the supplied input; innovation capability was the required throughput mechanism that institutionalizes and steers the knowledge into repeatable routines, while sustainable performance is the final output of the combined inputs during the process.

Hypothesis 4, which was supported as statistically significant and showed a counter-intuitive negative moderating effect. This contrast with traditional literature that typically views trust as a positive outcome Kumar et al. (2025) and Zhang et al. (2025). In the industrial sector context, this negative moderation indicates a potential "dark side" to high performance trust; an affective attachment that is felt too strongly stifles organizational complacency, conformity, or groupthink. High and comfortable trust

can prevent a manager from challenging an innovative idea vehemently, avoid fighting righteous battles in the implementation, or serve as the denial of performance accountability which undermines leveraging the innovative capability for concrete, defiant outcome goals. Although affective trust can remain a non-attributable RBV resource (Wernerfelt, 1984), it demonstrates dependence on context, presumably for the integration of constructive skepticism or cognitive trust (competence) to ensure disciplined execution of sustainable innovations. Affective trust plays an important role in the extent to which innovation capability enhances sustainable performance (Zhang et al., 2025). Employees are more willing to share their expertise especially tacit knowledge that is difficult to articulate or codify when they have trusting relationships with both managers and coworkers. Our results are aligned with prior studies that investigated how affective trust could bolster an organization's creative capability and tacit knowledge (Zhang et al., 2025). To genuinely promote the capture of tacit information, managers need to facilitate building affective trust between both knowledge providers and recipients.

Implications

Practical implications

The empirical findings provide significant, actionable insights for managers and leaders of industrial organizations operating in the UAE, particularly those seeking to respond to rapid innovation and sustainability developments. These findings state that industrial managers must view the entire knowledge lifecycle as an obligatory strategic investment. To achieve sustained competitive advantage, managers must go beyond the mere collection of explicit data and focus on the processes for capturing and exploiting "hidden" expertise. In practice, they must build an innovative culture and sound teamwork by maintaining objectives and preparing a continuous learning roadmap. Knowledge acquisition initiatives must target obtaining valuable and hidden insights from outside networks and knowledge transfer initiatives in industrial collaborations. Knowledge sharing should be facilitated through dedicated platforms and processes to incentivize collaboration and the open exchange of novel ideas and insights between employees. By maintaining TKM processes, industrial managers leverage the intangible resource base which reflects the organization's capability for continuous sustainable performance and groundbreaking innovation.

Managers should be aware that devoting resources to TKMP only provides the potential for sustainability; the realization of economic, social, and environmental performance depends on developing the full potential of your innovation capability.

Therefore, managers should concentrate on augmenting and refining production through an emphasis on efficiency and cost reduction. In parallel, managers should fund an additional open budget for innovation, to develop new sustainable products and services that match market needs. It is essential to be able to exploit and explore innovations, creating an ambidextrous organization to achieve your desired total sustainable performance targets. Managers are advised to encourage a climate that wraps interpersonal trust with cognitive trust. Leaders should encourage constructive challenge, and debate on the feasibility and rigor of new sustainable processes or products. Establishing clear, measurable sustainable performance goals, and using clear performance measures, will prevent affective loyalty overtaking the disciplined, rigorous execution of ideas into a measurable long-term sustainable competitive advantage.

Theoretical implications

This research provides several important theoretical contributions by bringing together separate streams of literature in a framework empirically tested from the perspective of the Resource-Based View (RBV). First, the research bolsters the RBV, that TKMP importantly drives innovation capability, such that an organization's internally unique, difficult-to-replicate talents (tacit knowledge), are a vital resource for competitive advantage (Zhang et al., 2025; Zia et al., 2024). In terms of bridging the gap in research, we specifically modeled the three components of TKMP (acquisition, sharing and application), and distinguished these components from the broader knowledge management literature (Kumar et al., 2025; Zhang et al., 2025) as a source of the necessary input required to more easily complete radical product and process innovation. The important role of mediation in sustainable performance further clarifies that the role of TKMP realized sustainable performance is not direct, but must pass through innovation capability. This work encourages a cautious interpretation of Knowledge Management (KM) investment particularly in the context of improving competitiveness, through innovation systems: investments in KM alone will yield only gradual, if any, competitive advantage (Migdadi, 2022).

Secondly, the paper contributes uniquely to understanding the resources of social complexity considering the RBV, employing an analysis of the moderating effects of affective trust. The counter-intuitive negative moderating effect on the relationship between innovation capability and sustainable performance challenges the assumption of a positive effect found widely in the literature (Kumar et al., 2025; Mohiya, 2023). This finding seems to imply that affective trust is an important underpinning

of TKMP for the existence of a socially oriented knowledge environment, but excess or exclusively socially affective bonds will diminish the rigor needed to enact sustainable innovations. This important finding also indicates the possibility of an important contingency: for social resources that are inimitable, such as trust, and can be taken for granted and operationalized to fulfill sustainable-value relevant and measured performance, can only be acted upon, if balanced for not becoming a source of complacency or groupthink for organizations engaging during the high-risk enactment process of sustainable initiatives. In addition to these findings, this finding also adds a measurable descriptive conceptual boundary condition for the performance benefits of trust. Ultimately, in the industrial context of the UAE, a region under considerable national pressure to achieve economic diversification rapidly and sustainably, provides an important context-specific theoretical contribution. It shows that the road to business success and sustainable competitive advantage is well established through the sequential and integrated management of intangible resources, dynamic capabilities and socially complex drivers.

Limitations and Future Research

While the study yields important evidence about the strategic relationships among knowledge, innovation, trust, and sustainable performance, it also has several limitations based on its design that suggest an agenda for future research. First, recognition must be given to the methodological limitations of the cross-sectional, quantitative survey design. Due to the snapshot nature of this design, researchers cannot claim the variables are necessarily causal; while the structural model indicates a

direction, longitudinal studies would be required to measure the causal flow, such as TKMP preceding and influencing innovation capability over time. In addition, the dependency on a single data source, self-report questionnaire data, is objective to some degree but is also marred by the risk of subjectivity and common method bias. Further studies could mitigate this risk by utilizing objective measures for the dependent variable, such as audited financial statements for economic performance, or official government environmental reports for environmental performance, both in conjunction with the questionnaires to support perceptual conclusions. An additional limitation on generalizability is a very intentional scope of a range of industrial organizations, within the UAE context. Although this is contextualized to rigorous further studies, to broaden the contributions in either further research in the UAE in different sectors (e.g., finance, logistics), or perhaps in representative studies to varying national and organizational cultures. In addition, the study shows clear pathways for the future development of the conceptual model. For example, future researchers should explicitly look at the type of innovation, linking TKMP not only to an overall innovation proficiency, but to target forms of innovation such as frugal innovation or green innovation, and examining their downstream effects on customer satisfaction. In addition, the important but counterintuitive finding that affective trust has a negative moderating effect begs the need for qualitative study of it. Future studies should examine this finding qualitatively to explore the organizational dynamics and situational reasons for why high levels of affective trust can act as a negative and inhibiting source for the organizational discipline needed for sustainable innovation in this context.

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