






# “The role of open knowledge management in driving marketing innovation within organizations: The mediating role of technology empowerment”

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# THE ROLE OF OPEN KNOWLEDGE MANAGEMENT IN DRIVING MARKETING INNOVATION WITHIN ORGANIZATIONS: THE MEDIATING ROLE OF TECHNOLOGY EMPOWERMENT

**Abstract**

Open knowledge management has become a strategy for enhancing marketing innovation using internal and external knowledge resources. This study aims to examine the impact of open knowledge management on marketing innovation in an organization and the mediating role of technology empowerment in this relationship. This study adopts a quantitative research approach. Data were collected from November 2024 to April 2025 using structured questionnaires and semi-structured interviews with 150 marketing professionals representing a variety of industries in the Iraqi city of Nineveh. The results indicate that collaboration has a positive and significant effect on marketing innovation ( $\beta = 0.121, p < 0.011$ ). Similarly, collaboration has a positive and significant effect on technological empowerment ( $\beta = 0.317, p < 0.000$ ). In addition, accessibility to knowledge has a strong effect on marketing innovation ( $\beta = 0.080, p < 0.012$ ) and technological empowerment ( $\beta = 0.210, p < 0.002$ ). The mediating role of technological empowerment has a significant effect between open knowledge management and marketing innovation ( $\beta = 0.382, p < 0.000$ ). Knowledge sharing has no significant impact on marketing innovation ( $\beta = 0.069, p < 0.065$ ). On the other hand, knowledge sharing has a significant effect on technology empowerment ( $\beta = 0.181, p < 0.026$ ). The findings highlight the need for managers to achieve a competitive advantage through significant impacts and knowledge-based strategies.

**Keywords**

knowledge sharing, knowledge accessibility,  
collaboration, marketing innovation, technology  
empowerment

**JEL Classification**

O32, M15, D83, L25

**INTRODUCTION**

In an increasingly digital and knowledge-intensive business landscape, organizations are compelled to adopt agile and innovative approaches to maintain competitiveness. Traditional marketing paradigms are being disrupted by the acceleration of digital technologies, globalization, and the democratization of information (Dwivedi et al., 2021). Consequently, open knowledge management, which emphasizes the unstructured, cross-functional flow of insights to encourage collaboration and collective learning, has gained significant strategic importance. However, leveraging open knowledge effectively presents a considerable challenge; it is often insufficient unless supported by enabling digital technologies that facilitate its access, sharing, and application (Janssen et al., 2020).

While a growing body of literature explores knowledge management and marketing innovation independently, a critical gap exists in understanding their integration through the lens of technology empow-

erment. In recent years, studies have focused on primary enterprises within developed countries, neglecting the role of the state, as well as any small and medium-sized enterprises (SMEs) present in transitional countries, such as Iraq (Nuseir & Aljumah, 2020). This is rather a serious shortcoming as these entities have differing resource and cultural constraints. It is interesting to explore the particular effects of the various practices of open knowledge management on, for example, knowledge sharing, accessibility, and collaboration, and how these practices result in marketing innovation.

## 1. LITERATURE REVIEW AND HYPOTHESES

Knowledge sharing is a pivotal mechanism within the framework of open knowledge management, enabling organizations to harness the combined knowledge resources of internal employees, external partners, and a broader network of stakeholders (Shabbir et al., 2025). By promoting the seamless transfer of tacit and codified knowledge across organizational and disciplinary boundaries, knowledge sharing strengthens the infrastructure needed to improve decision-making, accelerate innovation cycles, and increase operational efficiency (Yang et al., 2025). In the context of marketing, organizations that adopt and establish knowledge-sharing platforms are better positioned to formulate flexible, data-driven marketing strategies and calibrate offerings to adapt to dynamic and often unpredictable market trends.

Empirical studies demonstrate that knowledge sharing enhances organizational effectiveness by leveraging diverse perspectives that fuel creativity (Sunarsi et al., 2025). In marketing, knowledge diffusion stimulates the generation of creative concepts, providing a collaborative environment in which marketers share ideas, refine proposals, and apply shared understanding to emerging strategic initiatives (Zamiri & Esmaeili, 2024). Creating an integrated cultural ecosystem that enables the free flow of knowledge is critical to the sustainability of innovation (Chareonvong et al., 2024). Companies that establish structured knowledge-sharing protocols are better able to adapt to changing markets, more adept at discerning consumer preferences, and better able to design differentiated marketing responses (Iqbal et al., 2025). But, debilitating factors (such as rigid cultural norms, widespread distrust, and the absence of strong incentives) weaken knowledge diffusion and, consequently, reduce the capacity for marketing innovation (Alshehri & Hadoussa, 2025). Knowledge sharing enables the

seamless movement of implicit and codified schemas across organizational boundaries, enhancing deliberation, increasing creative productivity, and boosting operational efficiency (Memory et al., 2024). Knowledge sharing can directly impact the generation of innovative ideas in the marketing discipline, where the marketing team works collaboratively, brainstorms, and applies shared knowledge to new marketing strategies (Wang, 2025). Companies that share knowledge effectively can react more quickly and better understand market trends and customer preferences, allowing them to develop innovative solutions (Perotti et al., 2024). Nevertheless, trust issues, organizational culture, and lack of incentive can impede effective knowledge sharing, constraining the potential marketing innovation (Wikansari et al., 2023). Thus, organizations' work culture must be open and collaborative, stemming knowledge sharing from the top and providing knowledge-based information for products, processes, and service improvements.

Knowledge sharing allows for information to be utilized, but knowledge accessibility enables it to be easily found and employed by its audience. In the digitalization age, organizations are increasingly dependent on technology to administer and disseminate information (Srijith et al., 2023). Establishing mechanisms and processes that enable members of the organization to discover and apply pertinent information is called knowledge accessibility (Ndawula, 2025). Organizations that invest in digital technologies that enhance knowledge accessibility are better positioned to capture real-time insights, helping them to create more effective and innovative marketing campaigns. Digital instruments, knowledge management systems, document management systems, and enterprise social networks are legitimate players in increased knowledge accessibility (Ai et al., 2024). Data accessibility is of the essence for marketing innovation, as access-

ing real-time customer data, market trends, and competitive insights is critical for marketers to create effective campaigns. Organizations that devote resources to technology to facilitate access to knowledge can capitalize on efficient and effective marketing solutions (Surawan, 2024). Making important information readily available allows businesses to rapidly respond to shifts in market demand, personalize marketing efforts, and enhance customer experiences. However, we cannot close by only the technical innovations because knowledge silos and inefficient systems remain obstacles to accessibility, particularly in large, complex organizations.

Another dimension of open knowledge management is collaboration, which allows for the integration of diverse expertise, perspectives, and resources to achieve common goals (Agyabeng-Mensah et al., 2020). The success of innovation, particularly in the domain of marketing, is completely reliant on how effectively individuals and teams work together. Teamwork stimulates creativity due to the contribution of cross-disciplinary knowledge and accelerates the process of solutions by drawing on combined intelligence (Petriello et al., 2024). Sharing information is not enough for collaboration in organizations; it is about co-creation, which occurs when participants contribute to the co-generation of new knowledge or a new product. Collaborative platforms, digital workspaces, and knowledge management systems are essential tools for facilitating knowledge exchange and enhancing team-based innovation in marketing. Exploring marketing innovation in greater detail, we need collaboration to design and implement new marketing campaigns, in understanding what customers need, and in forming strategies to reach them effectively (Elia et al., 2020). Project management software, digital workspaces, and social media platforms help foster collaboration by enabling communication, document sharing, and real-time problem-solving. The ability to leverage knowledge diversity through collaborative methods plays a fundamentally pivotal role in an organization's capacity to innovate in its marketing. Nonetheless, geographic distance, cultural difference, and communication barriers are challenges of collaboration, particularly in global organizations (Dirani et al., 2020).

Marketing innovation is the process of creating and applying novel marketing strategies, practices, and channels that enhance business performance (Firman et al., 2020). Recent studies focus on a new contracting approach, in which marketing generates superior and sustainable value for consumers and establishes a distinct competitive position (Hermawan et al., 2024). As it evolves in the digital environment, marketing has transformed into a discipline based on the holism of data, behavioral insights, and econometric modeling, resulting in a highly dynamic approach that prioritizes precise personalization at scale (Gharaibeh et al., 2020). Marketing innovation is thus closely linked to the effective integration of open, crowdsourced knowledge capital with algorithmically managed digital infrastructures, both of which enhance the ability to translate rapidly and periodically monitor transient market signals. A significant body of empirical studies confirms that companies that are able to manage integrated knowledge repositories activate superior marketing practices, manifested in product novelty, channel novelty, and targeted communication novelty (Sarkar et al., 2022). This marketing innovation is based on a constant commitment to aligning implicit and explicit learning paths across organizational boundaries (Nuseir & Aljumah, 2020). Technology, in particular, serves as a key enabler of innovation by providing comprehensive data channels that enable the accurate assessment of consumer trajectories, the orchestration of highly automated touchpoints, and the sustained, synchronous, and multichannel interaction enabled by porous digital environments (Pscheidt-Gieseler et al., 2018). Open knowledge management practices combined with digital technologies will result in well-informed, creative, and agile marketing execution tactics (Almustafa et al., 2024). Marketing innovation, for all its promise, comes with complications. Environmental factors, including competition, regulation, and economic conditions, can hinder the creation and implementation of innovative marketing strategies. Furthermore, organizations can find it challenging to reconcile a creative approach with overall business targets, which can hinder ongoing innovation in marketing (Aranyossy, 2022).

While considering technology empowerment as a mediating variable, this study used a quantitative research method to explore how open knowledge

management affects marketing innovation. The study was based on the technology acceptance model (TAM), which explains the role played by perceived ease of use and perceived usefulness in the implementation of technology. TAM served as the theoretical foundation for connecting knowledge-sharing behaviors and digital enablement with innovative marketing performance.

Technology empowerment in relation to knowledge management relates to the purposeful integration of information and communication technologies (ICTs), enabling effective access, sharing, and use of knowledge across the organization (Maulina & Yustika, 2022). When implemented effectively, enablement initiatives facilitate seamless collaboration and enable the synchronous exchange of ideas, making marketing strategies responsive and data-driven. Future companies will increasingly develop, disseminate, and leverage knowledge in highly collaborative and innovative environments, a transformation enabled and shaped by advanced technologies (Filipe et al., 2024). In contemporary management discourses, knowledge management, enabled by appropriate technologies, has assumed a positioning function within the broader marketing innovation ecosystem, underscoring that enablement is no longer secondary but essential (Theresa et al., 2024). Thus, innovative advantage relies on a knowledge management architecture that skillfully balances the capture, sharing, and retrieval of knowledge, which would otherwise wither in organizational silos (Hautala-Kankaanpää, 2022). Old knowledge transfer methods, already in decline, are being replaced by digital spaces where information is constantly circulated, rendering silos functionally moribund. The evolution of both cloud infrastructures and collaborative software architectures enables organizations to enhance and revitalize traditional knowledge retention processes while transcending their inherent temporal and procedural constraints (Dwivedi et al., 2021). By mediating cloud-based data warehouses, modular knowledge management systems, enterprise-wide social networking forums, and flexible collaborative work platforms, companies create a knowledge and participatory climate that transcends procedural formalities and generates continuous, user-centric defect removal and mutual reinforcement (Bai et al., 2020). By integrating these innovations, cross-

functional teams create interconnected workflows across diverse geographic and temporal environments. These teams coordinate best practices, apply contemporary market metrics, and transform tacit expertise into clear and actionable data repositories that facilitate rapid market review, significantly enhancing their evolutionary and strategic agility. Moreover, knowledge management systems can achieve significant gains through advanced analytics and artificial intelligence, which identify data patterns and highlight contextually relevant information, facilitating knowledge access and operationalization (Falloon, 2020). When combined, these competencies complement an organizational structure that makes it adaptable and flexible in the face of rapid fluctuations in consumer demand and the competitive environment (Janssen et al., 2020). However, the clear benefits of technological enablement remain limited by barriers to adoption and integration (Abu AlSondos & Salameh, 2020). Financial resources are insufficient in organizations with limited budgets, limiting the acquisition of high-level digital tools and platforms (Abu AlSondos, 2023). This restrictive structure is exacerbated by the insufficient digital workforce pipeline and the inherent ambiguity of emerging tools, leading to long adaptation periods and hindering the commercialization of technology-based tools. Organizational change unleashes a host of other dilemmas. Although the arsenal of digital tools provides extensive information isolation and transfer, selecting tools whose architecture, structure, and strategic alignment align with defined objectives is non-negotiable. Mobilization dialogue across different functional areas is hampered by entrenched silos and incompatible pre-functional systems (Bashatweh et al., 2023).

For this reason, similar to previous findings regarding open knowledge management within organizations, TAM may provide an explanation. This model helps explain the key elements of open knowledge management (knowledge sharing, availability, and collaboration) and their impact on achieving marketing innovation within an organization (Alrjoub et al., 2021). This study confirms that technology enablement serves as a link between open knowledge management practices and marketing innovation. By integrating the TAM, the study demonstrates the enabling role of technology in the practical application of open knowl-

edge management and the resulting marketing innovations that stem from facilitating knowledge sharing and access. It is worth noting that technology enablement is one dimension of research examining tools and technologies such as collaborative software, data analytics, and cloud computing systems that enable effective knowledge building and collaborative interaction among individuals within organizations (Atta et al., 2023). If these tools are deemed useful and easy to use, they significantly enhance employees' ability to disseminate knowledge, connect relevant information, and coordinate across different functions. Knowledge sharing (i.e., the dissemination of information, expertise, and best practices among individuals and teams) is critical to open knowledge management. Facilitating the flow of knowledge enables organizations to learn from it, eliminates duplication of effort, and fosters collective learning.

Knowledge sharing, the distribution of information, experiences, and best practices among people and teams, is critical to open knowledge management. Easing the flow of knowledge allows organizations to derive lessons from information, eliminate duplication of effort, and enhance collective learning. In marketing, this results in effective ideation processes, increased campaigns across departments, and the same brand voice. Moreover, knowledge sharing contributes to the adoption of digital tools and sustainability practices in marketing, facilitating the integration of environmentally conscious approaches into innovative marketing strategies.

On the other hand, knowledge-sharing transcripts act as a catalyst for technological empowerment as well. Sharing knowledge surrounding digital tools and platforms enables employees to overcome technical challenges and adapt faster to new systems.

This study aims to examine the impact of open knowledge management on marketing innovation within organizations, with the mediating role of technology enabling. Thus, the final hypotheses are as follows:

*H1: Collaboration positively influences marketing innovation in Al-Mishraq General Company for Sulphur.*

*H2: Collaboration positively influences technology empowerment in Al-Mishraq General Company for Sulphur.*

*H3: Knowledge accessibility positively influences marketing innovation in Al-Mishraq General Company for Sulphur.*

*H4: Knowledge accessibility positively influences technology empowerment in Al-Mishraq General Company for Sulphur.*

*H5: Technology empowerment positively influences marketing innovation in Al-Mishraq General Company for Sulphur.*

*H6: Knowledge sharing positively influences marketing innovation in Al-Mishraq General Company for Sulphur.*

*H7: Knowledge sharing positively influences technology empowerment in Al-Mishraq General Company for Sulphur.*

## 2. METHODOLOGY

A quantitative approach was used to analyze the relationships between open knowledge management, technology empowerment, and marketing innovation. Purposive sampling was used to survey 150 marketing professionals, team leaders, and department managers from IT, manufacturing, and service companies in Iraq at Al-Mashraq General Company for Sulphur, located in the Qayyarah district of Nineveh Governorate, between November 2024 and April 2025. Data were analyzed using SmartPLS 4.0 via partial least squares structural equation modeling (PLS-SEM) to assess measurement reliability, validity, and path relationships. Senior managers and key decision-making personnel within the organization were interviewed to gain valuable insights into knowledge sharing, accessibility, and collaborative practices. The questionnaires were structured and distributed online via Google Forms for data collection and accessibility. The survey consisted of a series of detailed questions related to knowledge sharing, accessibility, collaboration, technology enablement, and marketing innovation. Items were adapted from previously validated scales to enhance the validity and reliability of the survey instrument.

To further validate the instrument, the items were pretested and refined based on feedback from a variety of subject matter experts in marketing and knowledge management to ensure clarity and relevance to open knowledge management. Items adapted from the literature on organizational knowledge management related to knowledge sharing; frameworks related to information flow and resource management resulted in items related to knowledge accessibility; and items related to collaboration were based on the teamwork component of research on innovation processes. The latter were drawn from studies of knowledge management and its role in innovative marketing. To ensure our questions were comprehensive and clearly understood by our respondent group, we pilot-tested the survey instrument with a small subset of respondents. The final version of the survey was then administered to the selected sample, and data were collected over five months.

**Table 1.** Demographic information of respondents

Variable	Category	Frequency (n = 150)	Percentage (%)
Gender	Male	96	64.0%
	Female	54	36.0%
Age	20–30	32	21.3%
	31–40	58	38.7%
	41–50	41	27.3%
	51 and above	19	12.7%
	Manager	75	50.0%
Position	Team Leader	37	24.7%
	Department Head	28	18.7%
	Executive	10	6.6%
Industry	IT/Digital Marketing	70	46.7%
	Manufacturing	25	16.7%
	Services	30	20.0%
	Other	25	16.7%
Years of Experience	Less than 5 years	29	19.3%
	5–10 years	47	31.3%
	11–15 years	42	28.0%
	More than 15 years	32	21.3%

The target population consisted of managers, team leaders, and department heads working in both large and small businesses involved in information technology and digital marketing. A purposive sampling strategy was used to select participants who had significant influence in the decision-making environment related to open

knowledge management and marketing innovation processes. The sampling frame was deliberately distributed across multiple industry sectors: digital marketing (46.7%), services (20%), manufacturing (16.7%), and other (16.7%), allowing the findings to be initially extrapolated beyond isolated operational contexts toward broader knowledge-based innovation strategies.

Data were collected through a structurally restricted questionnaire (Appendix A), administered via Google Forms, designed to elicit evaluative judgments on salient open knowledge management dimensions: knowledge sharing, accessibility, and collaboration mechanisms; support from technological facilitators; and implications for marketing innovation. To enhance the validity and reliability of the measurement model, all questionnaire items were derived from previous peer-reviewed research and subsequently calibrated for relevance and contextual applicability.

The demographic profile of the participants (Table 1) was summarized through descriptive statistical techniques, detailing the categorical distributions by gender, age, hierarchical job position, industry affiliation, and cumulative years of professional involvement. There were 64% males and 36% females, indicating a moderate gender imbalance. Most participants were between the ages of 31 and 40 (38.7%), followed by those between 41 and 50 years of age (27.3%). In terms of job positions, 50% were managers, and the remainder were team leaders (24.7%), department heads (18.7%), and executives (6.6%), thus indicating a well-represented leadership cohort. The work experience of respondents varied over time, with most having between 5 and 10 years (31.3%), and 11 to 15 years (27.8%). This indicates that the sample was mature enough to have more industry insight. This distribution of experience ensures that both seasoned professionals and relatively newer entrants to the field contributed to the study, providing a balanced perspective on the role of knowledge management in fostering marketing innovation.

### 3. RESULTS

The results are interpreted in relation to the theoretical framework to draw conclusions about the impact of open knowledge management on mar-

**Table 2.** Validity and reliability test

Constructs	Items	Factor loadings	Cronbach's Alpha	C.R.	AVE
Collaboration	CO1	0.793	0.901	0.903	0.924
	CO2	0.832			
	CO3	0.818			
	CO4	0.866			
	CO5	0.803			
	CO6	0.794			
Knowledge Accessibility	KA1	0.807	0.91	0.913	0.93
	KA2	0.849			
	KA3	0.825			
	KA4	0.846			
	KA5	0.831			
	KA6	0.823			
Marketing Innovation	MI1	0.825	0.852	0.875	0.892
	MI2	0.811			
	MI3	0.763			
	MI4	0.794			
	MI5	0.752			
Technology Empowerment	TE1	0.81	0.881	0.882	0.91
	TE2	0.835			
	TE3	0.793			
	TE4	0.8			
	TE5	0.754			
	TE6	0.762			
Knowledge Sharing	KS1	0.863	0.899	0.903	0.922
	KS2	0.795			
	KS3	0.826			
	KS4	0.862			
	KS5	0.794			
	KS6	0.749			

keting innovation and the potential pathways through which these relationships occur.

Table 2 reveals that all constructs (collaboration, knowledge accessibility, marketing innovation, technology empowerment, and knowledge sharing) demonstrate strong reliability and convergent validity. High factor loadings across all items show evidence of convergent validity, which mostly exceeded the acceptable threshold of 0.70. Specifically, the collaboration construct exhibits factor loadings ranging from 0.793 to 0.866, indicating that the items correlate well with the underlying construct. This construct also shows strong internal consistency, with a Cronbach's Alpha of 0.901, Composite Reliability (C.R.) of 0.903, and Average Variance Extracted (AVE) of 0.924. Knowledge accessibility has also performed well with loadings of 0.807 and 0.849 with Cronbach's Alpha of 0.910, C.R. of 0.913, and AVE of 0.930. These findings affirm the construct's internal consistency and convergent validity as a dimension of marketing in-

novation. Although the factor loadings are lower, they range from 0.752 to 0.825 and demonstrate construct validity. It has a Cronbach's Alpha of 0.852, C.R. of 0.875, and AVE of 0.892, which reflects reasonable reliability with convergent validity. The factor loadings of technology empowerment, which range from 0.754 to 0.835, demonstrate the reliability of the items as well as the construct, which also has the following validity indicators, Cronbach's Alpha = 0.881, C.R. = 0.882, AVE = 0.910, and AVE = 0.910. Lastly, knowledge sharing shows robust performance with high factor loadings between 0.749 and 0.863. Internal consistency is also evident (Cronbach's Alpha = 0.899, C.R. = 0.903, and AVE = 0.922), reinforcing the measurement model's suitability. Thus, across all constructs, the measurement model reflects high internal consistency, reliability, and convergent validity. Each construct demonstrates AVE values well above the recommended threshold of 0.50, and composite reliabilities surpassing 0.70. Consequently, these results support the conclu-

**Table 3.** HTMT results

	Collaboration	Knowledge Accessibility	Marketing Innovation	Technology Empowerment	knowledge Sharing
Collaboration					
Knowledge Accessibility	0.59				
Marketing Innovation	0.716	0.456			
Technology Empowerment	0.63	0.543	0.422		
Knowledge Sharing	0.827	0.664	0.648	0.607	

sion that the measurement model is reliable and valid for assessing the underlying constructs in this study.

Two of the most common methodologies are discriminant and cross-validation to evaluate the validity of a complex structure. The first criterion imposes that HTMT will demonstrate discriminant validity, which is the case for composite constructs. Accordingly, the HTMT should be less than 0.85 between any two constructs. All values in Table 3 indicate no serious discriminant validity issues. Therefore, a sound model exists for the measured constructs. Table 3 depicts the structural model findings, validating that the constructs collaboration, knowledge accessibility, marketing innovation, technology empowerment, and knowledge sharing are valid and reliable. All HTMT values are less than the standard threshold of 0.85, indicating evidence of discriminant validity and suggesting that each construct measures a different aspect of the overall model.

Adjusting after-handling location data of all variables reflects good discriminant validity. The relationships of collaboration with technology empowerment (0.630) and collaboration with knowledge sharing (0.827) are also acceptable. However, in the latter one, it is close to the limit but still below the threshold. The lowest HTMT value of 0.422 occurs between marketing innovation and technology empowerment, indicating strong discriminant separation between these constructs.

The most substantial conceptual overlap (0.827) occurs between collaboration and knowledge sharing, which has the highest HTMT value. This does not violate discriminant validity because it even results in 0.85, which is the recommended threshold limit. As a result, HTMT values in Table 3 state distinct validity in all constructs, which gives confident interpretation to the results with unique latent variables and the measurement model being both strong and reliable in terms of the underlying concept.

Table 4 shows the results of the Fornell–Larcker criterion, which corroborates HTMT results and makes them distinctive. The square root of AVE (reported diagonally) was greater than its correlated inter-constructs (off-diagonal values), substantiating the claim that constructs commonly associate more with their own measures than with those of other constructs. The higher diagonal means values for knowledge accessibility (0.830), collaboration (0.818), knowledge sharing (0.816), technology empowerment (0.793), and marketing innovation (0.790). These values all exceed the corresponding tri-correlations in their respective rows and columns. For collaboration, the square root of AVE (0.818) is greater than its correlations with knowledge accessibility (0.540), marketing innovation (0.609), technology empowerment (0.566), and knowledge sharing (0.747). Likewise, the knowledge accessibility diagonal value (0.830) is more than its correlation with marketing innovation (0.391), technology empowerment (0.491),

**Table 4.** Fornell–Larcker criterion

	Collaboration	Knowledge Accessibility	Marketing Innovation	Technology Empowerment	Knowledge Sharing
Collaboration	0.818				
Knowledge Accessibility	0.54	0.83			
Marketing Innovation	0.609	0.391	0.79		
Technology Empowerment	0.566	0.491	0.382	0.793	
Knowledge Sharing	0.747	0.603	0.552	0.544	0.816

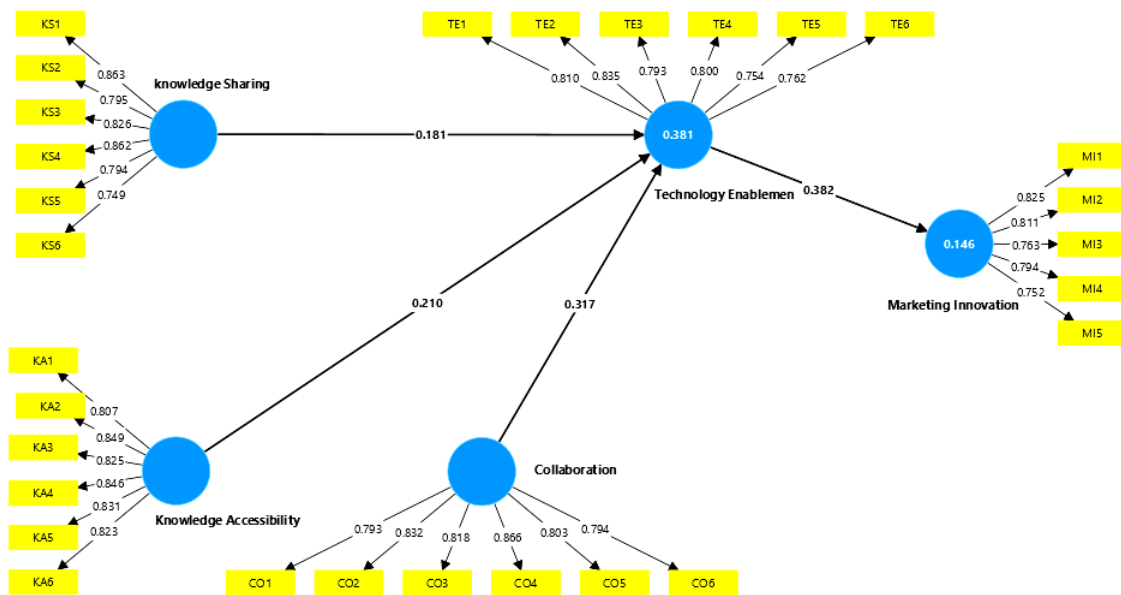


Figure 1. Measurement model

and knowledge sharing (0.603). A similar pattern is observed for marketing innovation, where the diagonal value (0.790) is more significant than all its inter-construct correlations with technology empowerment (0.382) and knowledge sharing (0.552). Technology empowerment maintains a 0.793 diagonal AVE, which is greater than all of its correlations. With a square root of AVE of 0.816, knowledge sharing is more strongly associated with itself than any other construct. This trend supports significant distinctiveness or discriminant validity because each construct accounted for more variance in its own indicators than the other constructs. Combined with the HTMT results, these findings indicate that the measurement model (Figure 1) meets the necessary statistical requirements for discriminant validity.

According to Table 5, the results of testing the hypotheses were examined through the standardized beta coefficients, sample means, standard deviations,  $T$ -statistics, and  $p$ -values. All the proposed hypotheses were statistically supported, leading to the conclusion that the conceptual model is empirical and meaningful. Specifically, H1 states that collaboration has a positive and significant impact on marketing innovation (H1:  $\beta = 0.121$ ,  $T = 2.557$ ,  $p = 0.011$ ), supporting the relationship that collaborative practices develop creative and innovative marketing. In a similar vein, collaboration

has a positive and significant impact on technology empowerment (H2:  $\beta = 0.317$ ,  $T = 3.670$ ,  $p = 0.000$ ), thus specifying that collaboration is one of the core factors in ensuring that an organization adopts digital technologies. Additionally, the accessibility to knowledge also shows a strong effect on marketing innovation (H3:  $\beta = 0.080$ ,  $T = 2.513$ ,  $p = 0.012$ ) as well as on technology empowerment (H4:  $\beta = 0.210$ ,  $T = 3.046$ ,  $p = 0.002$ ). Insights from such knowledge resources facilitate innovation as well as sustain the adoption of digital technologies. Since it is the effect of the technology empowerment on a marketing innovation itself (H5:  $\beta = 0.382$ ,  $T = 4.329$ ,  $p = 0.000$ ), there is strong evidence that robust technological empowerment and tools are necessary for the innovation in marketing strategies.

In contrast, knowledge sharing has no significant impact on marketing innovation (H6:  $\beta = 0.069$ ,  $T = 1.845$ ,  $p = 0.065$ ). Therefore, H6 is rejected. Knowledge sharing is valuable in principle; however, its effect on innovation in marketing might not be as direct as other factors. On the other hand, knowledge sharing has a considerable impact on technology empowerment (H7:  $\beta = 0.181$ ,  $T = 2.222$ ,  $p = 0.026$ ), indicating that the flow of knowledge sharing is needed for technology empowerment. As a result, six of the seven hypotheses are supported, strengthening these structural

**Table 5.** Hypothesis testing estimates

H	Path	Original sample	Sample mean	Standard deviation	T statistics ( O/STDEV )	P values	Result
H1	Collaboration → Marketing Innovation	0.121	0.124	0.047	2.557	0.011	Supported
H2	Collaboration → Technology Empowerment	0.317	0.315	0.086	3.67	0	Supported
H3	Knowledge Accessibility → Marketing Innovation	0.08	0.08	0.032	2.513	0.012	Supported
H4	Knowledge Accessibility → Technology Empowerment	0.21	0.208	0.069	3.046	0.002	Supported
H5	Technology Empowerment → Marketing Innovation	0.382	0.39	0.088	4.329	0	Supported
H6	Knowledge Sharing → Marketing Innovation	0.069	0.074	0.037	1.845	0.065	Rejected
H7	Knowledge Sharing → Technology Empowerment	0.181	0.188	0.081	2.222	0.026	Supported

relationships among collaboration, knowledge accessibility, knowledge sharing, technology empowerment, and marketing innovation. These findings offer robust empirical support for the proposed model and its theoretical bases.

Table 6 presents the *R*-squared (*R*<sup>2</sup>) and *R*-squared adjusted (*R*<sup>2</sup> Adjusted) of two dependent variables of interest, marketing innovation and technology empowerment. These metrics provide an understanding of the model’s explanatory power, where higher *R*<sup>2</sup> values indicate a greater proportion of variance explained by the predictors. Lower values mean the independent variables included in the model explain less variance in the outcome. The explanatory power of marketing innovation is relatively moderate: *R*<sup>2</sup> = 0.146 and Adjusted *R*<sup>2</sup> = 0.143. Its predictors explain 4.6% of the variance in marketing innovation. While tech empowerment has a better-explained model with *R*<sup>2</sup> = 0.381 and Adjusted *R*<sup>2</sup> = 0.374, the better model explains up to 38.1% of the variance in tech empowerment. This is consistent with previous studies that suggest technological factors may have a more substantial direct effect on operational capabilities. In contrast, innovation in marketing may be influenced by a wider array of organizational and external factors. The relatively low *R*<sup>2</sup> of marketing innovation implies that other unmeasured drivers may significantly contribute to the construct’s variance. This highlights the potential role of external variables, market dynamics, and consumer behavior, which might not have been captured in the study and could play a significant role in driving innovation in marketing strategies. The overall results show mediation of a moderate level for marketing innovation and a satisfactory level of explanation for technology empowerment, lending some support to the theorized model, which indicates partial support for the proposed structural relationships.

**Table 6.** Explanation power, R2

Variables	R-squared	R-squared adjusted
Marketing Innovation	0.146	0.143
Technology Empowerment	0.381	0.374

## 4. DISCUSSION

We studied the association among the main building blocks of knowledge management in an open realm (knowledge sharing, knowledge accessibility, collaboration, and technology empowerment) and their influence on the organization’s marketing innovation. The correlation analysis was performed using Smart PLS to analyze the strength and significance of these interrelationships. Correlation analysis allows us to explore the linear relationships between the variables, helping to identify which factors are most strongly associated with marketing innovation and technology empowerment.

The strongest relationship was between technology empowerment and marketing innovation ( $\beta = 0.792$ ,  $T = 2.783$ ,  $p = 0.000$ ). Thus, knowledge management processes are themselves threatening to innovate marketing strategy business models where the use of intelligent technology is strategically integrated into the process. By integrating smart systems, AI, and machine learning, companies can leverage knowledge management processes to create more responsive and targeted marketing campaigns. The ability of organizations to integrate enabling technologies into their knowledge frameworks ultimately facilitates the innovative processes that include idea generation and development, leading to enhanced creativity and innovative marketing practices.

Marketing innovation ( $\beta = 0.198$ ,  $T = 2.112$ ,  $p = 0.037$ ) showed the weakest yet statistically

significant correlation identified. Although it is important to have access to knowledge resources, the lower beta value indicates that just providing information is not as powerful unless knowledge-sharing practices and the collaborative environment are effective.

The pervasive influence of existing and emerging technologies in the marketing domain, as well as the importance of digital tools, platforms, and smart systems in how knowledge is generated, created, and applied to marketing problems, explains the robust linkage between technology empowerment and marketing innovation. Augmented analysis functionality, collaborative approaches in the cloud, and AI-based recommendations all contribute to creating more effective marketing results.

However, we also established a relatively weaker link between knowledge accessibility to a firm and its marketing innovation. First, knowledge available does not mean it is used. In the absence of mechanisms for active knowledge sharing embedded in organizational culture, and without encouragement for employees to engage with available knowledge, the potential impact on innovation is negligible. Knowledge that is not framed or does not tie into strategic objectives might not find its way into the innovation process, for in this case, innovation is not intelligence-driven. Its emphasis on open access to knowledge alongside forces for cooperation and technology empowers the true potential of open knowledge management to be in marketing innovation.

The analysis showed that collaboration strongly supports innovation by enabling joint efforts across departments. Teams that engage in shared planning and knowledge exchange tend to produce more creative marketing strategies. This aligns with findings by Petriello et al. (2024), who emphasized the role of team-based problem-solving in improving innovation outcomes. Knowledge accessibility also proved significant, allowing employees to act on timely and relevant insights, which supports previous conclusions by Ai et al. (2024) regarding the importance of real-time access to information for enhancing decision-making.

Technology empowerment was identified as the most influential factor in improving marketing innovation. When organizational knowledge is integrated with digital platforms, data structures, and collaborative tools, it becomes more actionable, enhancing the flexibility and responsiveness of marketing initiatives. These findings corroborate the work of Bai et al. (2020) and Janssen et al. (2020), who revealed that digital capabilities positively contribute to improved performance metrics and organizational response speed. Although knowledge sharing itself did not demonstrate a direct and immediate relationship with marketing innovation outcomes, it exerted a mediating effect in enabling the technologies used. This mediating role implies that diffused knowledge enhances the firm's ability to exploit digital tools, a conclusion consistent with the evidential account presented by Kumar et al. (2024). Complementary analyses also confirm the applicability of the technology acceptance model (TAM), as the dual construct of perceived usefulness and perceived ease of use emerged as important precursors to the adoption of innovation support systems. The data thus suggest that when digital technologies are perceived as practical and easy to use, employees tend to integrate them into actions aimed at improving marketing performance. Evidence also demonstrates that the mere provision of available knowledge does not stimulate innovation unless it is supported by effective management buy-in, effective job alignment, and tools that encourage workforce scrutiny and the utilization of acquired knowledge. This insight confirms the findings of Hautala-Kankaanpää (2022), who demonstrated that contextual encouragement and systematic dissemination of expertise yield tangible results. Unlike previous studies that focused on large multinational corporations, this paper contributes a complementary finding by studying the case of a publicly owned industrial company, demonstrating that the systematic deployment of digital tools, in conjunction with deliberate internal knowledge initiatives, facilitates sustainable improvement in marketing performance. The results indicate a need for strong collaboration systems, consistent knowledge availability, and investment in digital tools that enable teams to work together and share ideas with measurable outcomes.

## CONCLUSION

This study aimed to empirically examine the impact of open knowledge management on marketing innovation and to investigate the mediating role of technology empowerment in this relationship within an organizational context. The findings indicate that collaboration and knowledge accessibility have a significant positive effect on marketing innovation, both directly and indirectly through technology empowerment. Conversely, while knowledge sharing significantly enhances technology empowerment, it does not exert a direct significant impact on marketing innovation. Technology empowerment itself was identified as the strongest direct driver of marketing innovation. These results lead to several key conclusions. Theoretically, this study validates and extends the technology acceptance model (TAM), demonstrating that perceived usefulness and ease of use of digital tools are critical for translating knowledge assets into innovative outcomes. It confirms that technology empowerment is not merely a facilitator but a vital mediating mechanism that unlocks the innovative potential of open knowledge practices.

From a practical perspective, the implications are clear for managers seeking a competitive advantage. Organizations should prioritize investments in user-friendly digital platforms (e.g., collaborative software, KMS, cloud-based systems) that enhance knowledge accessibility and seamless collaboration across departments. Fostering a collaborative culture is paramount, while initiatives focused solely on encouraging knowledge sharing may yield limited returns on innovation unless they are coupled with the technological capacity to apply that knowledge effectively. Leadership must actively champion the integration of technology into daily knowledge processes to drive marketing innovation.

## AUTHOR CONTRIBUTIONS

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## REFERENCES

1. Abu AlSondos, I. A. (2023). An empirical study of critical success factors in implementing knowledge management systems (KMS): The moderating role of culture. *Uncertain Supply Chain Management*, 11(4), 1527-1538. <https://doi.org/10.5267/j.uscm.2023.7.016>
2. Abu AlSondos, I. A., & Salameh, A. A. M. (2020). The effect of system quality and service quality toward using m-commerce service, based on consumer perspective. *Management Science Letters*, 10(11), 2489-2496. <https://doi.org/10.5267/j.msl.2020.3.035>
3. Agyabeng-Mensah, Y., Ahenkorah, E., Afum, E., Nana Agyemang, A., Agnikpe, C., & Rogers, F. (2020). Examining the influence of internal green supply chain practices, green human resource management and supply chain environmental cooperation on firm performance. *Supply Chain Management*, 25(5), 585-599. <https://doi.org/10.1108/SCM-11-2019-0405>
4. Almustafa, E., Assaf, A., & Allahham, M. (2024). Implementation of artificial intelligence for financial process innovation of commercial banks. *Revista de*

- Gestão Social e Ambiental*, 17(9), 1-17. <https://doi.org/10.24857/rgsa.v17n9-004>
5. Alrjoub, A. M. S., Almomani, S. N., Al-Hosban, A. A., & Allahham, M. I. (2021). The impact of financial performance on earnings management practice behavior (an empirical study on financial companies in Jordan). *Academy of Strategic Management Journal*, 20, 1-15. Retrieved from <https://www.abacademies.org/articles/the-impact-of-financial-performance-on-earnings-management-practice-behavior-an-empirical-study-on-financial-companies-in-pdf>
  6. Alshehri, A., & Hadoussa, S. (2025). Reevaluating the DeLone and McLean Model for EHR Success and Knowledge-Sharing in a Saudi Public Medical Complex. *Journal of Information Technology Management*, 17(2), 28-49. <https://doi.org/10.22059/jitm.2025.101575>
  7. Aranyossy, M. (2022). Technology adoption in the digital entertainment industry during the COVID-19 pandemic: An extended UTAUT2 model for online theater streaming. *Informatics*, 9(3). <https://doi.org/10.3390/informatics9030071>
  8. Atta, A. A. B., Ahmad, A. Y. A. B., Allahham, M. I., Sisodia, D. R., Singh, R. R., & Maginmani, U. H. (2023). Application of machine learning and blockchain technology in improving supply chain financial risk management. *Proceedings of International Conference on Contemporary Computing and Informatics*, 2199-2205. <https://doi.org/10.1109/IC3I59117.2023.10397935>
  9. Bai, C., Dallasega, P., Orzes, G., & Sarkis, J. (2020). Industry 4.0 technologies assessment: A sustainability perspective. *International Journal of Production Economics*, 229, Article 107776. <https://doi.org/10.1016/j.ijpe.2020.107776>
  10. Bashatweh, A. D., Abutaber, T. A., AlZu'bi, M. J., KHader, L. F. A., Al-Jaghbir, S. A., & AlZoubi, I. J. (2021, November). Does environmental, social, and governance (ESG) disclosure add firm value? evidence from sharia-compliant banks in Jordan. In *International Conference on Business and Technology* (pp. 585-595). Cham: Springer International Publishing. [https://doi.org/10.1007/978-3-031-08084-5\\_42](https://doi.org/10.1007/978-3-031-08084-5_42)
  11. Chareonvong, C., Noyaim, N., Sanakulchai, P. T., Pilaphan, P. J., Luengalongkot, P., Dhammasaccakarn, W., Jaroensombut, L., Sakolnakorn, T.P.N., & Chaiyapong, A. (2024). Knowledge sharing: A key success factor for organization's performance. *Journal of Education and Learning*, 13(6), 75-76. <https://doi.org/10.5539/jel.v13n6p144>
  12. Dirani, K. M., Abadi, M., Alizadeh, A., Barhate, B., Garza, R. C., Gunasekara, N., Ibrahim, G., & Majzun, Z. (2020). Leadership competencies and the essential role of human resource development in times of crisis: A response to Covid-19 pandemic. *Human Resource Development International*, 23(4), 380-394. <https://doi.org/10.1080/13678868.2020.1780078>
  13. Dwivedi, Y. K., Ismagilova, E., Hughes, D. L., Carlson, J., Filieri, R., Jacobson, J., Jain, V., Karjaluoto, H., Kefi, H., Krishen, A. S., Kumar, V., Rahman, M. M., Raman, R., Rauschnabel, P. A., Rowley, J., Salo, J., Tran, G. A., & Wang, Y. (2021). Setting the future of digital and social media marketing research: Perspectives and research propositions. *International Journal of Information Management*, 59, Article 102168. <https://doi.org/10.1016/j.ijinfomgt.2020.102168>
  14. Elia, G., Margherita, A., & Passiante, G. (2020). Digital entrepreneurship ecosystem: How digital technologies and collective intelligence are reshaping the entrepreneurial process. *Technological Forecasting and Social Change*, 150, Article 119791. <https://doi.org/10.1016/j.techfore.2019.119791>
  15. Falloon, G. (2020). From digital literacy to digital competence: The teacher digital competency (TDC) framework. *Educational Technology Research and Development*, 68(5), 2449-2472. <https://doi.org/10.1007/s11423-020-09767-4>
  16. Filipe, H. P., Kostic, M., Lopez, M., & Golnik, K. (2024). Making the case for the evolving role of social media in health professions education and a literature review on the application of some in ophthalmology. *Annals of Eye Science*, 9. <https://doi.org/10.21037/aes-23-74>
  17. Firman, A., Mustapa, Z., Ilyas, G. B., & Putra, A. H. P. K. (2020). Relationship of TQM on managerial performance: Evidence from property sector in Indonesia. *Journal of Distribution Science*, 18(1), 47-57. Retrieved from <https://koreascience.kr/article/JAKO202014862061088.pdf>
  18. Gharaibeh, N., Gharaibeh, M. K., Gharaibeh, O., & Bdour, W. (2020). Exploring intention to adopt mobile commerce: Integrating UTAUT2 with social media. *International Journal of Scientific and Technology Research*, 9(3), 3826-3833. Retrieved from <https://www.ijstr.org/final-print/mar2020/Exploring-Intention-To-Adopt-Mobile-Commerce-Integrating-Utaut2-With-Social-Media.pdf>
  19. Hautala-Kankaanpää, T. (2022). The impact of digitalization on firm performance: Examining the role of digital culture and the effect of supply chain capability. *Business Process Management Journal*, 28(8), 90-109. <https://doi.org/10.1108/BPMJ-03-2022-0122>
  20. Hermawan, A., Hurriyati, R., Hendrayati, H., & Sultan, M. A. (2024). Implementation of blue ocean strategy in facing business competition: A startup case study of Lapangbola.Com. *Jurnal Manajemen Bisnis*, 15(1), 1-12. <https://doi.org/10.18196/mb.v15i1.20486>
  21. Iqbal, S., Bashir, M., Bureš, V., Zanker, M., Ullah, S., & Rizwan, A. (2025). Impact of knowledge sharing and innovation on performance of organization: Evidence from the pharmaceutical industry of Pakistan. *Cogent Business & Management*, 12(1). <https://doi.org/10.1080/23311975.2025.2471536>
  22. Janssen, M., Weerakkody, V., Ismagilova, E., Sivarajah, U., & Irani, Z. (2020). A framework for analysing blockchain technology

- adoption: Integrating institutional, market and technical factors. *International Journal of Information Management*, 50, 302-309. <https://doi.org/10.1016/j.ijin-fomgt.2019.08.012>
23. Kumar, M., Mamgain, P., Pa-sumarti, S. S., & Singh, P. K. (2024). Organizational IT support and knowledge sharing behaviour affecting service innovation performance: Empirical evidence from the hospitality industry. *VINE Journal of Information and Knowledge Management Systems*, 54(2), 256-279. <https://doi.org/10.1108/VJIK-MS-07-2021-0124>
  24. Maulina, M., & Yustika, Y. (2022). Research methods in the teaching and learning pronunciation using social media and technological tools. *Harvest: An International Multidisciplinary and Multilingual Research Journal*, 2(1), 55-63.
  25. Memory, G. K., Saif, R. U., & Ashraf, Y. (2024). Knowledge sharing through empowering leadership: The roles of psychological empowerment and learning goal orientation. *Global Knowledge, Memory and Communication*, 73(4-5), 682-697. <https://doi.org/10.1108/GKMC-08-2022-0194>
  26. Ndawula, G. K. (2025, April). Knowledge-Infused Learning for Developing a Mental Health Diagnostic Copilot in Healthcare Systems. In *Proceedings of the AAAI Conference on Artificial Intelligence* (Vol. 39, No. 28, pp. 29590-29592). <https://doi.org/10.1609/aaai.v39i28.35335>
  27. Nuseir, M. T., & Aljumah, A. (2020). The role of digital marketing in business performance with the moderating effect of environment factors among SMEs of UAE. *International Journal of Innovation, Creativity and Change*, 11(3), 310-324. Retrieved from [https://ijicc.net/images/vol11iss3/11325\\_Nuseir\\_2020\\_E\\_R.pdf](https://ijicc.net/images/vol11iss3/11325_Nuseir_2020_E_R.pdf)
  28. Perotti, F. A., Rozsa, Z., Kudej, M., & Ferraris, A. (2024). Building a knowledge sharing climate amid shadows of sabotage: A micro-foundational perspective into job satisfaction and knowledge sabotage. *Journal of Knowledge Management*, 28(5), 1490-1516. <https://doi.org/10.1108/JKM-03-2023-0262>
  29. Petriello, M. A., Redmore, L., Sène, A. L., Katju, D., Barraclough, L., Boyd, S., Madge, C., Papadopoulos, A., & Yalamala, R. S. (2024). The scope of empowerment for conservation and communities. *Conservation Biology*, January, 39(1), Article e14249. <https://doi.org/10.1111/cobi.14249>
  30. Pscheidt-Gieseler, T. C., Didonet, S. R., Toaldo, A. M. M., & Martins, T. S. (2018). The innovation orientation influence on architectural marketing capabilities and the impact on innovation performance. *International Journal of Business Innovation and Research*, 15(3), 277-300. <https://doi.org/10.1504/IJBIR.2018.089749>
  31. Reynolds, A., & Corrigan, F. (2024). Improving real-time knowledge retrieval in large language models with a dns-style hierarchical query rag. *Authorea Preprints*. <https://doi.org/10.36227/techrxiv.171838950.05945972/v1>
  32. Sarkar, A., Routroy, S., & Sultan, F. A. (2022). The impact of co-creation and co-invention in supply chains: A bibliometric review. *Arab Gulf Journal of Scientific Research*, 40(4), 364-391. <https://doi.org/10.1108/AGJSR-04-2022-0010>
  33. Shabbir, T., Manan, S., & Ayaz, H. (2025). Social media as a learning tool: Impacts on collaborative learning and knowledge sharing. *Journal of Social Sciences Review*, 5(1), 229-240. <https://doi.org/10.62843/jssr.v5i1.485>
  34. Srijith, P., Akhilesh, A., & Mamidi, R. (2023). Towards enhancing knowledge accessibility for low-resource Indian languages: A template based approach. *Proceedings of the 21st International Conference on Natural Language Processing (ICON)* (pp. 332-336). Chennai, India. Retrieved from <https://aclanthology.org/2024.icon-1.38/>
  35. Sunarsi, D., Djulius, H., Affandi, A., Priadana, S., Narimawati, U., & Sudirman, I. (2025). Exploring strategies to manage expectational knowledge in higher education after COVID-19 pandemic. *Journal of Education and Learning*, 19(2), 699-710. <https://doi.org/10.11591/edulearn.v19i2.21784>
  36. Surawan, K. A. (2024). Traditional versus digital media in predicting the impact of Islamic religious knowledge on life satisfaction and well being. *International Journal of Arts and Social Science*, 7(3), 119-133. Retrieved from <https://www.ijassjournal.com/2024/V7I3/41466639151.pdf>
  37. Theresa, E., Rosnani, T., Afifah, N., Purmono, B. B., & Setiawan, H. (2024). Influence of content, influencer, and product innovation on scarlett's brand awareness through event marketing. *Journal of Management Science (JMAS)*, 7(1), 119-131. <https://doi.org/10.35335/jmas.v7i1.402>
  38. Wang, Z. (2025). Linking innovative knowledge sharing and employees' innovative behaviour: The mediating role of thriving at work. *Knowledge Management Research & Practice*, 23(1), 52-62. <https://doi.org/10.1080/14778238.2023.2261411>
  39. Wikansari, R., Ausat, A., Hidayat, R., Mustoip, S., & Sari, A. (2023). Business psychology analysis of consumer purchasing factors: A literature review. *Proceedings of the International Conference on Economic, Management, Business and Accounting*. Tanjungpinang, Riau Islands, Indonesia. <https://doi.org/10.4108/eai.17-12-2022.2333186>
  40. Yang, Y., Yang, T., Wu, X., Guo, Z., & Hu, B. (2025). Efficient UAV Swarm-Based Multi-Task Federated Learning with Dynamic Task Knowledge Sharing. *arXiv Preprints*.
  41. Zamiri, M., & Esmaeili, A. (2024). Methods and technologies for supporting knowledge sharing within learning communities: A systematic literature review. *Administrative Sciences*, 14(1). <https://doi.org/10.3390/admsci14010017>

## APPENDIX A

Dear respondent,

Thank you for taking the time to participate in this survey. This study aims to explore how open knowledge management practices influence marketing innovation within organizations. It also examines the role of technology empowerment as a mediating factor in this relationship. Your responses will help us understand how knowledge sharing, accessibility, and collaboration, supported by digital technologies, can enhance innovative marketing capabilities. Your participation is completely voluntary, and all responses will be kept strictly confidential. The information will be used solely for academic research purposes and will not be shared in any form that identifies you personally. We kindly ask you to answer the questions sincerely, based on your own experiences. Thank you once again for your valuable input and support.

No.	Statement	1	2	3	4	5	6	7
<b>Open Knowledge Management</b>								
<b>Knowledge Sharing</b>								
1	Employees in our organization regularly share their knowledge with others.							
2	Knowledge sharing is encouraged and supported by management.							
3	There are platforms or tools in place that facilitate knowledge sharing.							
4	Team members openly exchange insights and ideas during meetings.							
5	Knowledge sharing is a part of our organizational culture.							
6	Employees are rewarded or recognized for sharing knowledge.							
<b>Knowledge Accessibility</b>								
1	Employees can easily access the information they need to perform their tasks.							
2	Knowledge is stored in a well-organized and retrievable manner.							
3	There are digital tools that help us access organizational knowledge quickly.							
4	Information is available across departments when needed.							
5	Employees know where to find the knowledge they need.							
6	Access to external knowledge resources is provided by the organization.							
<b>Collaboration</b>								
1	Departments in our organization collaborate effectively with one another.							
2	Employees are encouraged to work collaboratively on projects.							
3	There is a high level of trust among employees during teamwork.							
4	Cross-functional collaboration is common in our organization.							
5	Collaborative tools (shared drives, messaging apps) are actively used.							
6	Our organization promotes a culture of teamwork and mutual support.							
<b>Marketing Innovation</b>								
1	Our organization frequently adopts new marketing strategies.							
2	We use digital technologies to innovate our marketing practices.							
3	Customer feedback is used to improve marketing efforts.							
4	We experiment with creative marketing approaches.							
5	Marketing innovation contributes to our competitive advantage.							
6	Our marketing team frequently integrates customer insights into new campaigns.							
<b>Technology Empowerment</b>								
1	Employees are provided with modern digital tools to support their work.							
2	Technology is used to enhance communication and knowledge flow.							
3	Our organization invests in emerging technologies.							
4	Employees receive training to use digital systems effectively.							
5	Technology enables employees to be more innovative.							
6	Digital systems support knowledge management activities.							