



A CAUSAL MODEL ON KNOWLEDGE MANAGEMENT ORIENTATION OF SECONDARY SCHOOL HEADS AS INFLUENCED BY LEADERSHIP BEHAVIOR, ORGANIZATIONAL CULTURE, AND INFORMATION COMMUNICATION TECHNOLOGY COMPETENCY

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Abstract:

This study determined the best-fit structural model of knowledge management orientation (KMO) among public secondary school heads in Region XI, taking into account leadership behavior, organizational culture, and information and communication technology (ICT) competency. A quantitative descriptive-correlational design and stratified random sampling were used with 400 public secondary school teachers. The validated instruments measured the four constructs, and data were analyzed using means, standard deviations, Pearson correlations, multiple regression, and structural equation modeling. Leadership behavior ($M = 4.47$), organizational culture ($M = 4.50$), ICT competency ($M = 4.44$), and KMO ($M = 4.47$) were rated at very high levels. Each predictor was strongly and significantly related to KMO: leadership behavior, $r = .863$; organizational culture, $r = .834$; and ICT competency, $r = .793$, all $p < .001$. The regression model explained 76.7% of the variance in KMO; leadership behavior was the strongest predictor, followed by ICT competency, while organizational culture had no significant unique contribution. Model 3 was the best-fitting model, retaining support, providing vision, mentoring, delegating, consulting, innovative role modeling, consistency, involvement, the social and ethical dimension, technology operations and concepts, organizational memory, and knowledge sharing. It achieved an excellent fit, $p = .075$, $CMIN/df = 1.330$, $GFI = .977$, $CFI = .997$, $NFI = .989$, $TLI = .996$, $RMSEA = .029$, and $p\text{-close} = .973$, although only the path from organizational culture to ICT competency was individually significant. The study contributes an empirically tested framework that integrates leadership development, participatory culture, digital capacity building, and organizational-memory systems to guide school improvement and future model validation.

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Keywords: educational management, ICT competency, knowledge management orientation, leadership behavior, organizational culture

1. Introduction

Knowledge management orientation (KMO) has become an important concern in educational administration because schools continually generate policies, reports, instructional materials, intervention records, evaluation results, digital files, and professional experiences that must be preserved and used beyond the individuals who originally produced them. Although public secondary schools possess substantial information, these resources do not automatically become accessible and reusable institutional knowledge. When instructional practices, administrative decisions, and lessons from completed programs remain dependent on individual personnel, transfer, reassignment, retirement, or departure may disrupt organizational continuity and weaken institutional memory. Organizations must therefore move beyond accumulating information by developing systematic capabilities for acquiring, sharing, absorbing, preserving, and applying knowledge (Jayampathi *et al.*, 2021; Arunga & Kilika, 2023).

KMO refers to an organization's strategic inclination to recognize knowledge as a critical resource and to manage how it is received, exchanged, retained, interpreted, and used. The present study encompasses organizational memory, knowledge sharing, knowledge absorption, and knowledge receptivity. These dimensions are interrelated organizational abilities that enable institutions to transform information and professional experience into continuous organizational learning rather than merely an administrative record only (Jayampathi *et al.*, 2021; Arunga & Kilika 2023).

KMO is important in schools because it affects the capacity to learn from the school's experience which in turn influences the continuity, adaptability and quality of educational programs. By maintaining effective practices, reviewing past interventions, identifying recurring issues and making changes based on evidence, knowledge-oriented schools can avoid the need to re-engage in the process every time. Empirical evidence shows that knowledge management, when it is organized, processed and transferred into practice, has a positive impact on knowledge innovation capability, organizational and educational outcomes (Lam *et al.*, 2021; Birasnav *et al.*, 2023).

Leadership behavior is expected to influence the KMO as school heads create the setting in which professional knowledge is acknowledged, shared, and used. Through direction, support, consultation, participation, and recognition, leaders can motivate teachers to share their expertise and participate in collaborative learning. Effective educational leadership is people development, collaboration, and leading the organization for continual learning and improvement (UNESCO, 2024).

Recent studies have supported the relationship between leadership and knowledge management. Leaders can promote the creation, sharing, and use of knowledge by building of confidence, engaging professional, providing organizational support, and fostering collaboration (Awan & Ather, 2024; Hoang & Le, 2025).

Nevertheless, the effect of leadership may be context-specific and not universal. Hoang and Le (2025) found that the relationship between leadership and the teachers' knowledge sharing was mediated by knowledge-centered culture and perceived organizational support, suggesting that the relationship between leadership and KMO should be examined alongside with other institutional conditions rather than treated as the sole determinant of KMO.

Organizational culture can facilitate the KMO to establishing shared expectations regarding participation, coordination, flexibility, and institutional direction. A conducive culture can be a motivate staff to perceive knowledge as a shared organizational asset rather than a private good. Empirical studies have shown a consistent link between organizational culture and the enhancement of knowledge management processes, innovation, and institutional learning in educational and organizational settings (Lam *et al.*, 2021; Nanjundeswaraswamy & Swamy, 2022; Cabrera Nuñez *et al.*, 2025).

The role of organizational culture in the empirical models has been inconsistent. For some, it directly predicts knowledge management, meanwhile others consider it an enabling or mediating condition in which leadership and organizational support influence knowledge sharing behavior (Hoang & Le, 2025). These different findings imply that culture may be directly contributing to KMO or indirectly through reinforcing the conditions under which leadership and technological capabilities operate.

ICT competency is the ability to capture, organize, secure, retrieve, communicate, and apply institutional knowledge. These include technical skills, ethical digital practice, pedagogical use, and professional use of technology. These skills imply not only the know-how to use devices and software but also the responsible management of digital information, decision-making informed by technology, and participation in continuous professional learning (UNESCO, 2023).

ICT competence can help KMOs access to repositories, safe communication channels, digital reporting systems, and professional collaborative networks. This may reduce the dependence on paper-based and people-based practices and increase the availability and dissemination of instructional and administrative knowledge. Information technology is especially significant when it is used for coordination, communication, retrieval, and organizational responsiveness, rather than simply as a storage mechanism (Wang & Wu, 2021).

Organizational processes can also be a mediator between technological capability and knowledge management. Çevik and Doğan (2023) found that school principals' technological leadership was a positive predictor of knowledge management and data-driven decision-making. Knowledge management partially mediated the relationship between technological leadership and decision-making but did not moderate it. Thus, technological capability may influence organizational outcomes through specific knowledge-management processes rather than through a general or direct effect. ICT competency should therefore be investigated in relation to leadership behavior and organizational culture.

The interaction of leadership, organizational culture, ICT competency and KMO is particularly relevant to the context of Philippine public schools. The Department of Education and the Department of Information and Communications Technology have launched the Public Education Network to improve school connectivity, accessibility of digital platforms, communication, and the security of information. Nevertheless, technological infrastructure alone is insufficient to enable successful institutional knowledge management. There is a need to support the digital systems, which can be achieved through competent leadership, appropriate organizational rules, responsible practice, and systematic procedures for the conservation and use of knowledge (Department of Education & Department of Information and Communications Technology, 2021).

There is also data from the Philippines on the association of leadership competence, organizational conditions and technology-related capability. There is a significant relationship between among school climate, leadership competence, technology self-efficacy, and attitude towards technology among public elementary school teachers in Region XII (Espinosa & Quines, 2025). Although their dependent variable differed from KMO's, their findings support the general contention that leadership, organizational environment, and technological capability should be studied jointly when investigating digital and organizational practices in Philippine schools.

The present study is anchored primarily in Social Cognitive Theory, which explains human and organizational functioning through the reciprocal interaction of personal capability, behavior, and environmental conditions (Bandura, 1986). In the proposed model, ICT competency represents an important personal-professional capability of school heads, leadership behavior represents enacted administrative practice, and organizational culture represents the institutional environment. KMO constitutes the organizational orientation expected to develop from the combined influence of these dimensions.

The study is also supported by the Knowledge-Based View, which regards knowledge as a strategic organizational resource whose value depends on its effective integration, coordination, and application (Grant, 1996). In schools, instructional expertise, program histories, intervention records, stakeholder experiences, and administrative decisions become institutionally valuable when they are preserved, shared, and made available for future action. From this perspective, KMO represents the organizational capability through which individually and collectively held knowledge is transformed into sustained institutional capacity.

The Social Exchange Theory also offers a way to explain relational conditions that prompt personnel to share their knowledge (Blau, 1964). Teachers are more inclined to share expertise, experiences and professional insights when they observe support, trust, recognition, fairness and reciprocal benefit. Leadership practices that encourage consultation and participation, along with a supportive organizational culture, can make knowledge exchange safer, more valuable and more predictable.

Conceptually, the study proposed that leadership behavior, organizational culture, and ICT competency would each be associated with KMO. Leadership behavior was measured through eleven administrative practices related to support, vision, participation, innovation, recognition, and knowledge diffusion. Organizational culture was represented by involvement, consistency, adaptability, and mission, while ICT competency covered technology operations and concepts, social and ethical use, pedagogical application, and professional engagement. KMO was represented by organizational memory, knowledge sharing, knowledge absorption, and knowledge receptivity. The framework therefore combines human, cultural, and structural factors technical dimensions of educational administration in one explanatory framework.

Furthermore, the framework's structural component enabled the study to test whether the observed relationships were best represented by simple direct paths or by a more integrated pattern. Social Cognitive Theory suggested reciprocal alignment among leader capability, behavior, and environment, while the Knowledge-Based View positioned KMO as the institutional outcome of that alignment. The model also recognized that organizational culture could strengthen ICT competency by creating norms, support, and opportunities for digital practice. Consequently, structural equation modeling was appropriate because it could compare alternative configurations and identify the model that most adequately reproduced the observed relationships among the constructs.

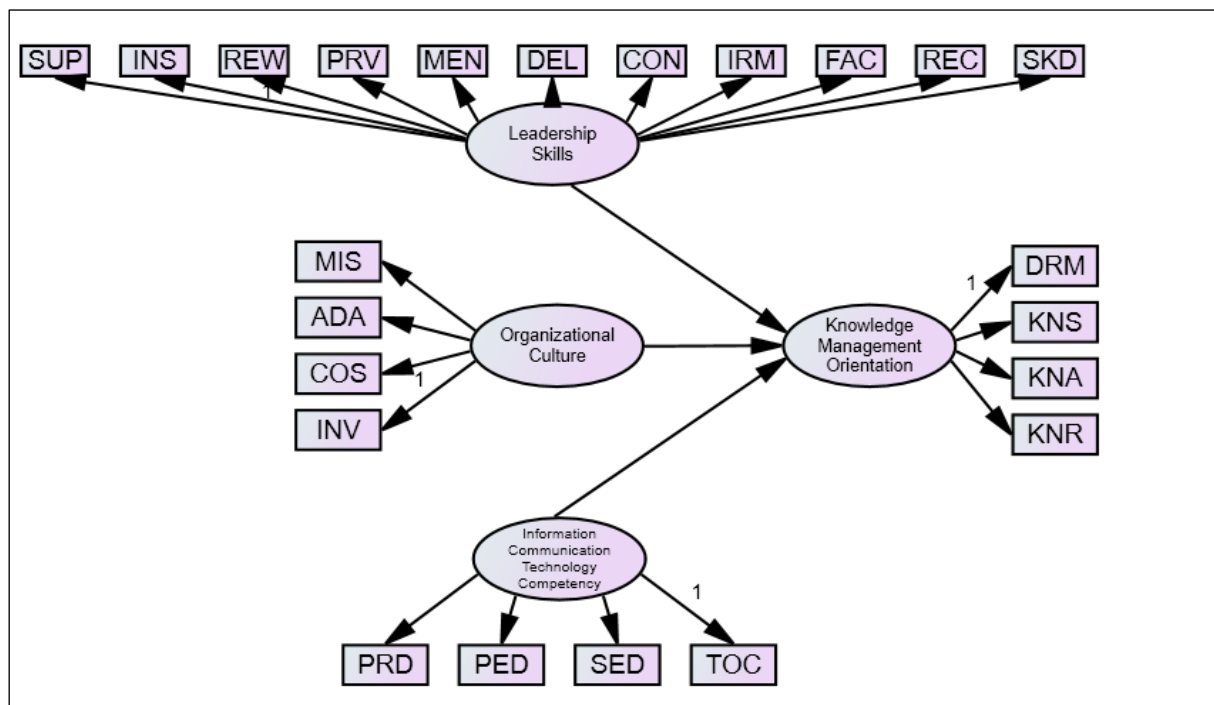


Figure 1: Conceptual Framework of the Study

Legend: Leadership Behavior SUP = Support; INS = Intellectual Stimulation; REW = Rewarding; PRV = Providing Vision; MEN = Mentoring; DEL = Delegating; CON = Consulting; IRM = Innovative Role Modeling; FAC = Facilitating; REC = Recognizing; SKD = Stimulating Knowledge Diffusion	Information Communication Technology PRD = Professional Dimension PED = Pedagogical Dimension SED = Social and Ethical Dimension TOC = Technology Operations and Concepts;
Organizational Culture MIS = Mission ADA = Adaptability COS = Consistency INV = Involvement;	Knowledge Management Orientation DRM = Organizational Memory; KNS = Knowledge Sharing; KNA = Knowledge Absorption; KNR = Knowledge Receptivity.

Accordingly, the general objective of the study was to determine the best-fit structural model of KMO among public secondary school heads in Region XI, as assessed by public secondary school teachers. Specifically, the study: measured the levels of leadership behavior, organizational culture, ICT competency, and KMO; analyzed the significance of the relationships between each exogenous variable and KMO; identified the variables that significantly affected KMO; and developed and evaluated the structural models to determine the configuration that best fit the observed data.

The null hypotheses stated that leadership behavior, organizational culture, and ICT competency had no significant relationships with KMO; that the three exogenous variables did not significantly influence KMO; and that no structural model adequately represented the KMO of public secondary school heads. These hypotheses were tested at the .05 level of significance.

The study contributes to educational management by integrating leadership, cultural, technological, and knowledge-oriented dimensions within a single structural model. Its findings may provide the Department of Education, regional and division offices, and school administrators with an empirical basis for developing coordinated initiatives in leadership development, teacher participation, ICT capacity building, ethical digital practice, and institutional knowledge preservation. The findings may also support school improvement planning, professional learning communities, succession procedures, and the establishment of reliable repositories for instructional and administrative knowledge.

The study is relevant to Sustainable Development Goal 4 because knowledge-oriented leadership and organizational learning can improve institutional capacity in quality education. It also supports Sustainable Development Goal 17 because knowledge sharing, digital collaboration, and coordinated school systems can improve partnerships

between schools, education offices, professional networks, and communities. These goals emphasize the importance of institutional learning, educational quality, and collaborative systems in advancing the 2030 Agenda for Sustainable Development.

2. Materials and Methods

This section describes the study methods, including the research design, research locale, population and sample, research instruments used to measure the constructs of interest, data collection, statistical tools, and ethical considerations.

2.1 Research Respondents

The study was conducted across the eleven Schools Division Offices of Region XI, Davao Region, Philippines. The target population consisted of 19,684 public secondary school teachers listed in the Department of Education Basic Education Information System as of February 28, 2025 (Department of Education Regional Office XI, 2025). Teachers served as respondents because they had direct and sustained opportunities to observe their school heads' leadership behavior, their schools' organizational culture, the ICT competencies demonstrated in administrative and instructional leadership, and the knowledge-management practices present in the institution. Applying Cochran's (1977) formula at a 95% confidence level, with a 5% margin of error, and maximum variability yielded an initial estimate of approximately 384 cases and a finite-population minimum of approximately 377. The final sample of 400 exceeded this minimum and provided adequate observations for stable covariance-based SEM estimation (Kline, 2023).

The sample included 109 teachers from Davao City, 72 from Davao de Oro, 43 from Davao del Norte, 32 from Davao del Sur, 28 from Davao Occidental, 38 from Davao Oriental, 14 from Digos City, 11 from the Island Garden City of Samal, 15 from Mati City, 17 from Panabo City, and 21 from Tagum City. Stratified random sampling was used because the population was naturally organized by school division and because each division needed representation corresponding to its population share. Within each stratum, eligible teachers were selected at random, thereby reducing selection bias and strengthening the regional representativeness of the data.

The inclusion criteria required respondents to be full-time public secondary school teachers who had served for at least one year in their current school and who voluntarily provided informed consent. The minimum service period was intended to ensure adequate exposure to the school head's leadership practices and to the school's cultural, technological, and knowledge-management routines. Part-time or temporary teachers, personnel on extended leave during data collection, respondents with less than one year in the current school, and individuals who declined consent were excluded. Participants could withdraw at any point before data consolidation without penalty, and questionnaires with substantial missing responses were to be excluded from analysis in accordance with the study's data-screening protocol.

2.2 Research Instruments

The study used a structured questionnaire with four parts. The KMO scale was adapted from Wang *et al.* (2008) and measured organizational memory, knowledge sharing, knowledge absorption, and knowledge receptivity. The leadership behavior scale was adapted from Shamim *et al.* (2019) and covered supportiveness, intellectual stimulation, rewarding, providing vision, mentoring, delegating, consulting, innovative role modeling, facilitating, recognizing, and stimulating knowledge diffusion. Items were worded to assess the extent to which these behaviors and practices were observed among their school heads.

The organizational culture scale was adapted from Nguyen (2010) and measured involvement, consistency, adaptability, and mission. The ICT competency scale was adapted from Guillo and Guillo (2017) and measured technology operations and concepts, social and ethical use, pedagogical applications, and professional engagement. The four instruments were selected because their construct domains aligned with the proposed structural model. Contextual revisions were limited to wording needed for the public secondary-school setting, while the original domains were retained to preserve content coverage.

All items were answered using a five-point response scale. Mean scores from 4.20 to 5.00 were interpreted as Very High or Strongly Agree, indicating always observed; 3.40 to 4.19 as High or Agree, indicating often observed; 2.60 to 3.39 as Moderate, indicating sometimes observed; 1.80 to 2.59 as Low or Disagree, indicating seldom observed; and 1.00 to 1.79 as Very Low or Strongly Disagree, indicating rarely observed. The same range of means was applied across leadership behavior, organizational culture, ICT competency, and KMO to ensure consistent descriptive interpretation.

Before the main administration, the questionnaire was reviewed by experts in educational leadership, psychometrics, and research methodology for relevance, clarity, and contextual appropriateness. Their comments were incorporated before pilot testing with 30 public secondary school teachers who had characteristics similar to those of the target respondents but were not included in the main sample. The average expert-validation rating was 4.60, indicating highly valid performance under the study's validation rubric. The pilot-testing results demonstrated excellent internal consistency. KMO obtained a Cronbach's alpha of .966 for 29 items, leadership behavior obtained .971 for 36 items, organizational culture obtained .982 for 36 items, and ICT competency obtained .985 for 39 items. All coefficients exceeded the conventional .70 threshold for acceptable internal consistency (Nunnally & Bernstein, 1994), indicating that the scales were suitable for administration to the main sample. Because coefficients above .95 may also indicate highly similar items, future scale refinement may examine possible redundancy without disregarding the instruments' strong reliability.

2.3 Research Design and Procedure

The investigation employed a quantitative, non-experimental, descriptive-correlational design. A non-experimental design was appropriate because the variables were

measured as they naturally occurred and no treatment, assignment, or manipulation was introduced. The descriptive component established the levels of leadership behavior, organizational culture, ICT competency, and KMO, while the correlational component examined the strength and direction of their relationships. According to Creswell and Creswell (2023) and Cohen *et al.* (2018), this design is suitable for studies that describe existing conditions and analyze associations among naturally occurring variables.

Structural equation modeling (SEM) was the specific multivariate approach. SEM was appropriate because it allowed the simultaneous estimation of multiple structural paths and the comparison of models using several goodness-of-fit indices. Model adequacy was assessed using the chi-square probability value, CMIN/df, Goodness-of-Fit Index, Comparative Fit Index, Normed Fit Index, Tucker-Lewis Index, Root Mean Square Error of Approximation, and p-close (Kline, 2023; Schumacker & Lomax, 1996). Under the criteria adopted in this study, an acceptable fit required a nonsignificant chi-square probability and p-close greater than .05, CMIN/df below 2.00, GFI, CFI, NFI, and TLI near or above .95, and RMSEA below .05.

Data collection began after approval from the University of Mindanao Professional Schools and authorization from the concerned Department of Education offices and participating schools. The researcher transmitted the approved request, coordinated the schedule with designated school personnel, and distributed the questionnaire together with the informed-consent form. The purpose, voluntary nature, confidentiality safeguards, expected time commitment, and right to withdraw were explained prior to participation. Data collection was conducted across the eleven school divisions from January to March, 2026. After retrieval, questionnaires were checked for completeness, coded without personal identifiers, encoded, screened, and tabulated before statistical analysis.

The statistical analyses aligned with the research objectives. Mean and standard deviation were used to determine the levels and variability of the four constructs and their indicators. Pearson's product-moment correlation was used to test the significance, strength, and direction of the bivariate relationships between each exogenous variable and KMO, consistent with Schober *et al.* (2018). Multiple linear regression was used to determine the unique and combined effects of leadership behavior, organizational culture, and ICT competency on KMO. Finally, covariance-based SEM was used to estimate and compare the hypothesized structural models and to identify the configuration that best fit the observed data (Kline, 2023).

The study adhered to the ethical standards of the University of Mindanao Ethics Review Committee under Protocol No. 2025-540 and to the Data Privacy Act of 2012 (Republic Act No. 10173, 2012). Participation was voluntary and uncompensated, and respondents could decline or withdraw without adverse consequence. The survey did not request personally identifying information, and completed forms and electronic files were secured and accessed only for legitimate research purposes. Results were reported in aggregate to prevent the identification of individuals or schools. The study was assessed as posing no more than minimal physical, psychological, social, or economic

risk, and academic integrity was maintained through appropriate citation, transparent reporting, and originality checking.

3. Results and Discussion

This section presents a detailed analysis and discussion of the data and findings related to teachers' motivation for teaching, workforce diversity, organizational environment, and organizational effectiveness. It examines how these variables are described, interpreted, and connected within the context of the study, particularly in determining their possible influence on organizational effectiveness. Moreover, this section provides a comprehensive interpretation of the statistical results by identifying significant patterns, trends, relationships, and meaningful insights that emerged from the analysis.

3.1 Leadership Behavior among School Heads

As shown in Table 1, teachers rated the leadership behavior of public secondary school heads as very high, with an overall mean of 4.47 and a standard deviation of 0.55. Providing vision obtained the highest mean of 4.54, followed by recognizing at 4.51 and facilitating at 4.49. In contrast, mentoring and consulting shared the lowest mean of 4.41, although both remained within the very high range. The overall standard deviation indicates relatively consistent responses regarding the observed leadership behaviors.

Table 1: Level of Leadership Behavior among School Heads

Indicators	SD	Mean	Descriptive Equivalent
Support	0.63	4.45	Very High
Intellectual Stimulation	0.59	4.45	Very High
Rewarding	0.59	4.48	Very High
Providing Vision	0.59	4.54	Very High
Mentoring	0.64	4.41	Very High
Delegating	0.59	4.45	Very High
Consulting	0.68	4.41	Very High
Innovative Role Modeling	0.62	4.47	Very High
Facilitating	0.60	4.49	Very High
Recognizing	0.62	4.51	Very High
Stimulating Knowledge Diffusion	0.67	4.48	Very High
Overall	0.55	4.47	Very High

The findings indicate a very high overall level of leadership behavior, suggesting that school heads were perceived as effective in communicating direction, acknowledging staff contributions, and facilitating work processes. These practices can clarify institutional priorities and sustain motivation by helping teachers understand the school's future direction and by recognizing their professional contributions. Nevertheless, mentoring and consulting, as the relatively lowest-rated indicators, represent practical areas for further improvement. Although both were rated very high, these behaviors may be strengthened through scheduled coaching, developmental

feedback, structured consultation, and greater teacher participation in decision-making. Strengthening these practices may help teachers move from receiving direction to co-creating solutions and may increase the amount of tacit professional knowledge available to the school.

These findings align with Awan and Ather (2024), who associated school-head leadership with knowledge management and teacher performance, and with Hoang and Le (2025), who found that leadership strengthened teachers' knowledge sharing through organizational support and a knowledge-centered culture. They also resonate with Ciocon (2023), who highlighted supportive and effective leadership practices among school heads. From the perspective of Social Cognitive Theory (Bandura, 1986), consistent leadership behavior modeling provides observable cues that influence staff expectations and participation. Thus, the very high result supports the theoretical view that school heads can influence organizational knowledge behavior through practices they consistently demonstrate and reinforce.

3.2. Organizational Culture among Public Secondary Schools

Table 2 shows that organizational culture was assessed at a very high level, with an overall mean of 4.50 and a standard deviation of 0.55. This indicates that the cultural traits were consistently observed in the participating schools. The mean for mission was highest (4.53), followed by the mean for consistency (4.52) and the mean for adaptability (4.50). The mean of involvement was lowest (4.47), but still in a very high range. The close agreement across all four indicators suggests a generally balanced culture, and the small standard deviations reflect consistent responses from the respondents.

Table 2: Level of Organizational Culture among Public Secondary Schools

Indicators	SD	Mean	Descriptive Equivalent
Involvement (INV)	0.59	4.47	Very High
Consistency (CON)	0.58	4.52	Very High
Adaptability (ADP)	0.57	4.50	Very High
Mission (MIS)	0.58	4.53	Very High
Overall	0.55	4.50	Very High

The findings imply that the schools possessed clear strategic direction, shared expectations, and a strong capacity to align daily work with institutional goals. A strong mission can help personnel determine why particular information and practices are important, while consistency can support common procedures for interpreting and applying knowledge. Adaptability indicates openness to changing demands. However, involvement, as the relatively lowest indicator, suggests that the depth of teacher participation can still be increased. School heads may therefore expand team-based planning, consultative decision-making, and teacher-led improvement groups so that institutional knowledge reflects broader professional experience rather than only administrative perspectives.

This aligns with the findings of Lam *et al.* (2021), who associated organizational culture with knowledge management and innovation capability, and Nanjundeswaraswamy and Swamy (2022), who linked cultural characteristics with knowledge management processes in educational institutions. They also agree with Cabrera Nuñez *et al.* (2025) and Nazareno *et al.* (2024), who highlighted the significance of organizational culture in public education. Under Social Cognitive Theory, culture functions as an environmental condition that shapes participation and is reinforced by recurring behavior (Bandura, 1986). The very high result therefore supports the expectation that a stable, involving, adaptive, and mission-centered environment can normalize collaborative learning and provide a foundation for KMO.

3.3. Information Communication Technology Competency among School Heads

As reflected in Table 3, ICT competency was rated very high, with an overall mean of 4.44 and a standard deviation of 0.55. Accordingly, the competencies were consistently observed among the school heads as perceived by the teachers-technology operations and concepts and the pedagogical dimension-were tied for the highest mean at 4.45. The social and ethical dimension scored 4.44, while the professional dimension had the lowest mean at 4.43. Although the differences were small, the ordering identifies the dimensions that may merit additional emphasis in future capacity-building programs. The relatively small overall standard deviation suggests generally consistent responses among teachers regarding the ICT competencies of school heads.

Table 3: Level of Information Communication Technology Competency among School Heads

Indicators	SD	Mean	Descriptive Equivalent
Technology Operations and Concepts	0.56	4.45	Very High
Social and Ethical Dimension	0.59	4.44	Very High
Pedagogical Dimension	0.59	4.45	Very High
Professional Dimension	0.61	4.43	Very High
Overall	0.55	4.44	Very High

The findings imply that school heads were perceived as competent in operating digital technologies and guiding their pedagogical use. Such competency can support communication, instructional supervision, resource sharing, and the organization of school information. Nevertheless, the slightly lower professional dimension suggests room to expand the use of technology for professional networking, sustained learning, research engagement, and collaboration beyond the school. The social and ethical dimension should also remain a priority as the effectiveness of digital knowledge systems depends on privacy, responsible use, and trust. Continuous professional development can therefore go beyond basic operations to more sophisticated knowledge curation, ethical data governance, and digital professional communities.

These findings are consistent with Amador and Amador (2022), Ismailova (2025), and Taguba (2024), who emphasized the importance of ICT competency and utilization in school leadership and instructional management. They also reflect the developmental

direction of the UNESCO ICT Competency Framework for Teachers (UNESCO, 2018) and the knowledge-continuity role of technology described by Wang and Wu (2021). Thus, the very high level indicates that school heads demonstrated strong operational and pedagogical foundations. At the same time, the indicator pattern suggests a need to deepen the professional and ethical practices that convert technology into sustained organizational knowledge capacity.

3.4. Knowledge Management Orientation among School Heads

Table 4 indicates that KMO was very high, with an overall mean of 4.47 and a standard deviation of 0.50. The result indicates that knowledge-management practices were consistently observed among the school heads. Knowledge sharing obtained the highest mean of 4.54, followed by knowledge absorption at 4.45 and knowledge receptivity at 4.44. Organizational memory had the lowest mean of 4.43 but was still within the very high category. The overall standard deviation was the lowest among the four major variables, indicating that the respondents' responses regarding KMO were particularly consistent.

Table 4: Level of Knowledge Management Orientation among School Heads

Indicators	SD	Mean	Descriptive Equivalent
Organizational Memory	0.52	4.43	Very High
Knowledge Sharing	0.61	4.54	Very High
Knowledge Absorption	0.59	4.45	Very High
Knowledge Receptivity	0.59	4.44	Very High
Overall	0.50	4.47	Very High

The prominence of knowledge sharing suggests that teachers commonly engage in the exchange of professional information, practices, and expertise within their schools. Strong knowledge absorption and receptivity further suggest that schools were open to useful ideas and capable of integrating them into practice. Organizational memory, however, represents the clearest area for further development. Schools may actively share knowledge, but they will miss important lessons if documentation, indexing, archiving, succession, and retrieval procedures remain informal. School heads should, therefore, complement interpersonal sharing with standardized digital repositories, turnover protocols, program histories, decision logs, and mechanisms for preserving effective instructional and administrative practices.

The findings support Jayampathi *et al.* (2021) and Arunga and Kilika (2023), who described KMO as an integrated construct of organizational memory, knowledge sharing, knowledge absorption, and knowledge receptivity. They also reinforce the view that the accumulation of information does not automatically ensure its effective organizational use. From the Knowledge-Based View (Grant, 1996), the very high level of KMO scores indicates that schools were generally capable of mobilizing knowledge as an institutional resource. Nevertheless, the comparatively lower result for organizational memory suggests that the preservation.

3.5. Relationship between Leadership Behavior and Knowledge Management Orientation

Table 5 shows a strong, positive, and statistically significant relationship between leadership behavior and knowledge management orientation, with an overall correlation coefficient of $r = .863$ and $p < .001$. Thus, higher levels of leadership behavior were associated with more effective knowledge-management practices among school heads. The dimensions of knowledge management orientation, that showed the strongest correlations with overall leadership behavior, were knowledge receptivity ($r = .876$), knowledge absorption ($r = .733$), organizational memory ($r = .724$), and knowledge sharing ($r = .671$). At the indicator level, innovative role modeling showed the strongest relationship with overall knowledge management orientation ($r = .818$), followed by facilitating ($r = .793$) and consulting ($r = .776$). All leadership indicators were significantly related to each dimension of knowledge management orientation at $p < .001$. Therefore, the null hypothesis stating that there is no significant relationship between leadership behavior and knowledge management orientation was rejected.

Table 5: Significance of the Relationship between Leadership Behavior and Knowledge Management Orientation among School Heads

Leadership Behavior	Knowledge Management Orientation				
	Organizational Memory	Knowledge Sharing	Knowledge Absorption	Knowledge Receptivity	Overall
Support	.628** .000	.517** .000	.578** .000	.754** .000	.710** .000
Intellectual Stimulation	.621** .000	.617** .000	.645** .000	.765** .000	.762** .000
Rewarding	.656** .000	.576** .000	.664** .000	.772** .000	.766** .000
Providing Vision	.605** .000	.563** .000	.692** .000	.761** .000	.754** .000
Mentoring	.619** .000	.591** .000	.618** .000	.756** .000	.742** .000
Delegating	.635** .000	.596** .000	.609** .000	.722** .000	.735** .000
Consulting	.658** .000	.588** .000	.675** .000	.781** .000	.776** .000
Innovative Role Modeling	.678** .000	.639** .000	.717** .000	.812** .000	.818** .000
Facilitating	.698** .000	.619** .000	.648** .000	.798** .000	.793** .000
Recognizing	.638** .000	.611** .000	.610** .000	.793** .000	.762** .000
Stimulating Knowledge Diffusion	.582** .000	.581** .000	.643** .000	.772** .000	.742** .000
Overall	.724** .000	.671** .000	.733** .000	.876** .000	.863** .000

The results imply that leadership behaviors involving innovative role modeling, facilitation, consultation, support, and knowledge diffusion were associated with greater receptivity to new ideas and stronger preservation, sharing, and application of institutional knowledge.

The particularly strong association between leadership behavior and knowledge receptivity suggests that teachers become more open to evidence, professional insights, and new practices when leaders demonstrate openness, participation, and innovation. Innovative role modeling may encourage personnel to adopt new approaches, while facilitation and consultation can remove barriers to communication and provide teachers with opportunities to share their experiences and expertise. Thus, strengthening participative, supportive, and innovation-oriented leadership practices may improve the school's capacity to transform individual knowledge into shared organizational resources. However, the results are correlational, which means association not direct causation.

This finding is consistent with the work of Shamim *et al.* (2019), Awan and Ather (2024), and Ciocon (2023), who linked supportive, participative, and knowledge-oriented leadership with stronger professional behavior and knowledge processes. It also aligns with Social Cognitive Theory (Bandura, 1986), as modeled leadership behavior can shape the expectations and actions of organizational members, and with Social Exchange Theory (Blau, 1964), as support, consultation, and recognition can motivate reciprocal knowledge contribution. The rejection of the null hypothesis thus provides empirical support for a strong association between leadership behavior and KMO, whereas the correlation design, in itself, does not in itself establish causality.

3.6. Relationship between Organizational Culture and Knowledge Management Orientation

The results show a significant, strong, positive relationship between organizational culture and knowledge management orientation with an overall correlation coefficient of $r = .834$, $p < .001$. This indicates a significant positive relationship between the level of organizational culture and knowledge management orientation. Knowledge receptivity had the most significant relationship with the overall organizational culture ($r = .842$), followed by knowledge absorption ($r = .698$), organizational memory ($r = .688$), and knowledge sharing ($r = .673$). At the indicator level, involvement had the strongest relationship with the overall knowledge management orientation ($r = .820$), followed closely by consistency ($r = .818$), adaptability ($r = .788$) and mission ($r = .751$). Since all the probability values were less than the 0.05 level of significance, the null hypothesis which stated that there is no significant relationship between organizational culture and knowledge management orientation was rejected.

The results suggest that teacher involvement, consistency, adaptability, and clear mission were associated with greater knowledge receptivity, preservation, sharing, and application. The strong association between involvement and knowledge receptivity to new ideas suggests that teachers may be more receptive to new ideas and information

when they are actively involved in decision-making and school improvement activities. Similarly, consistency may provide stable procedures and shared expectations that help personnel to interpret and use knowledge effectively. Adaptability allows schools to respond to new demands, whereas a clear mission guides knowledge-related activities toward common institutional goals. Therefore, strengthening participative practices, shared values, coordinated systems, and responsiveness to change may enhance the school's overall orientation to knowledge management. However, the findings indicate an association and should not be interpreted as evidence of direct causation.

Table 6: Significance of the Relationship between Organizational Culture and Knowledge Management Orientation among School Heads

Organizational Culture	Knowledge Management Orientation				
	Organizational Memory	Knowledge Sharing	Knowledge Absorption	Knowledge Receptivity	Overall
Involvement	.693** .000	.633** .000	.706** .000	.824** .000	.820** .000
Consistency	.684** .000	.668** .000	.674** .000	.819** .000	.818** .000
Adaptability	.636** .000	.654** .000	.651** .000	.798** .000	.788** .000
Mission	.607** .000	.608** .000	.627** .000	.768** .000	.751** .000
Overall	.688** .000	.673** .000	.698** .000	.842** .000	.834** .000

Furthermore, the findings align with Lam *et al.* (2021), Nanjundeswaraswamy and Swamy (2022), Cabrera Nuñez *et al.* (2025) and Nazareno *et al.* (2024), who associated collaborative, consistent, adaptive and mission-oriented cultures with knowledge management and organizational learning. They also support the environmental component of Social Cognitive Theory (Bandura, 1986) and the relational assumptions of Social Exchange Theory (Blau, 1964). The strong relationship indicates that KMO is embedded in the school's cultural context and should not be understood solely as an individual leadership or technical capability.

3.7. Relationship between ICT Competency and Knowledge Management Orientation

Table 7 reveals a strong, positive, and statistically significant relationship between ICT competency and knowledge management orientation (KMO), ($r = .793$, $p < .001$). Therefore, the null hypothesis stating that there is no significant relationship between ICT competency and KMO was rejected. All ICT dimensions were significantly related to all KMO dimensions. The social and ethical dimension had the strongest association with overall KMO, ($r = .765$), followed by the pedagogical dimension, ($r = .745$), the professional dimension, ($r = .740$), and technology operations and concepts, ($r = .713$). Overall, ICT competency had the strongest relationship with knowledge receptivity, ($r = .775$).

Table 7: Significance of the Relationship between Information Communication Technology Competency and Knowledge Management Orientation among School Heads

Information Communication Technology Competency	Knowledge Management Orientation				
	Organizational Memory	Knowledge Sharing	Knowledge Absorption	Knowledge Receptivity	Overall
Technology Operations and Concepts	.602** .000	.555** .000	.632** .000	.692** .000	.713** .000
Social and Ethical Dimension	.644** .000	.590** .000	.681** .000	.750** .000	.765** .000
Pedagogical Dimension	.617** .000	.602** .000	.655** .000	.718** .000	.745** .000
Professional Dimension	.631** .000	.553** .000	.663** .000	.733** .000	.740** .000
Overall	.668** .000	.616** .000	.704** .000	.775** .000	.793** .000

The pattern implies that effective digital knowledge management depends not only on operational skills but also on the responsible and professionally meaningful use of technology. The strong role of the social and ethical dimension suggests that personnel are more willing to receive and exchange knowledge when clear expectations regarding safety, privacy, fairness, and appropriate communication govern digital environments. Pedagogical and professional competencies also matter because they connect digital tools to instructional improvement and continuous learning. Thus, ICT competency functions as both a technical and a trust-building capability within the knowledge system.

The result supports Amador and Amador (2022), Ismailova (2025), Taguba (2024), Wang and Wu (2021), and UNESCO (2018), who all stressed that digital competence is not only about basic operations but also about ethical use, pedagogical application, professional engagement, and organizational continuity. It also reinforces the Knowledge-Based View (Grant, 1996), because ICT systems can increase the accessibility and coordination of institutional knowledge. The significant association justifies including ICT competency as a predictor in the regression analysis and as a structural component of the proposed model.

3.8. Influence of Leadership Behavior, Organizational Culture, and ICT Competency on Knowledge Management Orientation

Table 8 indicates that the regression model was statistically significant, $F = 433.828$, $p < .001$, and explained 76.7% of the variance in KMO. Leadership behavior significantly predicted KMO, $\beta = .621$, $p < .001$, and was the strongest predictor. ICT competency also made a significant positive contribution, $\beta = .246$, $p < .001$. Organizational culture did not provide a significant unique contribution after leadership behavior and ICT competency were entered simultaneously, $\beta = .043$, $p = .573$. Thus, the null hypothesis stating that leadership behavior, organizational culture, and ICT competency do not significantly

predict KMO was rejected. However, the significant unique contributions were limited to leadership behavior and ICT competency.

The results imply that leadership behavior was the strongest statistical predictor of KMO when the three variables were considered simultaneously. ICT competency also contributed by providing tools and professional practices for organizing and circulating information. The nonsignificant coefficient for organizational culture should not be interpreted as evidence that culture is unimportant, as it showed a strong bivariate correlation with KMO.

Table 8: Significance of the Influence of Leadership Behavior,
Organizational Culture, and Information Communication Technology
Competency on Knowledge Management Orientation among School Heads

Knowledge Management Orientation					
(Variables)		<i>B</i>	β	<i>t</i>	<i>Sig.</i>
Constant		.751		7.192	.000
Leadership Behavior		.569	.621	9.524	.000
Organizational Culture		.039	.043	.563	.573
Information Communication Technology Competency		.224	.246	4.913	.000
R	.876				
R ²	.767				
ΔR^2	.765				
F	433.828				
Q	.000				

The nonsignificant unique coefficient of organizational culture may reflect variance shared with leadership behavior and ICT competency. However, this interpretation should be supported by reporting the tolerance and variance inflation factor statistics to determine whether multicollinearity influenced the regression coefficients.

The regression pattern is compatible with Social Cognitive Theory (Bandura, 1986), which recognizes the interaction of behavior, personal capability, and environment, and with the Knowledge-Based View (Grant, 1996), which emphasizes the coordinated deployment of organizational capabilities. This provides a rationale for the findings of Lam *et al.* (2021), Cabrera Nuñez *et al.* (2025), Amador and Amador (2022), and Awan and Ather (2024) that culture, technology, and leadership may all be related to knowledge outcomes, but their unique contributions may vary when assessed together. Leadership behavior emerged as the strongest predictor and should therefore remain a central development priority, while organizational culture and ICT competency should be retained as complementary components.

3.9. Regression Weights of the Generated Best-Fit Model

Table 9 presents the unstandardized regression weights of the generated best-fit model. Organizational culture significantly predicted ICT competency, $B = 1.020$, $p < .001$. By contrast, leadership behavior did not significantly predict ICT competency, $B = -.257$, $p = .234$. The direct paths from organizational culture to KMO, $B = .210$, $p = .386$, and from

leadership behavior to KMO, $B = .341$, $p = .086$, were not statistically significant at the .05 level. The path from ICT competency to KMO also did not reach statistical significance, $B = .219$, $p = .054$.

Table 9: Regression Weights of the Generated Best-Fit Model

Variables			Estimates	S.E.	P-value
Information Communication Technology Competency	<- --	Organizational Culture	1.020	.207	***
Information Communication Technology Competency	<- --	Leadership Behavior	-.257	.215	.234
Knowledge Management Orientation	<- --	Organizational Culture	.210	.243	.386
Knowledge Management Orientation	<- --	Leadership Behavior	.341	.199	.086
Knowledge Management Orientation	<- --	Information Communication Technology Competency	.219	.114	.054

* $p < 0.05$, ** $p < 0.01$, *** $p = 0.000$

Thus, the path from organizational culture to ICT competency was the only individually significant path in the reported final model. The unstandardized coefficient of 1.020 should not be directly compared with standardized coefficients reported elsewhere.

This finding requires a careful distinction between model fit and path significance. A model may fit the covariance structure well even when one or more retained direct paths are not individually significant, particularly when constructs share substantial variance or when paths are retained for theoretical coherence. The final model should therefore be interpreted as a well-fitting structural representation in which organizational culture significantly predicts ICT competency, rather than as evidence that every direct path to KMO is significant. The near-threshold ICT competency-to-KMO path may warrant replication with an independent sample, but it should not be described as statistically significant in the present study.

The significant culture-to-ICT competency pathway aligns with Social Cognitive Theory (Bandura, 1986), which posits that an enabling environment can enhance professional capability. It is also in line with the studies by Lam *et al.* (2021), Nanjundeswaraswamy & Swamy (2022), Cabrera Nuñez *et al.* (2025), and Amador and Amador (2022), which collectively examine the relationships among organizational culture, knowledge processes, and digital competence. This pathway offers a possible explanation for why organizational culture had a strong correlation with KMO but no significant unique direct coefficient in the regression analysis. However, any indirect contribution of organizational culture to KMO through ICT competency should be confirmed through a formal test of indirect effects.

3.10. Goodness-of-Fit Measures of the Three Generated Models

Table 10 shows that Models 1 and 2 did not meet the full set of fit criteria. Model 1 produced $p < .001$, CMIN/df = 9.846, GFI = .736, CFI = .834, NFI = .819, TLI = .815, RMSEA = .149, and $p\text{-close} < .001$. Model 2 improved substantially but remained inadequate, with $p < .001$, CMIN/df = 3.885, GFI = .838, CFI = .946, NFI = .929, TLI = .940, RMSEA = .085, and $p\text{-close} < .001$. These findings suggest that within the limits of the method, neither model was able to reproduce the observed data. Model 2 showed improvements in several fit indices, but overall fit remained below the threshold. Consequently, further model respecification was necessary to obtain an acceptable fit.

Table 10: Summary of Goodness-of-Fit Measures of the Three Generated Models

Model	P-value ($>.05$)	CMIN / DF ($0 < \text{value} < 2$)	GFI ($>.95$)	CFI ($>.95$)	NFI ($>.95$)	TLI ($>.95$)	RMSEA ($<.05$)	P-close ($>.05$)
1	$< .001$	9.846	.736	.834	.819	.815	.149	$< .001$
2	$< .001$	3.885	.838	.946	.929	.940	.085	$< .001$
3	.075	1.330	.977	.997	.989	.996	.029	.973

Note: CMIN/df = chi-square divided by degrees of freedom; GFI = Goodness-of-Fit Index; CFI = Comparative Fit Index; NFI = Normed Fit Index; TLI = Tucker-Lewis Index; RMSEA = Root Mean Square Error of Approximation.

In contrast, Model 3 met every reported criterion: $p = .075$, CMIN/df = 1.330, GFI = .977, CFI = .997, NFI = .989, TLI = .996, RMSEA = .029, and $p\text{-close} = .973$. The nonsignificant chi-square probability and the high p-value indicated an acceptable discrepancy and a close fit. The absolute and incremental indices were above the required standards. Therefore, the null hypothesis that no model adequately fit the data was rejected, and Model 3 was selected as the best-fitting and most parsimonious representation among the alternatives tested.

The superior fit of Model 3 supports the theoretical premise that KMO is better understood through an integrated configuration than through isolated direct effects. Nevertheless, fit indices evaluate the model as a whole and do not replace tests of individual paths. The final interpretation must therefore combine Table 10 with Table 9: Model 3 provided excellent global fit, while only the organizational-culture-to-ICT-competency path was individually significant at the .05 level. Any indicators removed or error covariances added during respecification should be identified and justified theoretically in the final statistical report. This balanced interpretation preserves the model's contribution without overstating causal evidence.

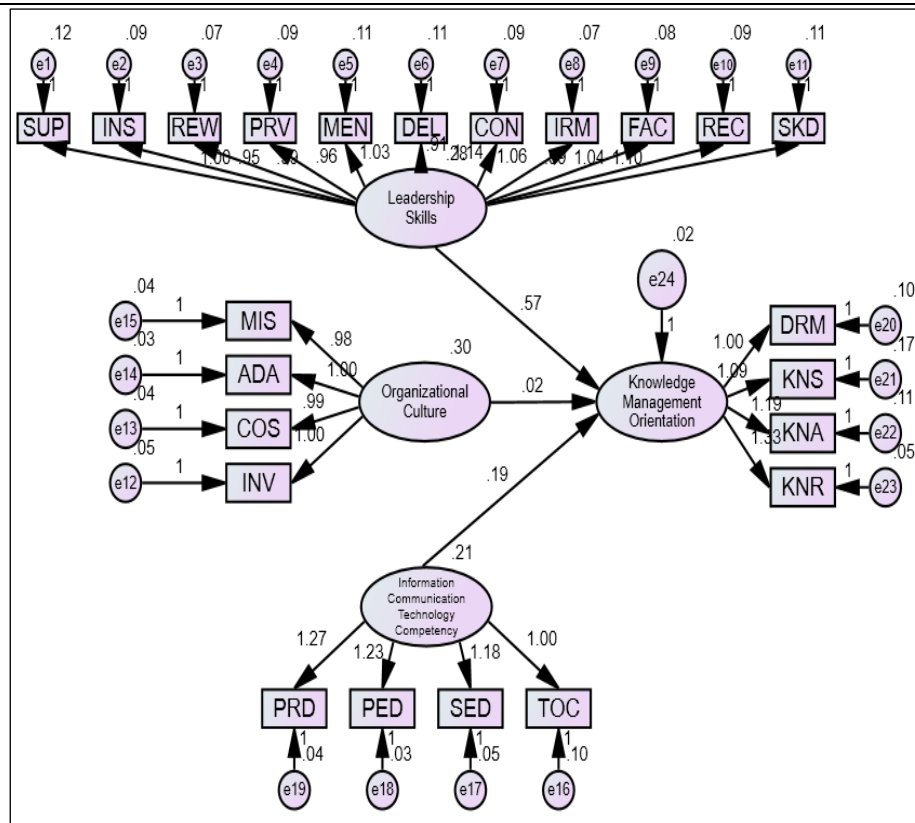


Figure 2: Model 1 in the Standardized Solution

Model 1 specified direct paths from leadership behavior, organizational culture, and ICT competency to KMO. The path diagram showed leadership behavior as the strongest positive path to KMO, with ICT competency providing a smaller positive path and organizational culture providing a minimal direct path when the variables were estimated simultaneously. This pattern was consistent with the multiple-regression findings, which identified leadership behavior and ICT competency as the meaningful unique predictors.

Nevertheless, the global fit statistics later summarized in Table 10 showed that Model 1 did not adequately reproduce the observed covariance structure. Its significant chi-square probability, excessive CMIN/df, low incremental fit indices, and high RMSEA indicated substantial model-data discrepancy. Therefore, the individual path pattern could not justify acceptance of the model as a whole. The model served as a necessary baseline for determining whether a more integrated structural configuration would provide better fit.

A CAUSAL MODEL ON KNOWLEDGE MANAGEMENT ORIENTATION OF SECONDARY SCHOOL HEADS AS INFLUENCED BY LEADERSHIP BEHAVIOR, ORGANIZATIONAL CULTURE, AND INFORMATION COMMUNICATION TECHNOLOGY COMPETENCY

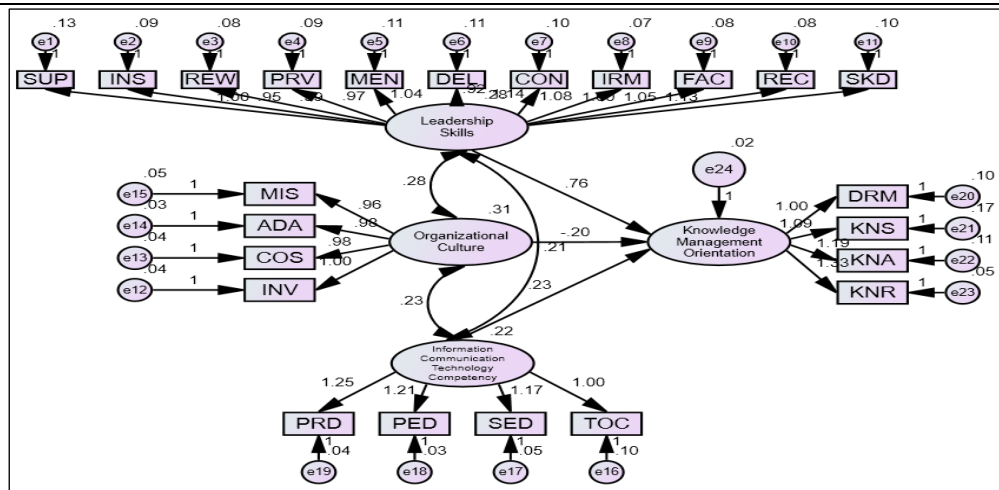


Figure 3: Model 2 in the Standardized Solution

Model 2 introduced covariance relationships among the exogenous constructs and again estimated their direct paths to KMO. The model retained a prominent positive path from leadership behavior and a positive path from ICT competency. In contrast, the organizational-culture path changed direction when shared covariance was taken into account. Such a coefficient change is possible when highly correlated predictors are modeled simultaneously and should not be interpreted independently of the overall model fit and the path probability values.

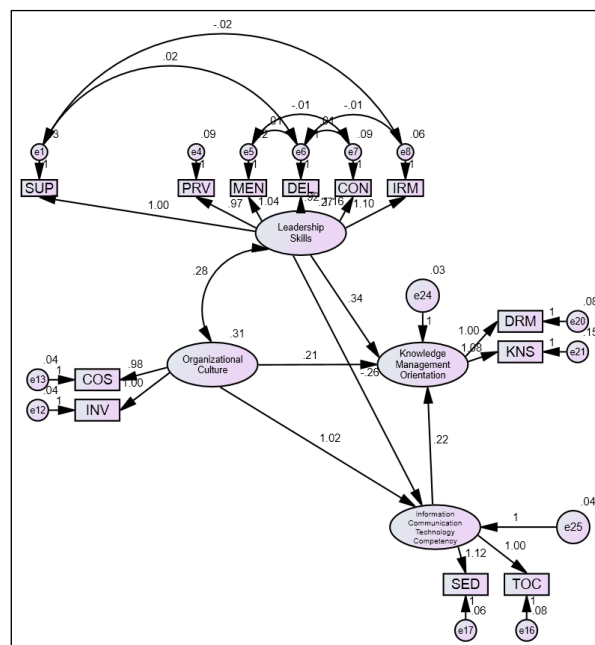


Figure 4: Model 3: Best-Fit Model in the Standardized Solution

Compared with Model 1, Model 2 demonstrated considerable improvement in several fit indices, indicating that the interrelationships among the exogenous variables were important to the structural explanation. However, it still failed to meet the study's required thresholds, particularly for chi-square probability, CMIN/df, GFI, NFI, TLI,

RMSEA, and p-close. Consequently, Model 2 was not accepted as the final model, although its improvement supported further structural respecification.

Figure 4 presents the final structural configuration. The model linked organizational culture to ICT competency and retained direct structural paths from leadership behavior, organizational culture, and ICT competency to KMO. In substantive terms, the configuration integrates environmental, behavioral, and technical components, with organizational culture providing a context for digital capability. At the same time, leadership behavior and ICT competency remain part of the explanatory system surrounding KMO. The direction and magnitude of the displayed coefficients should be interpreted together with the probability values in Table 9 rather than as independent evidence of significance.

The model is theoretically coherent with the study's framework. Social Cognitive Theory explains the linkage between environmental culture, professional capability, and enacted leadership behavior; the Knowledge-Based View identifies KMO as the organizational capacity produced by their coordination; and Social Exchange Theory explains why supportive and involving contexts can motivate knowledge contribution. However, because only the culture-to-ICT path was individually significant in the reported best-fit regression weights, the model's strongest empirical conclusion concerns the role of organizational culture in enabling ICT competency. Claims about the remaining direct paths should be presented as structural components requiring further confirmation.

4. Recommendations

Based on the findings, officials of the Department of Education regional and schools' division offices should develop leadership-enhancement programs that specifically address mentoring, consultation, collaborative decision-making, innovative role modeling, and digital knowledge management. These areas should be incorporated into training and professional development programs for school heads because leadership behavior emerged as the strongest predictor of knowledge management orientation, while mentoring and consultation were among the relatively lowest-rated leadership indicators.

School heads should establish regular mentoring schedules, structured consultation mechanisms, and teacher-led knowledge-management teams to increase faculty participation in school planning and decision-making. Professional learning communities may be strengthened to facilitate the documentation and sharing of instructional strategies, intervention practices, school innovations, and lessons learned from the implementation of programs. These initiatives are particularly important because involvement received the relatively lowest rating among the dimensions of organizational culture.

Regional and division ICT coordinators, in collaboration with school heads, should provide continuing professional development on the operational, social, ethical,

pedagogical, and professional use of technology. Particular emphasis should be given to digital collaboration, information security, responsible platform use, electronic documentation, data management, and professional networking. This recommendation is supported by the significant contribution of ICT competency to KMO and the significant structural path from organizational culture to ICT competency.

School improvement teams should strengthen organizational memory by assigning responsible personnel to develop, maintain, and regularly update searchable digital repositories. These repositories should contain lesson resources, intervention records, program reports, evaluation results, decision logs, research outputs, best practices, and turnover documents. Clear procedures for file classification, access, retrieval, updating, backup, and data protection should be incorporated into school improvement plans because organizational memory was the relatively lowest-rated dimension of KMO.

Teachers should actively contribute documented instructional practices, contextualized learning resources, intervention strategies, research findings, and school-based innovations to institutional knowledge systems. They should also observe the ethical, secure, and responsible use of digital platforms when creating, sharing, storing, retrieving, and protecting school information.

Future researchers are encouraged to validate the best-fit model using independent samples from other regions, educational levels, and school settings. They may also examine possible mediating and moderating relationships, particularly whether ICT competency mediates the relationship between organizational culture and knowledge management orientation. Future studies should likewise report standardized estimates, indirect effects, confidence intervals, and multicollinearity diagnostics to provide a more comprehensive explanation of the relationships among the variables.

5. Conclusion

The findings revealed that leadership behavior, organizational culture, information and communication technology competency, and knowledge management orientation were manifested at very high levels among secondary school heads. Providing vision, mission, technology operations and pedagogical application, and knowledge sharing obtained the highest ratings. In contrast, mentoring and consulting, involvement, professional ICT engagement, and organizational memory received the relatively lowest ratings, although they remained within the very high range.

The correlational results established strong, positive, and statistically significant relationships between leadership behavior, organizational culture, ICT competency, and knowledge management orientation. These findings indicate that improvements in leadership practices, organizational conditions, and digital competencies are associated with stronger knowledge-management practices among school heads.

The regression analysis identified leadership behavior as the strongest significant predictor of knowledge management orientation, followed by ICT competency.

Organizational culture, despite having a strong bivariate relationship with KMO, did not make a significant unique contribution when leadership behavior and ICT competency were simultaneously considered. This finding suggests that the effects of organizational culture may overlap with, or operate through, the leadership practices and technological competencies of school heads.

Among the structural alternatives tested, Model 3 demonstrated excellent overall fit and was identified as the best-fit model. However, only the structural path from organizational culture to ICT competency was individually significant. This result indicates that a supportive organizational culture may strengthen the technological competencies required for effective knowledge-management practices. Nevertheless, the remaining structural paths require further validation before definite causal conclusions can be established.

Overall, the study concludes that knowledge management orientation among secondary school heads is strengthened through an integrated approach that promotes effective leadership behavior, participatory organizational culture, ICT competency, and reliable organizational-memory systems. Leadership behavior and ICT competency are particularly important in facilitating the acquisition, sharing, preservation, absorption, and application of organizational knowledge.

Acknowledgements

The completion of this dissertation would not have been possible without the guidance, support, encouragement, and generosity of the individuals and institutions who accompanied me throughout this scholarly journey.

I express my deepest gratitude to my adviser, Rinante L. Genuba, EdD, DPA, for his invaluable guidance, patience, wisdom, and unwavering encouragement. His insightful critiques and scholarly direction strengthened this study at every stage. I am likewise profoundly grateful to the members of my dissertation panel, Elleine Rose A. Oliva, EdD; Michelle Y. Acledan, EdD; Edwin L. Nebria, EdD; Gina Fe G. Israel, EdD; Eunice A. Atienzar, EdD; and Joel B. Tan, DBA, for their expertise, constructive feedback, and valuable recommendations, which significantly enhanced the quality and rigor of this research.

My sincere appreciation is extended to the educational leaders who granted permission and provided the administrative support necessary for the conduct of the study. I am especially grateful to Cherry Mae L. Limbaco Reyes, PhD, CESO V, Schools Division Superintendent of Malaybalay City, as well as to the Schools Division Superintendents of the participating divisions in Region XI, for their approval and institutional support.

Special appreciation is extended to Arlene C. Gantalao, School Head III of Malaybalay City National High School, and Paul Orong, School Principal IV of Bukidnon National High School, together with the school principals of the participating schools in Region XI, for their assistance and administrative cooperation. I also extend my heartfelt gratitude to Jerson Geronca and the IGB faculty and staff for their invaluable assistance

and cooperation during the distribution of the research instruments. Their support contributed greatly to the smooth and successful completion of the data-gathering process.

I am equally grateful to the teacher-respondents for generously sharing their time, experiences, and honest responses. Their willingness to participate provided the essential foundation of this dissertation and made its completion possible.

I also express my sincere appreciation to Misty R. Misty, whose encouragement and influence were among the key reasons behind my decision to enroll at the University of Mindanao. Her role in inspiring me to pursue this academic journey will always be remembered with profound gratitude.

To my classmates, Charmaine Bañes, Kelvin Jay Guaro, Almie Catherine Asuro, Jeric Telen, Ariessa Codilla, and Ian Val Cabel, thank you for your companionship, assistance, encouragement, shared laughter, and late-night discussions. Your camaraderie made this challenging journey more manageable and memorable.

My heartfelt gratitude goes to my beloved husband, John Omar, for being my steadfast companion, source of strength, and constant refuge. His patience, understanding, and quiet sacrifices gave me the courage to persevere through every challenge. To my dearest daughter, Johanna Kate, thank you for being my greatest inspiration and the purpose behind my pursuit of excellence. Every sacrifice became meaningful because of the future I hope to help build for you.

I am deeply grateful to my parents, Leonardo and Nenita Hinampas, and my parents-in-law, Ignacio and Gloria Benigno, for their prayers, guidance, love, and sacrifices.

To my siblings, Ruth, Leslie, and Kolen; my brothers-in-law, Sammy and Aldrin; my sisters-in-law, Marisel and Laarni; and my nieces and nephews, Nino, Isabella, Maiah, Glorietta, and Biboy, thank you for your affection and constant encouragement. This accomplishment reflects not only my efforts but also the love, strength, and faith that my family generously shared. It is, in every sense, our collective triumph.

Above all, I offer my deepest gratitude to Almighty God, the ultimate source of wisdom, strength, perseverance, and grace. Without His divine guidance and favor, this milestone would not have been possible. To God be all the glory.

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Conflict of Interest Statement

The authors declare no conflicts of interest.

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