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Strengthening Knowledge Management Practices in Kathmandu's Community Colleges

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Abstract

Knowledge management (KM) has emerged as a crucial factor in enhancing institutional efficiency, innovation, and competitive advantage in higher education. However, its adoption in community colleges remains underexplored, particularly in developing regions such as Nepal. This study investigates the awareness, perceptions, and implementation of KM practices in community colleges within the Kathmandu Valley, with a focus on knowledge acquisition, organization, and application. Adopting a pragmatic philosophical paradigm, the study employs a convergent parallel mixed-methods approach, integrating quantitative surveys (n=300) and qualitative in-depth interviews (n=50) to ensure a comprehensive understanding of KM practices. A cross-sectional descriptive research design allows for the simultaneous collection of numerical data and contextual insights. Stratified random sampling ensures representativeness in the quantitative phase, while purposive sampling is used to identify key informants for the qualitative analysis. This study contributes to the existing body of KM research by providing empirical evidence on KM adoption in community colleges, highlighting the need for strategic interventions, faculty training, and ICT-driven solutions to enhance knowledge processes. The findings offer practical recommendations for policymakers and academic institutions to develop a structured KM framework, fostering a knowledge-driven culture in Nepalese higher education.

Keywords: knowledge management, community colleges, knowledge transfer, organizational learning

Introduction

In today's knowledge-driven academic landscape, knowledge management (KM) plays a crucial role in promoting institutional efficiency, innovation, and sustainability. Higher education institutions, particularly community colleges, must systematically acquire, organize, and apply knowledge to enhance academic performance, support administrative decision-making, and drive institutional development (Davenport & Prusak, 1998). Despite growing recognition of KM's importance in higher education, its implementation in community colleges remains limited—especially in resource-constrained settings such as Nepal. The ability of community colleges to leverage knowledge as a strategic asset is essential for improving teaching methodologies, enhancing research outputs, and optimizing institutional performance.

In the context of higher education, KM refers to a structured approach to acquiring, organizing, sharing, and applying knowledge within an institution to support learning and decision-making (Alavi & Leidner, 2001). It encompasses

both explicit knowledge—structured, documented information such as curricula, policies, reports, and databases—and tacit knowledge, which includes personal experiences, insights, and skills that are difficult to codify but critical for fostering innovation and adaptability (Nonaka & Takeuchi, 1995; Polanyi, 1966).

Enhancing KM practices in community colleges involves the development and integration of mechanisms that support the effective acquisition, organization, and use of knowledge. These mechanisms include digital repositories, collaborative platforms, professional development programs, and document management systems that enable knowledge sharing and institutional learning (Rowley, 2000). However, implementing KM strategies presents unique challenges, particularly in developing countries where financial and infrastructural limitations hinder systematic knowledge-sharing practices.

Despite the benefits of KM, community colleges in Nepal face significant barriers to effective implementation. Key obstacles include limited financial and technological resources, echoing findings from global studies. Rowley (2000) notes that many community colleges lack the infrastructure needed to develop centralized knowledge repositories and digital learning platforms. Furthermore, the absence of institutional KM policies impedes structured knowledge acquisition and dissemination (Dalkir, 2017). Cultural and organizational resistance to collaboration and knowledge sharing also undermines KM efforts (Hislop, 2013). Additionally, weak integration between academic and administrative units presents another challenge to effective KM. The disconnect among faculty, students, and administrators in managing institutional knowledge reduces efficiency and hampers innovation (Nonaka & Takeuchi, 1995).

In Nepal, these issues are exacerbated by inadequate policy frameworks, low levels of digital literacy, and limited awareness of KM's strategic value. Addressing these challenges requires a comprehensive approach to developing KM frameworks tailored to the specific needs of community colleges. Implementing robust KM practices is essential for fostering a knowledge-driven academic culture. Research indicates that institutions adopting KM strategies see improved learning outcomes, better resource utilization, and increased operational efficiency (Hislop, 2013). However, the extent to which Nepalese community colleges have adopted such practices remains unclear. A systematic evaluation of current KM frameworks—along with an analysis of the challenges and opportunities involved—is necessary to improve institutional performance and long-term sustainability.

This study, titled "Strengthening Knowledge Management Practices in Community Colleges: A Study of Acquisition, Organization, and Application in Kathmandu," aims to:

- Assess the current KM practices in Nepalese community colleges, particularly in the Kathmandu Valley.
- Identify the key challenges hindering effective KM adoption.
- Develop strategic recommendations to improve KM implementation and support institutional growth.

Grounded in Nonaka and Takeuchi's (1995) Knowledge Creation Model—which highlights the dynamic interaction between explicit and tacit knowledge through socialization, externalization, combination, and internalization (the SECI process)—this research explores how community colleges acquire, organize, and apply knowledge to promote institutional excellence. The findings will offer evidence-based insights and actionable recommendations to strengthen KM frameworks, foster a culture of knowledge sharing, and support sustainable academic and administrative growth in Nepalese community colleges.

As the education sector continues to shift toward a knowledge-based paradigm, community colleges must embrace KM as a fundamental component of institutional development. Strengthening KM practices can lead to improved academic outcomes, streamlined administrative

operations, and greater institutional resilience. This study seeks to bridge the existing research gap by providing a comprehensive analysis of KM practices in Nepalese community colleges, identifying key challenges, and proposing sustainable, context-specific solutions. The insights gained will contribute to building a more knowledge-efficient and competitive educational ecosystem in Nepal.

The Statement of the Problem

KM is essential for institutional performance in higher education, yet community colleges in the Kathmandu Valley face significant challenges in systematically implementing KM practices. Despite increasing awareness, research on KM in Nepalese community colleges remains limited, creating a gap in understanding how to optimize knowledge processes effectively. The absence of structured frameworks for knowledge acquisition leads to inconsistent documentation and underutilization of information and communication technology (ICT) tools. While digital repositories assist in organizing knowledge, weak knowledge-sharing networks hinder collaboration and limit the development of institutional memory. Furthermore, the application of knowledge is restricted by issues of accessibility, minimal integration into decision-making processes, and inadequate mechanisms for measuring impact.

This study aims to address this research gap by empirically analyzing KM practices in community colleges, with a focus on the processes of obtaining, organizing, and applying knowledge. By identifying current challenges and proposing strategic interventions, the research seeks to contribute to the development of robust KM frameworks that enhance institutional efficiency and support a culture of continuous learning and innovation within Nepalese higher education.

Research Objectives

This study aims to explore the awareness, perception, and implementation of KM practices in community colleges in the Kathmandu Valley. It seeks to assess the level of KM awareness among faculty, administrators, and stakeholders while examining how knowledge is acquired, organized, and applied within these institutions. The research investigates strategies for structuring, storing, and sharing knowledge to improve teaching, learning, and decision-making processes. It also identifies KM implementation methods, including the use of digital platforms, institutional policies, and collaborative initiatives. By evaluating the integration of KM processes, the study aims to assess their effectiveness in enhancing institutional performance and sustainability. Ultimately, the findings will offer insights into the challenges, opportunities, and strategic actions necessary to foster a culture of continuous learning and improvement in community colleges.

The Review of Literature

KM is increasingly acknowledged as a key factor in improving organizational effectiveness across sectors, including education. Effective KM practices allow institutions to systematically acquire, organize, and apply knowledge, thereby improving teaching quality, administrative efficiency, and institutional innovation (Davenport & Prusak, 1998). This literature review examines existing research on KM practices, focusing on community colleges in developing countries, with particular attention to Nepal. Although the importance of KM in higher education is well recognized, limited empirical studies have investigated its implementation in community colleges—especially in the Nepalese context. This review seeks to address that gap by analyzing the processes of obtaining, organizing, and applying knowledge in community colleges within the Kathmandu Valley.

KM Process in Higher Education

KM processes in educational institutions typically involve three interconnected functions: knowledge obtaining, knowledge organizing, and knowledge applying (Davenport & Prusak, 1998). These functions collectively support decision-making, foster innovation, and improve institutional effectiveness.

Knowledge Obtaining

Knowledge obtaining refers to acquiring new knowledge from both internal and external

sources. This process includes knowledge acquisition, knowledge creation, and findings from empirical studies. According to Cohen and Levinthal (1990) and Huber (1991), knowledge acquisition involves institutions gaining knowledge through faculty training programs, collaborations, industry partnerships, and digital repositories. Knowledge creation pertains to the generation of new knowledge through research, pedagogical innovation, and collaborative learning environments (Nonaka & Takeuchi, 1995; Crossan et al., 1998). Empirical studies have shown that faculty development programs, industry-academic collaborations, and technology-enhanced learning environments significantly contribute to effective knowledge acquisition in higher education (Sallis & Jones, 2002).

Knowledge Organizing

Knowledge organizing involves structuring, storing, and disseminating knowledge to ensure it is accessible and usable. This includes refining, storing, and sharing knowledge, as well as establishing infrastructures supported by empirical research. Knowledge refining refers to the filtering and categorization of information to improve reliability and applicability (Huber, 1991; Zack, 1999). Knowledge storing involves the use of digital libraries, databases, and cloud-based repositories to securely store institutional knowledge (Duffy, 2000; Lee & Yang, 2000). Knowledge sharing focuses on creating formal and informal networks that facilitate knowledge exchange among faculty, staff, and students (Buckman, 1998; Högel et al., 2003). Empirical studies suggest that institutions with well-structured KM frameworks—such as digital libraries and collaborative research networks—experience better knowledge retention and dissemination (Rowley, 2000; Prendergast, 2013).

Knowledge Applying

Knowledge application involves leveraging acquired and organized knowledge to enhance institutional performance. This includes its use in problem-solving, decision-making, innovation, and operational efficiency, as well as findings from empirical studies. Problem-solving and decision-making refer to the application of knowledge to improve curriculum design, teaching methodologies, and administrative decisions (Grant, 1996; Gold et al., 2001). Similarly, innovation and efficiency relate to using knowledge to foster pedagogical innovation, optimize institutional processes, and promote institutional growth (Bhatt, 2001). Empirical studies have shown that institutions implementing KM strategies demonstrate improved decision-making, reduced operational inefficiencies, and better academic outcomes (Sallis & Jones, 2002).

Empirical Studies on KM in Community Colleges

Research on KM implementation in community colleges is still limited, particularly in developing countries. However, available studies offer valuable insights into how these institutions manage knowledge acquisition, organization, and application. Studies conducted in Malaysia and India have revealed that resource constraints, digital literacy gaps, and a lack of KM infrastructure hinder effective KM adoption in community colleges (Prendergast, 2013; Abdullah & Nordin, 2021). In Nepal, empirical research on KM practices in community colleges remains scarce. One study by Khadka (2018) identified key challenges, including inadequate technological resources, the absence of structured KM policies, and cultural resistance to knowledge sharing. Comparative analyses from African and Southeast Asian countries suggest that investment in digital KM tools, faculty training, and collaborative networks significantly enhances KM implementation in resource-constrained settings (Lutfiani et al., 2023).

Challenges of KM in Nepalese Community Colleges

Despite the potential benefits of KM, Nepalese community colleges face several significant challenges in its effective implementation. These include limited technological infrastructure, resource constraints, lack of awareness and institutional support, and comparative shortcomings.

Limited Technological Infrastructure. Many community colleges lack access to digital platforms, which restricts knowledge storage and sharing capabilities (Khadka, 2018).

Resource Constraints. Financial limitations hinder investment in KM systems, faculty training, and digital repositories (Bhatta, 2019).

Lack of Awareness and Institutional Support. Faculty and administrative staff often lack sufficient awareness of KM's benefits, leading to reluctance in adopting KM practices (Paudel 2020).

Comparative Insights. Studies in Bangladesh and Sri Lanka indicate that targeted policy interventions, government funding, and faculty training programs play a crucial role in improving KM adoption in community colleges (Rahman et al., 2019).

Research Gaps and Future Directions

Although extensive research has explored KM in corporate and higher education settings, little is known about its application in community colleges, particularly in Nepal. Future research should focus on conducting empirical studies in Nepalese community colleges to evaluate KM implementation and identify specific challenges. It should also aim to develop structured KM frameworks adapted to the resource constraints of community colleges in developing countries. Exploring the role of digital technologies in fostering a knowledge-sharing culture is also essential. KM is crucial for enhancing educational quality, administrative efficiency, and institutional growth. While empirical studies on KM in Nepalese community colleges are limited, global and regional research highlights both challenges and opportunities for successful implementation. By addressing technological, financial, and cultural barriers, Nepalese community colleges can utilize KM to drive innovation, boost institutional performance, and enrich the learning experience. This study aims to fill the current research gap by examining KM practices in community colleges within the Kathmandu Valley. By analyzing how institutions obtain, organize, and apply knowledge, the research offers evidence-based recommendations to strengthen KM frameworks in Nepalese higher education.

Methodology

This chapter outlines the systematic approach adopted to investigate KM practices in community colleges in the Kathmandu Valley. It details the research design, philosophical paradigm, research methods, sampling strategies, data collection techniques, as well as the validity and reliability of instruments and statistical tools used for analysis.

Philosophical Paradigm and Research Method

This study adopts a pragmatic philosophical paradigm, which is particularly well-suited for investigating complex phenomena in educational settings. Pragmatism emphasizes the practical application of theory and its usefulness in addressing real-world problems (Creswell, 2014). This paradigm supports the use of both qualitative and quantitative research methods, providing a balanced and comprehensive understanding of KM practices in community colleges.

The mixed-methods approach aligns with Creswell and Plano Clark's (2017) recommendation to integrate qualitative and quantitative data in social research. This is especially valuable for studying KM, where broad trends (quantitative) and deep contextual insights (qualitative) are both necessary. Using a convergent parallel design, this study collects qualitative and quantitative data simultaneously, analyzes them separately, and integrates the results during interpretation (Creswell & Plano Clark, 2017). This approach enables a robust analysis by combining the statistical trends derived from surveys with the nuanced perspectives obtained through interviews.

In summary, the pragmatic paradigm justifies the use of mixed methods, allowing for the integration of diverse data sources to comprehensively examine KM practices. This approach is particularly appropriate for social and educational research, where both qualitative depth and quantitative precision are crucial for understanding complex issues like knowledge management (Guba & Lincoln, 1994).

Research Design

This study employs a cross-sectional descriptive design within a convergent parallel mixed-methods framework to provide a comprehensive and balanced understanding of KM practices in Nepalese community colleges. This approach allows for the simultaneous collection and analysis of both quantitative and qualitative data, enabling a nuanced interpretation of KM implementation and awareness at a single point in time. The cross-sectional design captures a snapshot of KM practices, offering valuable insights into institutional knowledge processes (Creswell & Plano Clark, 2017).

As Green and Tull (1978) noted, a research design serves as a structured blueprint that guides data collection and analysis, ensuring that the research questions are effectively addressed. By integrating quantitative surveys and qualitative interviews, the study achieves a balance between breadth (numerical data) and depth (contextual insights), supporting Creswell and Plano Clark's (2017) assertion that mixed-methods research provides a holistic perspective on complex phenomena.

Population and Sample

The study targets administrators, faculty, and staff involved in academic and administrative functions within community colleges in the Kathmandu Valley. This population provides diverse perspectives on KM activities and institutional knowledge dynamics in Nepalese community colleges.

Sampling Strategy and Procedure

A two-phase mixed-methods sampling strategy was employed. The first phase, quantitative in nature, utilized stratified random sampling to ensure adequate representation across different colleges. Stratification considered factors such as institutional size, academic disciplines, and administrative structures to ensure sample diversity.

In contrast, the second phase, qualitative in nature, employed purposive sampling to select interview participants with direct experience in KM practices. This approach ensured the collection of relevant, in-depth insights into institutional KM processes (Onwuegbuzie & Leech, 2007).

Sample Size Determination

For the quantitative phase, the sample size was calculated using Cochran's formula (Cochran, 1977), which determines sample size for large populations to ensure statistical reliability:

$$n_0 = \frac{Z^2.p(1-p)}{a^2}$$

Where,

Z= 1.96Z = 1.96Z=1.96
(for a 95% confidence level)

p= 0.5p = 0.5p=0.5 (assumed proportion)

e= 0.05e = 0.05e=0.05 (margin of error)

The calculation yielded an estimated sample size of 385 respondents. However, due to accessibility constraints and anticipated non-response rates, the final sample was adjusted to 350 participants, comprising 300 respondents for the quantitative survey and 50 participants for qualitative in-depth interviews.

The qualitative sample size was guided by the principle of data saturation, whereby interviews continued until no new themes emerged (Onwuegbuzie & Leech, 2007).

Data Collection Methods

Data collection involved both primary and secondary sources.

- Primary data were collected through structured questionnaires and in-depth interviews. The questionnaires, distributed to administrators and faculty, gathered quantitative data on KM awareness and implementation. Items were adapted from validated sources (Davenport & Prusak, 1998; Nonaka & Takeuchi, 1995).
- In-depth interviews with key stakeholders, using semi-structured formats, provided qualitative insights into KM practices, faculty perceptions,

and challenges related to KM adoption.

- Secondary data consisted of institutional documents, reports, and publications related to KM in Nepalese community colleges, which supplemented the primary data by offering a contextual background.

Validity and Reliability

To ensure the accuracy and trustworthiness of the research instruments, attention was given to content validity, construct validity, and reliability:

- Content validity was established through expert reviews and a pilot study involving 30 participants.
- Construct validity was assessed using factor analysis, which confirmed the underlying survey constructs. The analysis yielded a Kaiser-Meyer-Olkin (KMO) value of 0.903 and a significant Bartlett's test of sphericity ($p < 0.001$), confirming the suitability of the data for factor analysis.
- Reliability was evaluated using Cronbach's alpha, with a minimum threshold of 0.7 considered acceptable for internal consistency (Nunnally, 1978).

Data Analysis Procedures

The study employed rigorous analytical techniques to ensure validity and reliability in examining KM practices. Both quantitative and qualitative data analysis procedures were utilized.

For quantitative data analysis, factor analysis and statistical software were employed. Factor analysis was used to validate the questionnaire constructs, ensuring both reliability and dimensionality reduction. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.903, and Bartlett's test of sphericity was significant ($p < 0.001$), confirming the suitability of the data for factor analysis. SPSS software was used due to its robustness in handling large datasets and its widespread application in mixed-methods research (Creswell & Plano Clark, 2017).

For qualitative data analysis, thematic analysis and systematic coding were employed. Thematic analysis was applied to interview transcripts to identify key themes such as faculty perceptions, challenges in KM adoption, and institutional support mechanisms. For systematic coding, NVivo software was used to manage, code, and categorize data, ensuring transparency and rigor in the analysis process.

Mixed-Methods Integration

Findings from both quantitative and qualitative analyses were integrated during the interpretation phase. This triangulation provided a holistic understanding of KM practices by validating trends identified in the statistical analysis with insights derived from qualitative data (Creswell & Plano Clark, 2017).

Ethical Considerations

The study adhered to ethical research standards by incorporating informed consent, anonymity and confidentiality, and institutional review board (IRB) approval. Participants received detailed information about the study and gave informed consent prior to participation. Anonymity and confidentiality were maintained through the use of unique identifiers. The research protocol was reviewed and approved by the IRB to ensure compliance with ethical standards.

Limitations of the Study

The study acknowledges the following limitations:

1. Generalizability may be limited due to the study's focus on community colleges within a specific geographic area.
2. The use of self-reported data in surveys may introduce response bias.

Results and Discussion

This section presents the study's findings on KM practices in community colleges in the Kathmandu Valley, focusing on three dimensions: knowledge obtaining, knowledge organizing, and knowledge applying. These findings are analyzed and discussed in light of relevant literature and theoretical frameworks.

Knowledge Obtaining Practices

Knowledge obtaining, the foundational step in the KM process, involves acquiring both explicit and tacit knowledge from internal and external sources (Nonaka & Takeuchi, 1995). The study found that a majority of respondents (54.3%) identified internal sources—such as evaluating the organization's mission and vision—as the primary means of acquiring knowledge. In contrast, tacit knowledge, typically obtained through interaction with experts and experienced personnel, was less emphasized, with only 45.2% agreement.

Similarly, explicit knowledge, sourced from documents and digital media, was considered important, with 47.8% of respondents agreeing. Formal and informal social activities, such as meetings, were also recognized as effective, with 48.3% agreement. ICT tools emerged as an important enabler for knowledge acquisition (42.1%), while only 31.8% of respondents supported initiatives to encourage employees to create or explore knowledge—indicating a gap in proactive knowledge-seeking behavior.

Factor Analysis of Knowledge Obtaining

Factor analysis showed strong internal consistency for knowledge-obtaining practices, with a KMO value of 0.903 and a significant Bartlett's test ($p < 0.001$). Items such as acquiring knowledge through ICT tools (loading = 0.749) and internal sources (loading = 0.588) showed strong factor loadings, underscoring their centrality.

Table 1

Factor Analysis of Knowledge Obtaining

KMO and Bartlett's Test				
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.				.903
Approx. Chi-Square				1830.891
Bartlett's Test of Sphericity		Df		55
		Sig.		.000
a. Based on correlations				
Rotated Component Matrix				
Items		**Factor 1**	**Factor 2**	**Loading**
KO-1	(Identifying core identical knowledge fitted for organizational core functional mission and vision)			–
KO-2	(Evaluating organizational knowledge which is essential for organizational core functional mission and vision)		.503	.503
KO-3	(Activities to gain knowledge from internal sources)	.588		.588
KO-4	(Activities to gain knowledge from external sources)	.558		.558
KO-5	(Obtaining explicit knowledge from papers, documents, and electronic media)	.780		.780
KO-6	(Obtaining tacit knowledge from experts, knowledgeable personnel, or skilled workers)	.620		.620
KO-7	(Obtaining knowledge from meetings or other formal/informal social activities)	.714		.714
KO-8	(Obtaining the selected knowledge from ICT)	.749		.749
KO-9	(Encouraging employees to acquire or create knowledge)		.878	.878
KO-10	(Transforming knowledge to new organizational knowledge through discussion, experiment, practice, and research)		.751	.751
KO-11	(Adjusting new knowledge by many cycles of knowledge searching and knowledge creation)		.670	.670

These findings align with Lam (2000), who highlight the importance of technology in facilitating knowledge acquisition. However, the relatively low emphasis on tacit knowledge suggests a need for strategies to better capture experiential and interpersonal knowledge within institutions.

Knowledge Organizing Practices

Knowledge organizing involves structuring, storing, and refining knowledge to ensure its accessibility and usability (Kamani, 2013). The study found that 44.4% of respondents agreed that knowledge is organized through computerized systems, while 40.3% favored documentary systems for storing refined knowledge. Protection mechanisms for stored knowledge were acknowledged by 39.2% of participants.

Formal knowledge-sharing sessions and internal networks were moderately practiced, with 41.6% and 40.3% agreement, respectively. However, external networks were underutilized, receiving only 35.6% agreement.

Factor Analysis of Knowledge Organizing

Factor analysis for this dimension yielded a KMO value of 0.878 and a significant Bartlett's test ($p < 0.001$). Items such as computerized systems (loading = 0.841) and documentary systems (loading = 0.835) exhibited strong factor loadings, reinforcing the central role of technology in organizing knowledge (Alavi & Leidner, 2001).

Table 2

Factor Analysis of Knowledge Organizing

KMO and Bartlett's Test[a]			
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.			.903
Approx. Chi-Square			1830.891
Bartlett's Test of Sphericity	Df		55
	Sig.		.000
a. Based on correlations			
Rotated Component Matrix			
Items	**Factor 1**	**Factor 2**	**Loading**
KOrg-1 (Systemizing or categorizing newly created knowledge by IT programs for easy searching and access)	.504		.504
KOrg-2 (Systemizing or categorizing newly created knowledge by manual indexing for easy searching and access)			-
KOrg-3 (Integration of newly created knowledge to the main unique organizational knowledge)	.539		.539
KOrg-4 (Validating the new knowledge by experts and skilled practitioners)		.554	.554
KOrg-5 (Computerized systems to store and save knowledge after refining)	.841		.841
KOrg-6 (Documentary systems to store and save knowledge after refining)	.835		.835
KOrg-7 (Protection of knowledge storing for accessing refined knowledge)	.709		.709
KOrg-8 (Formal sharing of new knowledge, process, or experience)		.708	.708
KOrg-9 (Exchange of new knowledge through formal/informal meetings among internal organizations)	.535		.535
KOrg-10 (Exchange of new knowledge through formal/informal meetings among external organizations)		.643	.643
KOrg-11 (Exchange new knowledge via virtual networks among internal organizations)		.587	.587
KOrg-12 (Share new knowledge through virtual networks with external partners)		.853	.853

Despite these positive responses, the limited use of external networks highlights an opportunity for community colleges to enhance knowledge sharing through inter-institutional collaboration.

Knowledge Applying Practices

Knowledge application refers to the use of acquired and organized knowledge for problem-solving, decision-making, and innovation (Heisig, 2009). The study found that 54.8% of respondents agreed that knowledge is applied to solve problems and make informed decisions, while 45.2% highlighted learning from past mistakes and external sources.

Efforts to improve products and services through knowledge application were moderately supported (42.1%). However, accessibility of knowledge to those in need was noted by only 12.7%, pointing to an area of weakness. Evaluation of KM success was acknowledged by 40.0% of respondents, suggesting that more focus is needed on assessing KM outcomes.

Factor Analysis of Knowledge Applying

Factor analysis for this dimension yielded a KMO value of 0.797 and significant Bartlett's test results ($p < 0.001$). Items such as applying knowledge to improve products and services (loading = 0.813) and problem-solving (loading = 0.791) demonstrated high factor loadings, emphasizing their importance in effective KM practices.

Table 3

Factor analysis of Knowledge Applying

KMO and Bartlett's Test[a]			
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.			.797
Approx. Chi-Square			679.813
Bartlett's Test of Sphericity		Df	10
		Sig.	.000
a. Based on correlations			
Component Matrix[a]			
Items		**Factor 1**	**Loading**
KA-1	(Applying knowledge learned from mistakes, past experiences, or external sources)	.784	.784
KA-2	(Applying knowledge for problem-solving and decision-making)	.791	.791
KA-3	(Taking full advantage of knowledge to improve products and services)	.813	.813
KA-4	(Making knowledge accessible to those who need it)	.709	.709
KA-5	(Knowledge is utilized & the success of KM efforts is measured)	.736	.736

These findings are consistent with Heisig (2009), who emphasizes the critical role of knowledge application in driving organizational performance. However, the low emphasis on accessibility and measurement highlights areas where community colleges can strengthen their KM frameworks.

Qualitative Analysis of KM Practices

A qualitative thematic analysis of faculty and administrative perspectives revealed key challenges in KM practices. These challenges include limited KM awareness, the absence of formal KM strategies, and difficulties in KM implementation. Regarding limited KM awareness, faculty members primarily associated KM with document storage and intra-departmental knowledge sharing. One faculty member stated, "We share knowledge informally during meetings, but there is no structured approach to systematically capture and utilize it." This indicates a lack of institutional frameworks to formalize and scale these informal exchanges into actionable knowledge systems.

Concerning the lack of formal KM strategies, administrators identified the absence of institutional KM policies as a major barrier. One administrator noted, "While we recognize

KM's importance, there is no dedicated platform or guideline to facilitate structured KM practices." This underscores the institutional gap between recognizing the value of KM and the absence of operational mechanisms to support it.

Concerning challenges in KM implementation, participants cited technological constraints and resistance to change as significant obstacles. Limited investment in KM infrastructure and low levels of digital literacy among faculty members further hinder effective KM adoption. One IT coordinator remarked, "Even when tools are available, many staff members hesitate to use them or don't know how." This highlights the need for targeted capacity-building programs and change management strategies.

KM Practices in Community Colleges

This section presents a qualitative analysis of KM practices in community colleges within the Kathmandu Valley, addressing key recommendations identified in the quantitative findings. The analysis is based on in-depth interviews with faculty members, administrators, and staff, using thematic analysis to extract core themes related to KM awareness, challenges, and implementation strategies. NVivo software was used for qualitative coding, ensuring a structured and transparent approach to data interpretation.

Key Themes from In-Depth Interviews

Faculty Perceptions of KM

Most faculty members acknowledged the importance of KM in enhancing teaching effectiveness, research capabilities, and institutional decision-making. However, their understanding of KM was often limited to document storage and informal knowledge sharing within departments. One faculty member noted: "We do share knowledge informally during meetings, but there is no structured approach or policy to systematically capture and utilize it." This reflects the lack of formal KM systems and underscores the need for institutional policies that promote consistent and systematic knowledge practices.

Challenges in KM Adoption

The qualitative analysis revealed several challenges hindering KM adoption in community colleges. These included the absence of institutional policy, limited ICT infrastructure, and resistance to change. Regarding the lack of institutional policy, several respondents identified the absence of a clear KM framework as a primary obstacle. An administrator stated: "We don't have a dedicated KM strategy, which makes it difficult to implement structured processes for capturing and sharing knowledge." This suggests that without strategic direction, KM efforts remain fragmented and inconsistent.

In terms of limited ICT infrastructure, many colleges struggle with outdated technologies and a lack of training for faculty. One IT staff member commented: "Most of our KM tools are basic, and faculty members are not trained to use them effectively. We need more investment in technology and capacity building." This highlights the pressing need for improved digital infrastructure and professional development to support effective KM practices.

Concerning resistance to change, particularly among senior staff, there is hesitancy in adopting digital KM tools. A faculty head observed: "There is a tendency to rely on traditional knowledge-sharing methods, and many educators are hesitant to use digital platforms for KM." This indicates that cultural and behavioral resistance remains a key barrier to modernization in KM implementation.

Tacit Knowledge-Sharing Strategies

The study found that tacit knowledge—critical for institutional learning and innovation—is not effectively captured in most community colleges. However, some institutions have initiated mentorship programs and peer learning sessions to facilitate tacit knowledge transfer. A department head mentioned: "We recently started a mentorship program where senior faculty guide junior lecturers. This has been effective, but it needs more institutional support." This implies that while informal mechanisms are valuable, their impact is limited without formal backing and resource allocation from the institution.

Thematic Analysis Using NVivo

Using NVivo, the qualitative data was categorized into five major themes: KM awareness and understanding, barriers to KM implementation, knowledge acquisition methods, knowledge organization challenges, and knowledge application and impact. First, KM awareness and understanding revealed that while faculty members recognize the importance of KM, they lack structured policies and strategic frameworks. Second, barriers to KM implementation were identified as institutional constraints, limited access to ICT tools, and resistance to change, particularly among senior faculty. Third, knowledge acquisition methods showed that informal discussions dominate over structured digital repositories, indicating reliance on personal interactions over systematic approaches. Fourth, knowledge organization challenges implied minimal use of external networks and advanced KM tools, resulting in isolated knowledge systems. Finally, knowledge application and impact highlighted a limited evaluation of KM effectiveness in decision-making, suggesting a gap in feedback mechanisms to assess KM outcomes. The qualitative analysis underscores the critical role of structured KM practices in community colleges. While faculty members recognize the value of KM, challenges such as the absence of institutional policies, insufficient ICT adoption, and cultural resistance to change hinder full implementation. By fostering tacit knowledge sharing, leveraging technology, strengthening external collaborations, and establishing clear KM evaluation systems, community colleges in the Kathmandu Valley can enhance their KM capabilities, ultimately leading to improved institutional effectiveness and academic excellence.

This section provides a comprehensive analysis of KM practices in community colleges within the Kathmandu Valley, focusing on the key processes of knowledge obtaining, organizing, and applying. The discussion integrates established KM theories and frameworks (Nonaka & Takeuchi, 1995; Davenport & Prusak, 1998) while aligning findings with Nepal's higher education policies. The study also offers practical recommendations for enhancing KM practices in academic institutions.

Knowledge Obtaining Practices

Knowledge obtaining forms the foundation of KM, encompassing the acquisition of both explicit and tacit knowledge from various sources (Nonaka & Takeuchi, 1995). The study found that institutional vision and mission evaluations were the predominant sources of knowledge acquisition (54.3%). However, the underutilization of tacit knowledge—primarily gained through expert interactions and mentorship (45.2%)—indicates a critical gap in knowledge transfer. One participant remarked: "We learn from each other in meetings, but much of the important know-how remains unrecorded."

This reflects a missed opportunity to institutionalize experiential knowledge and make it accessible across departments.

The recognition of explicit knowledge from documents and digital media by 47.8% of respondents is consistent with Lam (2000), who highlight the role of digital repositories in knowledge acquisition. Despite formal and informal meetings being cited as key enablers of knowledge acquisition (48.3%), only 31.8% of respondents reported institutional encouragement for actively seeking new knowledge. One faculty member stated: "There's little motivation to explore beyond what we already have in the system." This suggests a passive knowledge-seeking culture that hinders innovation and responsiveness to change.

Factor analysis reinforced the importance of ICT tools (loading = 0.749) and internal sources (loading = 0.588) in knowledge acquisition, supporting Davenport and Prusak's (1998) assertion that technology is a crucial enabler of KM. To address this gap, community colleges should implement structured policies promoting tacit knowledge acquisition through mentorship programs, expert-led discussions, and collaborative learning initiatives.

Knowledge Organizing Practices

Effective knowledge organizing ensures the structured storage, retrieval, and utilization of knowledge resources (Kamani, 2013). The study revealed that 44.4% of respondents used computerized systems for knowledge storage, while 40.3% relied on documentary systems. Knowledge protection mechanisms were acknowledged by 39.2%, indicating a moderate level of attention to KM security.

However, a notable gap was the limited emphasis on external organizational networking, with only 35.6% of respondents supporting cross-institutional knowledge exchange. One administrator shared: "We rarely collaborate with other colleges to share practices or resources." This reflects a siloed approach to KM that limits access to diverse perspectives and innovations.

Factor analysis validated the significance of computerized systems (loading = 0.841) and documentary systems (loading = 0.835), corroborating Alavi and Leidner's (2001) argument that technology enhances KM efficiency. Strengthening external collaborations and integrating advanced knowledge repositories can significantly improve knowledge structuring in community colleges.

Knowledge Applying Practices

Knowledge application is essential for transforming acquired and organized knowledge into actionable insights for decision-making and innovation (Heisig, 2009). The study found that 54.8% of respondents applied knowledge for problem-solving, while 45.2% emphasized learning from past experiences. One faculty leader noted: "We try to avoid repeating mistakes, but lessons aren't always recorded or shared." This indicates an informal approach to organizational learning that lacks sustainability over time.

However, knowledge accessibility was notably low (12.7%), pointing to deficiencies in knowledge dissemination. One staff member commented: "Even if useful knowledge exists, it's hard to find or access it when needed." This highlights the need for centralized, searchable systems that facilitate real-time knowledge access.

Factor analysis highlighted the importance of applying knowledge to improve services (loading = 0.813) and problem-solving (loading = 0.791), reinforcing Heisig's (2009) assertion that KM enhances institutional performance. Yet, the limited focus on measuring KM effectiveness (40.0%) suggests a need for systematic evaluation mechanisms. Implementing structured KM evaluation frameworks can help institutions assess the impact of KM practices and identify areas for continuous improvement.

Implications for Policy and Practice

The findings underscore the necessity of policy-driven KM strategies that align with Nepal's higher education objectives. Key recommendations include enhancing KM infrastructure, promoting tacit knowledge sharing, developing formal KM policies, and strengthening external collaborations. First, to enhance KM infrastructure, authorities should invest in ICT tools, digital repositories, and KM software to streamline knowledge acquisition and organization (Dalkir, 2017). A robust technological foundation will enable efficient knowledge flow and reduce reliance on manual or informal processes. Second, to promote tacit knowledge sharing, structured mentorship programs, expert-led discussions, and collaborative learning initiatives should be implemented to facilitate the use of tacit knowledge (Nonaka & Takeuchi, 1995). These strategies help capture valuable experiential knowledge that is often lost in traditional KM systems. Third, to develop KM policies, institutional guidelines on knowledge storage, retrieval, and application must be established to ensure systematic KM implementation (Davenport & Prusak, 1998). Formal policies can standardize KM practices across departments and promote accountability. Finally, to strengthen external collaborations, partnerships with academic institutions, industry stakeholders, and international organizations can

enhance cross-institutional knowledge exchange (Alavi & Leidner, 2001). Such collaborations expand access to diverse perspectives, resources, and best practices.

Thus, this study highlights both the strengths and gaps in KM practices within community colleges in the Kathmandu Valley. While technological tools support knowledge organization, the limited emphasis on tacit knowledge acquisition and application points to the need for structured, policy-aligned KM strategies. Fostering a knowledge-sharing culture aligned with national education policies can significantly improve KM effectiveness in these institutions.

Conclusion

KM serves as a cornerstone for institutional growth, innovation, and sustainability in community colleges. This study systematically examined KM practices in Kathmandu Valley community colleges, focusing on the processes of obtaining, organizing, and applying knowledge. The findings highlight both strengths and gaps in KM implementation, emphasizing the need for strategic interventions to optimize knowledge utilization and improve institutional efficiency.

Although there has been progress in documenting and storing explicit knowledge—such as policies, reports, and digital repositories—the integration of tacit knowledge remains underdeveloped. The absence of structured mechanisms like mentorship programs, faculty learning communities, and collaborative learning initiatives hampers the transfer of experiential knowledge. First, institutionalizing peer mentoring, professional development sessions, and cross-functional collaboration are essential to retain and disseminate valuable insights. Second, technological advancements offer vast potential for enhancing KM practices; however, the study reveals fragmented ICT adoption across institutions. The lack of centralized digital repositories, dedicated knowledge-sharing platforms, and standardized KM frameworks limits knowledge accessibility and application. To address this, institutions should implement integrated digital systems, improve faculty digital literacy, and explore AI-driven knowledge indexing to support real-time access and sharing. Third, a major challenge identified is the absence of systematic KM evaluation mechanisms. Without structured feedback loops and performance metrics, institutions struggle to assess KM's impact on decision-making and academic outcomes. Establishing knowledge audits, performance tracking systems, and continuous improvement processes will be vital for sustainable KM effectiveness.

This study contributes to the broader KM literature by offering empirical insights into the challenges faced by Nepalese community colleges. While it aligns with established KM theories such as the SECI model (Nonaka & Takeuchi, 1995), it also highlights region-specific barriers to implementation. Future research should consider comparative studies across different types of institutions to identify best practices and assess the long-term impact of KM interventions on academic performance and student success.

By adopting a holistic KM approach that integrates both explicit and tacit knowledge, leverages digital transformation, and incorporates systematic evaluation, community colleges in Nepal can enhance their academic and administrative outcomes. Strengthening KM practices will not only improve institutional efficiency but also contribute to national education development, positioning Nepalese community colleges as competitive institutions in the global academic landscape.

Recommendations

Based on the findings, the following structured recommendations are proposed to enhance KM practices in community colleges within the Kathmandu Valley. These recommendations aim to optimize knowledge acquisition, organization, and application for improved institutional performance.

Enhance Tacit Knowledge Acquisition

Promote the acquisition of tacit knowledge by implementing structured mentorship and peer-learning programs, encouraging expert-led discussions, and creating incentives to support active knowledge-sharing within the institution.

Strengthen Digital KM Systems

Upgrade ICT infrastructure and develop centralized digital repositories. Provide faculty and staff with training in digital literacy and the use of KM tools to improve knowledge storage, retrieval, and dissemination.

Implement Structured Knowledge Organization Frameworks

Standardize documentation and classification systems, establish secure and accessible knowledge repositories, and encourage inter-departmental collaboration to enhance the integration and accessibility of knowledge assets.

Enhance Knowledge Application for Institutional Performance

Encourage data-driven decision-making through the use of KM tools, integrate KM strategies into institutional policies and governance frameworks, and regularly assess KM processes to support continuous improvement.

Develop KM Evaluation Metrics and Feedback Mechanisms

Implement structured feedback systems, establish key performance indicators (KPIs), and conduct regular KM audits to evaluate progress and identify areas for improvement.

Foster Academic and Industry Collaborations

Develop partnerships with universities, research institutions, and industries. Facilitate cross-institutional learning through joint research projects, academic conferences, and faculty/staff exchange programs.

Institutionalize KM Leadership and Governance

Appoint a Chief Knowledge Officer (CKO) or form a KM committee to oversee implementation. Align KM strategies with institutional goals and establish sustainable policies for long-term KM integration.

Promote a Knowledge-Sharing Culture

Encourage leadership to support open communication, organize collaborative activities, and recognize individual and collective contributions to build a strong culture of knowledge sharing.

Ensure Knowledge Retention and Transfer

Create formal processes for knowledge transfer, conduct exit interviews to capture departing faculty insights, and implement archiving and mentorship programs to preserve institutional memory and ensure continuity.

Align KM Strategies with Institutional Goals

Integrate KM objectives into the institution's strategic planning, secure leadership commitment, and establish accountability mechanisms to ensure the sustainability of KM practices.

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