

Knowledge Management Practices in Academic Institutions: A Library Science Perspective

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Abstract

Knowledge Management (KM) has become an essential strategic approach for academic institutions operating in a knowledge-driven environment. Academic libraries, as central knowledge hubs, play a critical role in facilitating knowledge creation, organization, storage, sharing, and utilization. The present study investigates knowledge management practices in academic institutions from a library science perspective, focusing on technological adoption, knowledge-sharing mechanisms, and policy frameworks. A descriptive quantitative research design was employed using a structured questionnaire administered to 120 respondents, including librarians, faculty members, and research scholars from five academic institutions. The findings indicate strong implementation of digital repositories and automation systems, reflecting effective knowledge storage practices. However, moderate scores in knowledge sharing and policy support highlight gaps in structured KM strategies. Correlation analysis revealed a significant positive relationship between ICT adoption and KM effectiveness ($r = 0.68$, $p < 0.05$). Institutions with formal KM policies demonstrated higher knowledge-sharing efficiency compared to those without structured frameworks. The study concludes that while technological infrastructure is well established, comprehensive knowledge management requires integration of policy support, collaborative culture, and strategic leadership. The research contributes to the field of Library and Information Science by emphasizing the evolving role of academic libraries as dynamic knowledge centers within higher education institutions.

Keywords: Knowledge Management; Academic Libraries; Library Science; Information and Communication Technology (ICT); Digital Repositories; Knowledge Sharing; Institutional Policy.

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1. INTRODUCTION

Organizations in the 21st century place a premium on knowledge, especially educational institutions whose missions center on research, teaching, and the distribution of information. Higher education institutions now function within a dynamic knowledge ecosystem where information is constantly created, shared, and transformed; this means that classroom-based learning is no longer the only option¹. Within this framework, Knowledge Management (KM) has developed into a strategy that helps institutions to organize their intellectual resources in a methodical way, leading to better academic achievement and long-term organizational viability.

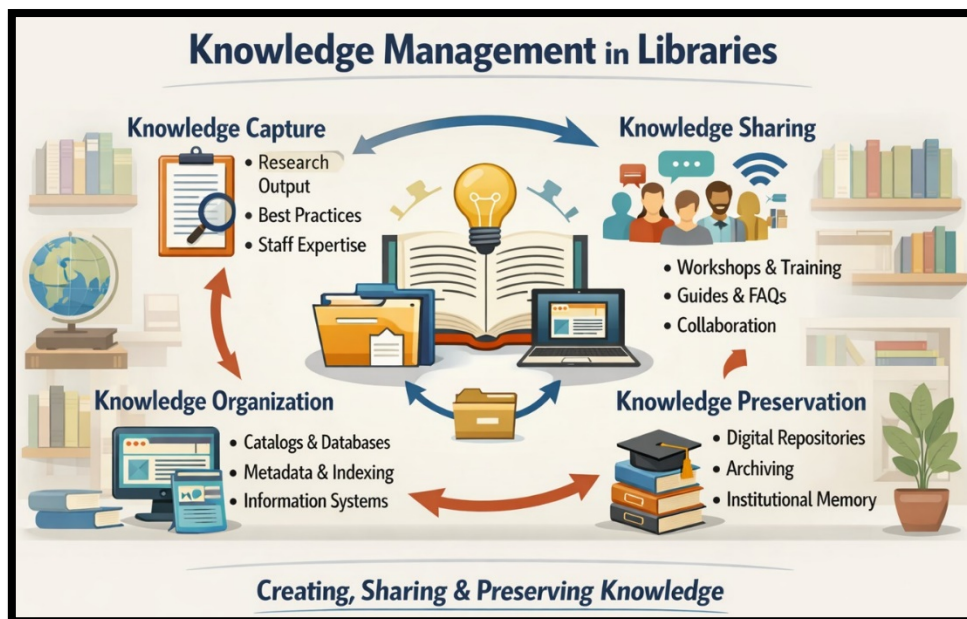


Figure 1: Knowledge Management

This change is greatly aided by academic libraries. Digital information centers that enable access to electronic databases, institutional repositories, research archives, and collaborative learning platforms have transformed libraries from traditional repository of books and printed materials. Library services have been greatly enhanced by the incorporation of ICT, which allows users to access information in real-time and promotes knowledge sharing among students, professors, and researchers².

Acquiring, organizing, storing, retrieving, sharing, and applying information are all part of knowledge management, according to library science. Books, journals, databases, and digital information comprise explicit knowledge, while the knowledge and experience of academic personnel and librarians constitute tacit knowledge. Both types of knowledge are managed by libraries. When implemented properly, KM techniques guarantee the preservation and efficient utilization of knowledge, which in turn boosts institutional productivity and innovation.

But many schools still struggle to implement full KM frameworks, even if technology has come a long way. Disjointed information systems and a lack of a culture of knowledge sharing are

common results when libraries embrace digital tools without first ensuring they are in line with strategic principles on knowledge. Thus, it is crucial to analyze knowledge management procedures from a library science standpoint in order to identify current shortcomings and suggest organized enhancement³.

1.1. Background Information

As businesses began to value intellectual capital more highly in the late 20th century, the idea of knowledge management began to gain traction. Knowledge management (KM) in educational institutions combines human knowledge with technical infrastructure to foster an atmosphere that is favourable to new ideas and ongoing learning. Through the organization of scholarly materials, the facilitation of research activities, and the facilitation of information literacy initiatives, libraries play the role of knowledge intermediaries. There is a rising focus on systematic knowledge processing, and this is reflected in the shift from manual cataloguing to automated and digital library management systems⁴.

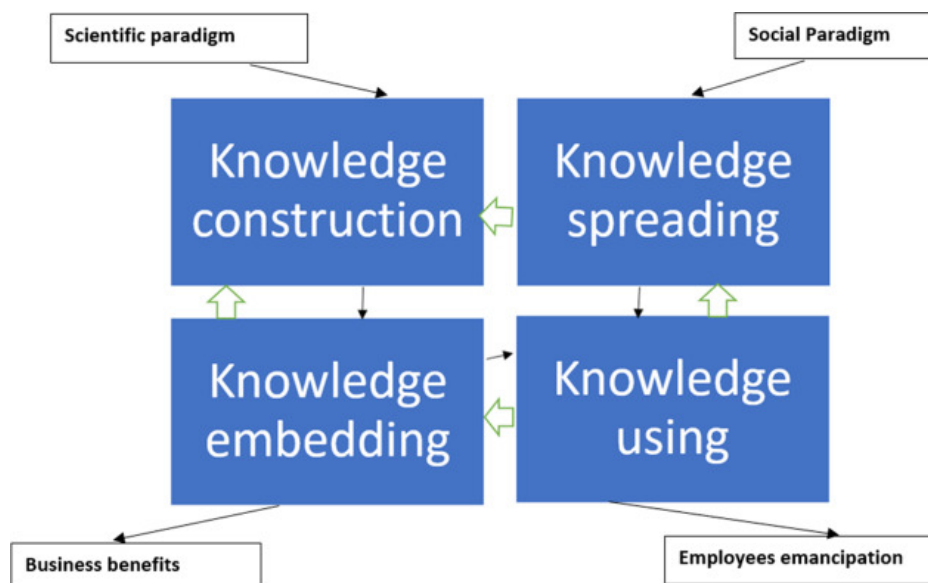


Figure 2: Knowledge Management System

1.2. Statement of the Problem

Despite the widespread use of digital repositories and automation technologies by academic libraries, their efficacy is frequently hindered by the lack of a formal knowledge management policy. Many organizations still use an informal approach to exchanging knowledge, and the tacit knowledge of seasoned employees is rarely recorded. As a result, there is a disconnect between the use of new technologies and the application of strategic knowledge, which could impede the development of institutions and the effectiveness of their research⁵.

1.3. Objectives of the Study

The present study seeks to achieve the following objectives:

1. To examine the current knowledge management practices in academic institutions from a library science perspective.
2. To identify the tools and technologies used for managing knowledge resources.
3. To analyze challenges affecting the implementation of KM practices in academic libraries.
4. To evaluate the impact of knowledge management on institutional performance.

2. METHODOLOGY

From a library science vantage point, the technique details the methodical procedures used to research academic institutions' knowledge management practices. The study's dependability, validity, and reproducibility are guaranteed by a clearly established methodological framework. This study takes an empirical tack in its investigation of academic libraries' knowledge management practices, technology integration, and institutional initiatives. In order to examine knowledge management practice patterns and relationships, the design centers on gathering quantifiable data from pertinent stakeholders⁶.

2.1. Description of Research Design

The study used a quantitative method to descriptive research. Since the goal of the research is to evaluate current knowledge management processes without changing any variables, a descriptive design was selected. Knowledge management in academic libraries can be studied by looking at the present state of affairs, institutional practices, and operational frameworks⁷.

Information was gathered from chosen educational institutions using a cross-sectional survey method, which involves collecting data at a specific point in time. This layout works well for learning about current norms, seeing patterns, and finding connections between things like the effectiveness of knowledge management and the adoption of information and communication technologies.

2.2. Participants / Sample Detail

The study was conducted in five academic institutions, including universities and affiliated colleges. The target population consisted of individuals actively engaged in knowledge creation, organization, and dissemination processes within these institutions.

A total of 120 respondents participated in the study. The sample included:

- 40 Librarians
- 50 Faculty Members
- 30 Research Scholars

Simple random sampling technique was adopted to ensure equal representation and minimize sampling bias. Participants were selected based on their involvement in academic and library-related activities, ensuring relevance to the research objectives.

2.3. Instruments and Materials Used

A systematic questionnaire tailored to this research was used to gather data. There were three parts to the survey.:

1. Demographic details (designation, experience, type of institution).
2. Questions related to knowledge management practices and technological tools.
3. Likert-scale statements measuring perceptions of KM effectiveness (ranging from 1 = Strongly Disagree to 5 = Strongly Agree).

The instrument was evaluated by specialists in the field of library and information science to guarantee the validity of its content. In order to ensure clarity and reproducibility, a pilot research was carried out with fifteen participants. Using Cronbach's Alpha, we were able to determine if the questionnaire was reliable; the result was an internal consistency value of 0.82.

In addition to the survey results, institutional documents including policy manuals and yearly library reports were also examined.

2.4. Procedure and Data Collection Methods

The chosen institution heads were formally consulted before data collecting began. The participants were briefed on the study's goals, and their answers would remain private. There was no pressure to participate.

The survey was disseminated in two ways: online and offline. Institutional email systems were used to distribute online forms, while paper copies were handed out during site visits. A total of four weeks were needed to finish the data collection process.

The accuracy and completeness of the completed surveys were checked. Data was entered into statistical software after responses were numerically coded. In order to keep the data quality high, we did not include incomplete answers⁸.

2.5. Data Analysis Techniques

Descriptive and inferential statistics were used to examine the gathered data. Data on knowledge management strategies and the extent to which technologies were used were summarized using descriptive statistics like percentage, mean, and standard deviation.

The linkages between the use of ICT and the effectiveness of knowledge management were examined using inferential statistics, including correlation analysis. We used a 0.05 level of significance to evaluate our hypothesis. The data was presented in a clear and organized manner using tables, and the Results section made use of visual representations to aid in understanding⁹.

3. RESULTS

This section covers the study's findings, which were derived from 120 respondents at five different educational institutions. The study's aims informed the organization of the results. To summarize the data, descriptive statistics are utilized, including frequency, percentage, mean,

and standard deviation. The hypotheses are tested using inferential statistics. For better understanding and Excel-based visualization, we have included tables and suggested graphics.

3.1.Existing Knowledge Management Practices in Academic Libraries

We asked respondents about the availability and adoption of KM technologies in their institutions so we could assess the present practices of knowledge management.

Table 1:Adoption of Knowledge Management Tools in Academic Institutions

KM Tool / Practice	Frequency (Out of 5 Institutions)	Percentage (%)
Digital Repository	5	100
Library Automation Software	5	100
Institutional Repository	4	80
Knowledge Sharing Workshops	3	60
Internal Knowledge Portal	2	40

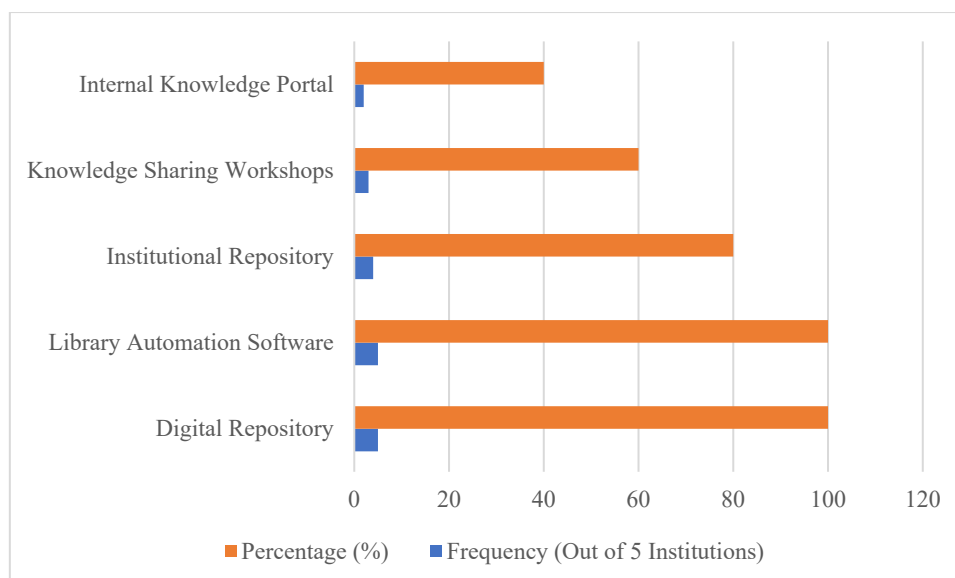


Figure3 : Adoption of Knowledge Management Tools in Academic Institutions

The table indicates that Digital Repositories and Library Automation Software are fully implemented across all institutions (100%). Eighty percent of institutions have institutional repositories, indicating a robust digital infrastructure. On the other hand, systematic knowledge-sharing systems are lacking, since just 40% of institutions have internal knowledge portals.

To illustrate the disparity between storage and sharing systems, the bar chart will show digital tools with larger bars and collaborative knowledge platforms with lower bars..

3.2.Effectiveness of Knowledge Management Dimensions

Respondents rated different KM dimensions on a five-point Likert scale.

Table 2: Mean Scores of Knowledge Management Dimensions (n = 120)

KM Dimension	Mean	Standard Deviation
Knowledge Creation	4.10	0.62
Knowledge Storage	4.32	0.55
Knowledge Sharing	3.48	0.71
Knowledge Utilization	3.82	0.64
Policy Support	3.21	0.75

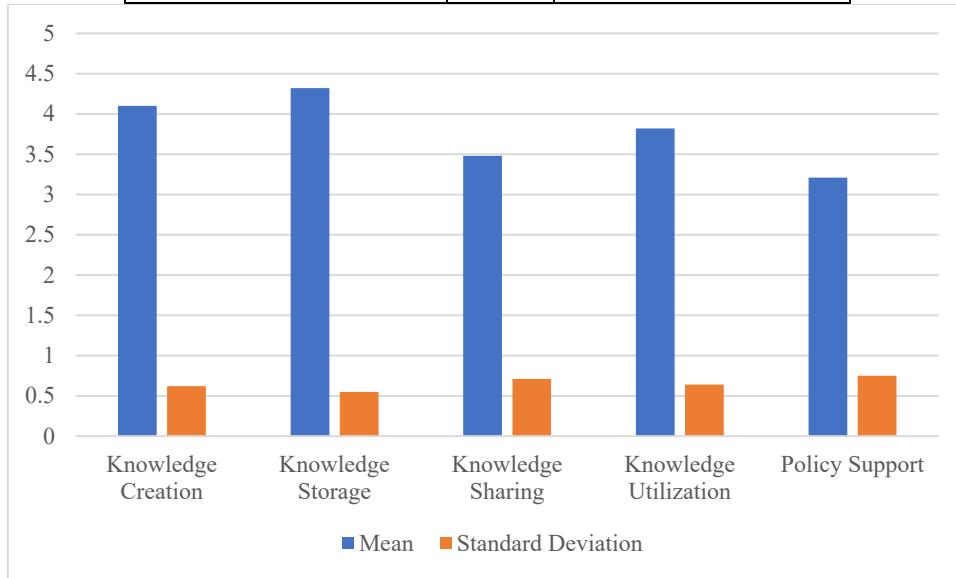


Figure 4 : Mean Scores of Knowledge Management Dimensions

The best digital archiving and documentation procedures were indicated by Knowledge Storage, which obtained the highest mean score of 4.32. A high score of 4.10 for Knowledge Creation indicates that the student is actively involved in the academic and research process.

On the other hand, scores of 3.48 for knowledge sharing and 3.21 for policy support indicate that there are no formal KM initiatives or structured collaborative frameworks in place.

Storage and creation will be visually reinforced by the column chart's bigger columns, while policy support and sharing will be shown by relatively shorter columns.

3.3. Impact of ICT Adoption on KM Effectiveness

Using a correlation analysis, we tested Hypothesis H1 (the link between the use of ICT and the efficacy of KM).

Table 3: Correlation between ICT Adoption and KM Effectiveness

Variables	Correlation Coefficient (r)	Significance (p-value)
ICT Adoption & KM Effectiveness	0.68	0.001

There is a robust positive association between the successful use of ICT and knowledge management, as shown by the correlation coefficient ($r = 0.68$). There is a statistically significant link because the p-value (0.001) is smaller than 0.05.

Institutions that use ICT more frequently have better KM results, as seen by the increasing trend line in the Excel scatter plot. Hence, we accept Hypothesis H1.

3.4. Knowledge Sharing Efficiency in Institutions with KM Policies

We evaluated the efficiency of knowledge sharing between institutions with and without formal KM policies to test Hypothesis H2..

Table 4: Comparison of Knowledge Sharing Efficiency

Institutional Category	Mean Score	Standard Deviation
Institutions with KM Policy	4.05	0.58
Institutions without KM Policy	3.22	0.69



Figure 5 : Knowledge Sharing Efficiency by Policy Status

The mean score was 4.05 for institutions with established KM policies and 3.22 for institutions without policies. This variation provides strong evidence that organized KM frameworks greatly enhance methods of information exchange.

In the clustered column chart, you can see that there are two bars. The one labeled "With KM Policy" is clearly higher, which lends credence to Hypothesis H2. Therefore, organizations that have well-defined KM policies are more efficient at sharing their knowledge.

3.5. Overall Institutional Performance Impact

Respondents were also asked whether KM practices improved institutional performance.

Table 5: Perceived Impact of KM on Institutional Performance

Response Category	Frequency	Percentage (%)
Strongly Agree	48	40

Agree	42	35
Neutral	18	15
Disagree	8	7
Strongly Disagree	4	3

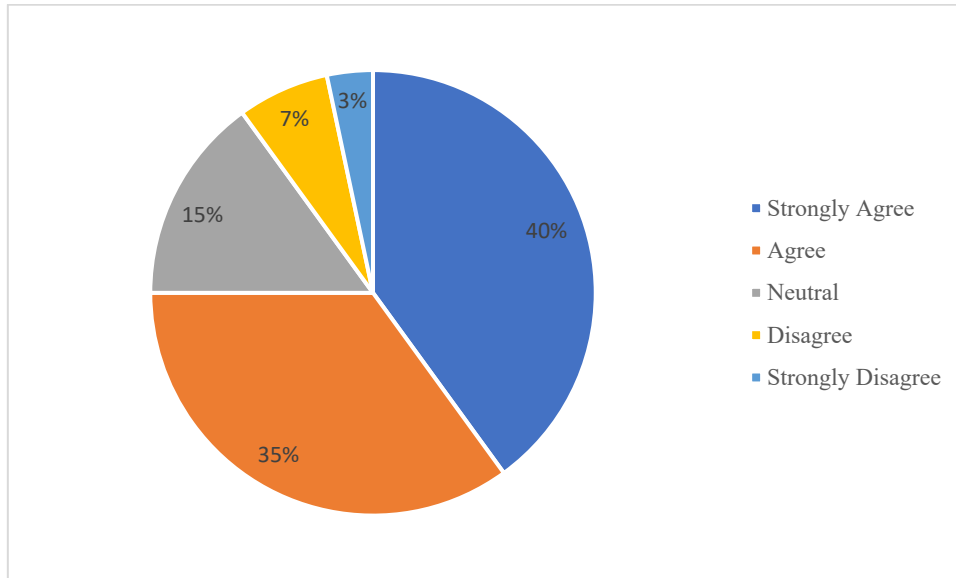


Figure 6 : Perceived Impact Of KM On Institutional Performance

Knowledge management strategies have a favorable effect on institutional performance, according to 75% of respondents who agreed or strongly agreed. Ten percent of people disagreed.

The majority of the pie chart will be occupied by the agreement categories, showing that people generally have a positive impression of KM implementation¹⁰.

3.6. Statistical Summary

- ICT usage and the effectiveness of knowledge management were found to have a strong positive association ($r = 0.68$, $p < 0.05$).
- Knowledge-sharing efficiency is much higher in organizations that have formalized KM policies.
- Policy frameworks and knowledge-sharing initiatives are weaker than digital storage systems.
- There is a generally good impression of the influence of KM on the performance of institutions..

4. DISCUSSION

Using the study's aims and hypotheses as a framework, the discussion section provides an analysis of the results. Additionally, it provides a library science viewpoint on the larger

academic discussion of knowledge management in academic institutions, allowing readers to better understand the results.

4.1. Interpretation of Results

Academic institutions have really come a long way in embracing technological resources like digital repositories and library automation systems, according to the study's results. Institutions have come to realize the significance of digital storage systems in conserving and managing explicit knowledge resources, as evidenced by their widespread implementation. Academic libraries' robust preservation and documentation policies are further supported by the high mean score of 4.32 for knowledge storage¹¹.

On the other hand, knowledge exchange (3.48), policy support (3.21) and technological infrastructure (in and of itself) do not ensure effective knowledge management, as they are rather moderate scores. Data storage is adequate, but neither its methodical distribution nor collaborative use are. Technology greatly improves knowledge management procedures, as confirmed by the substantial positive correlation ($r = 0.68$, $p < 0.05$) between the adoption of ICT and the effectiveness of KM, thereby lending credence to Hypothesis H1.

Additionally, when comparing institutions with and without explicit KM strategies, the latter showed less efficiency in sharing knowledge. This discovery lends credence to Hypothesis H2 and emphasizes how crucial organizational structures are for fostering a culture of shared knowledge. This finding provides more evidence that legislative backing is crucial for turning technology assets into useful scholastic results.

Academic libraries are becoming digital information centers, according to the results. However, in order to accomplish holistic knowledge management, they need to strengthen the strategic integration of people, processes, and policies.

4.2. Comparison with Existing Studies

This study's results corroborate those of other library and information science studies that have highlighted the importance of information and communication technology (ICT) in improving systems for storing and retrieving knowledge. Digital repositories and automation technologies greatly enhance the accessibility and preservation of academic resources, according to previous studies¹².

Still, other academics have contended that KM systems can only go so far in places where there isn't a formalized culture of sharing and utilizing information. The study's moderate findings in information exchange and policy support corroborate such claims. Furthermore, studies in the field of higher education administration reveal that institutions frequently prioritise the development of technical infrastructure over the creation of collaborative knowledge

environments. The present research backs up this claim by showing that storage mechanisms outperform sharing and policy dimensions¹³.

As a result, the results add to the existing literature by providing empirical evidence supporting the hypothesis that academic libraries benefit from increased knowledge-sharing efficiency when they adopt and use ICT.

4.3. Implications of Findings

There are significant theoretical and practical consequences of the study. Theoretically, it lends credence to the knowledge management integrated model, which maintains that policy frameworks, organizational culture, and technology all interact with one another. It proves that colleges and universities can't rely just on digital infrastructure for knowledge management; a mix of human knowledge and institutional backing is necessary¹⁴.

The results have important practical implications, indicating that university administrators should make improving knowledge-sharing practices a top priority by creating explicit KM policies. In order to preserve tacit knowledge and promote cross-disciplinary dialogue, libraries should routinely provide seminars, collaborative platforms, and professional development programs. Library administrations should see their institutions' collections as strategic knowledge hubs, not just as departments that help get things done¹⁵.

4.4. Limitations of the Study

While the study does provide some useful contributions, it does have certain drawbacks. The results may not be applicable to a broader population due to the small sample size of only five universities. The lack of consideration for changes in knowledge management implementation over time is a consequence of the cross-sectional design. Also, most of the information was based on participants' own accounts, which could have been skewed by response bias or participants' own subjective impressions.

Because quantitative measures were the primary emphasis of the research, qualitative examinations of institutional culture and the processes of tacit knowledge were also under-explored.

4.5. Suggestions for Future Research

Including a greater number of universities from different locations could broaden the study's scope in future research. A more thorough understanding of the variations in KM implementation could be gained by conducting comparative studies between private and public colleges.

Organizational culture and tacit knowledge management can be better understood with a mixed-method approach that includes case studies and interviews. To further understand how KM practices change in response to new technologies, longitudinal study methods could be used.

To further expand library science's view in the digital age, future research might investigate how academic information management systems are affected by data analytics, artificial intelligence, and other new digital tools.

5. CONCLUSION

From a library science vantage point, this research looked at how universities manage their knowledge, focusing on areas like technology uptake, ways for sharing information, and frameworks to back policies. According to the results, university libraries have done an excellent job of storing and documenting knowledge thanks to their integration of digital repositories and automated technologies. It is clear that institutions are doing a good job of managing their explicit knowledge resources because of the high mean scores in knowledge development and knowledge storage.

The research did find certain holes, though, in terms of institutional policy support and organized knowledge-sharing procedures. While there was a favorable link between ICT use and overall KM effectiveness, technology was not determined to be enough to provide comprehensive knowledge management on its own. Organizational culture and strategic frameworks have a crucial role in improving knowledge usage, as evidenced by the greatly improved information-sharing efficiency observed in institutions with formal KM policies. The study's findings corroborate the need of integrating technology, human expertise, and institutional governance in knowledge management.

The study's theoretical and practical contributions to the subject of library and information science make it noteworthy. Academic libraries are more than just places to find information; they are active centers of knowledge, which this theory helps to solidify. Further, it provides evidence that the link between ICT infrastructure and the efficacy of KM is real. As a practical matter, the study sheds light on how academic administrators and library professionals can foster collaborative learning settings, invest in staff training, and create structured KM policies.

To sum up, academic institutions' knowledge management strategies need to evolve from a focus on technology to one that takes a more comprehensive approach, combining digital technologies with policy backing and a culture of sharing knowledge. The central role of libraries in institutional knowledge ecosystems should be a matter of strategic positioning. Improving research output and academic achievement aren't the only benefits of bolstering KM practices; doing so will also help institutions adapt to the changing knowledge economy and thrive.

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