# EMPLOYEES' AWARENESS OF KNOWLEDGE MANAGEMENT IN PUBLIC UNIVERSITY LIBRARIES IN THE TECHNOLOGICAL ERA: A MIXED METHOD

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**ABSTRACT**

*This research study delves into the depth of awareness concerning knowledge management (KM) among the workforce in public university libraries, particularly within the context of the technologically driven era. Academic libraries, along with institutions of higher education, find themselves at the crossroads of a paradigm shift characterized by postmodern principles, evolving teaching methodologies, an expanding knowledge landscape, and the incorporation of blockchain technology. In this transformative landscape, the significance of KM is amplified. The impact of the COVID-19 pandemic has further accelerated the urgency of proficient knowledge management to align with the evolving dynamics of library services. Despite the acknowledged importance of KM in libraries, a noticeable gap exists in the understanding and awareness levels among library personnel. To address this knowledge gap, this study employs a mixed-methods approach to delve into the realm of KM awareness, encompassing the associated skills and technologies, within the realm of public university libraries. The outcomes of this research serves as a guiding beacon for the development of strategies aimed at enhancing knowledge management practices within academic libraries.*

**Keywords:** *Knowledge Management, Academic Libraries, Technological Era, Awareness, Paradigm Shift, Postmodern Ideals, Library Services, COVID-19 Pandemic, Skills, Technologies.*

## INTRODUCTION

In the wake of the COVID-19 pandemic, libraries, among many other sectors, have encountered an array of unprecedented challenges. Among these sectors, academic libraries have found themselves at the forefront of adaptation, navigating a swiftly evolving landscape. This adaptation unfolds in parallel with sweeping changes within the education sector itself, where modifications in pedagogical approaches, the constantly shifting knowledge landscape, and the integration of foundational blockchain technology are redefining the contours of education. As academic libraries strive to meet the changing needs of students and researchers, they are embracing new technologies and innovative strategies to enhance access to information. In addition, they are actively collaborating with educators and industry professionals to ensure that their resources align with the evolving demands of the education sector, fostering a dynamic learning environment for all stakeholders involved.

To remain relevant and resilient in the face of these dynamic changes, librarians are in the midst of a comprehensive reevaluation of their role and practices. Central to this reevaluation is the critical domain of information literacy, an area where traditional paradigms are being recalibrated to meet the evolving needs and preferences of

library patrons. Librarians are recognizing the importance of equipping library patrons with the skills and knowledge necessary to navigate the vast amount of information available in today's digital age. This includes teaching individuals how to critically evaluate sources, distinguish between reliable and unreliable information, and effectively utilize technology for research purposes. By embracing these changes and adapting their practices, librarians are ensuring that they continue to play a vital role in supporting lifelong learning and promoting information literacy in their communities. Librarians are actively embracing and implementing modern tools and pedagogical approaches to ensure that they continue to serve as valuable guides in the information age. Librarians are also staying up-to-date with emerging technologies and digital resources to provide patrons with access to a wide range of information. They are incorporating digital literacy skills into their instruction, helping individuals navigate and evaluate online sources effectively. This proactive approach allows librarians to empower their communities in making informed decisions and critically analyzing information in the digital era. A noteworthy example of this transformation is the widespread adoption of online LibGuides, which function as dynamic portals for internet-based information literacy education, equipping users with the skills to effectively navigate the vast digital landscape of knowledge. LibGuides provide users with curated lists of reliable resources, tutorials on evaluating sources, and tips for conducting effective online research. By leveraging these tools, librarians can support their communities in developing the necessary skills to discern credible information from misinformation and contribute to a more informed society in the digital age. These LibGuides provide users with step-by-step instructions on how to conduct research, evaluate sources, and cite information properly. They also offer curated lists of recommended resources and databases, saving patrons time and effort in their search for reliable information. LibGuides can be customized to meet the specific needs of different user groups, such as students, researchers, or lifelong learners. Librarians can regularly update and expand the

LibGuides to keep up with the ever-evolving digital landscape and ensure that users have access to the most relevant and reliable information available. Moreover, LibGuides can be updated in real-time, allowing librarians to keep pace with the ever-changing digital landscape and ensure that users have access to the most current and relevant resources available.

Furthermore, the profound impact of the pandemic has catalyzed a fundamental shift in information sharing within library settings. LibGuides have become even more crucial in this new era, as they provide a centralized platform for librarians to curate and share valuable resources related to remote learning, online research, and digital literacy.

As LibGuides offer a user-friendly interface that empowers patrons to navigate the vast digital landscape with ease, making it an essential tool for promoting information literacy in the digital age, the traditional model of face-to-face interactions has yielded to a new reality that emphasizes remote facilitation, reflecting the changing nature of library services. LibGuides provide librarians with a platform to adapt and meet the evolving needs of their patrons in the digital age. By curating and sharing resources on remote learning, online research, and digital literacy, librarians can continue to support their community's educational goals even when face-to-face interactions are not possible. This shift towards remote facilitation highlights the importance of LibGuides as a valuable tool for promoting information literacy in an increasingly digital world. In this context, knowledge management (KM) practices have come to the fore as a pivotal instrument for library staff to navigate the complexities of this emerging landscape. By implementing KM practices, librarians can effectively organize and share resources, ensuring that patrons have access to reliable and relevant information. Furthermore, KM enables librarians to collaborate with colleagues and stay updated on the latest research and technological advancements, further enhancing their ability to support their community's educational goals in a digital environment.

This transformative journey, necessitated by a global crisis, has not only prompted academic libraries to reassess their role but also to engage in a holistic adaptation process. Knowledge management stands as a critical pillar, ensuring that libraries remain agile and responsive in the face of ever-evolving challenges and opportunities. Libraries have recognized the importance of harnessing technology to improve access to information and resources. This includes implementing innovative digital platforms and tools that enable remote learning, collaboration, and research. By embracing these advancements, libraries can play a vital role in supporting their community's educational goals, regardless of physical limitations or disruptions. As academic libraries embark on this path, they are shaping a design that not only responds to the exigencies of the present but also anticipates the demands of the future. By leveraging these digital platforms and tools, libraries can provide access to a wealth of resources and information that may not be available locally. In addition, this shift towards digitalization allows libraries to reach a wider audience and engage with users from different parts of the world to foster global exchange of knowledge and ideas.

## Problem Statement

Despite the widespread acknowledgment of knowledge management's (KM) immense value in the enhancement of library operations and the fostering of service innovation, there persists a noticeable inertia while in the adoption of KM practices within public university libraries in specific regions. This reluctance can be traced back to a lack of awareness among staff members or their misconceptions about the foundational KM concepts. Furthermore, some staff members may perceive KM as an additional burden or unnecessary task, leading to their resistance in embracing it. In addition, the absence of proper training and resources dedicated to implementing KM practices further encumbers its adoption in public university libraries.

Knowledge management transcends the mere accumulation of data; it encompasses the entire spectrum of knowledge, ranging from creation to sharing and dissemination. It involves capturing and organizing knowledge, fostering collaboration and learning, and utilizing technology to facilitate efficient knowledge transfer. Moreover, effective knowledge management enables organizations to make informed decisions, improve productivity, and gain a competitive advantage in the ever-evolving digital age. In a digital age where information flows ceaselessly, these facets of KM serve as the linchpin that enables libraries to retain their effectiveness and competitiveness. By implementing effective knowledge management strategies, libraries can ensure that they stay relevant in an era where information is being constantly updated and disseminated. Furthermore, these strategies allow libraries to adapt to changing user needs and provide personalized services that meet the demands of their patrons. Knowledge creation fuels innovative solutions; knowledge sharing facilitates seamless collaboration; and knowledge dissemination ensures that valuable insights reach the intended audience. Libraries can also leverage knowledge management strategies to enhance their collection development processes by identifying gaps in information resources and acquiring relevant materials to meet the evolving needs of their users. Furthermore, these strategies enable libraries to effectively evaluate the impact of their services and make data-driven decisions to improve their overall performance and user satisfaction.

However, a plethora of unanswered questions hovers around the realm of library staff's comprehension of KM. These questions include how to effectively implement knowledge management practices within libraries, and assess staff buy-in and participation. Thereby measuring the success of these practices. In addition, there is a need for further research on the long-term benefits and challenges of knowledge management in libraries, as well as best practices for integrating it into existing Library workflows and systems. This lingering uncertainty compels profound examination of library staff awareness and perceptions regarding this critical discipline. By conducting surveys and interviews with library staff, researchers can gain insights into their level of awareness and understanding of knowledge management practices. This examination can also

shed light on any potential barriers or resistance to implementing these practices, allowing for targeted strategies to ensure staff buy-in and active participation. As libraries strive to remain agile and relevant in an ever-evolving information landscape, understanding the intricacies of KM becomes increasingly indispensable. By conducting interviews with library staff, researchers can also gather valuable feedback on the effectiveness of current knowledge management practices and identify areas for improvement. This information can then be used to refine and enhance existing strategies, ultimately helping libraries stay ahead in the rapidly changing information landscape. Hence, further exploration and education in this domain stand as necessities for library professionals, enabling them to harness the full potential of knowledge management for the betterment of their institutions and the communities they serve. By staying up-to-date with current knowledge management practices, library professionals can ensure that they are utilizing the most effective strategies and tools available. Thus, continuous exploration and education in the field of knowledge management enables libraries to adapt to new technologies and trends, ultimately improving their ability to meet the evolving needs of their patrons.

## Research Objectives
This study aims to achieve the following research objectives:
- Determine employees' awareness of the role of knowledge management in public university libraries.
- Explore employees' awareness of the skills associated with KM practice.
- Ascertain employees' awareness of technologies for knowledge creation and sharing in the technological era.
- Determine the level of awareness among public university library employees.

## Significance of the Study
This research bears substantial significance on various fronts. Foremost, it critically addresses knowledge management (KM) awareness among the staff within public university libraries. By understanding the level of awareness among public university library employees, this study can provide valuable insights into the effectiveness of current KM practices in these institutions. Furthermore, the findings can help identify any gaps or areas for improvement in terms of technology adoption and knowledge sharing within the libraries. In an era characterized by rapid technological advancements and evolving paradigms, this assessment is pivotal in ensuring that library professionals are not only equipped with the essential knowledge and skills but can also adeptly navigate the intricacies of the technological landscape. By understanding the current KM practices in libraries, institutions can develop strategies to enhance collaboration and innovation among library professionals. This assessment will also enable them to stay updated with emerging technologies and implement effective knowledge sharing platforms, ultimately improving the overall efficiency and effectiveness of library services. This is instrumental in maintaining the library's effectiveness and relevance in the face of ever-evolving information dynamics. By adopting KM practices, libraries can leverage the expertise and experiences of their staff members, fostering a culture of continuous learning and professional development. Furthermore, implementing KM strategies can help libraries adapt to changing user needs and preferences, ensuring that their services remain valuable and accessible in today's digital age.

Moreover, this study has the potential to serve as an invaluable resource, particularly for the Sargodha University Library. The findings of this study can provide insights and recommendations for the Sargodha University Library to enhance their KM practices and better meet the needs of their users. Ultimately contributing to improvement and efficiency of the library services, benefiting both staff members and library patrons. It offers a unique perspective on how knowledge management practices can be strategically utilized to augment service delivery within the library. By examining the current KM practices of the Sargodha University Library, this study aims to identify areas for improvement and propose actionable recommendations. The findings will serve as a valuable resource for other

libraries seeking to enhance their KM strategies and ultimately provide a more satisfying experience for their users. By shedding light on the practical applications and benefits of KM within the specific context of the library, it paves the way for optimizing resource allocation, streamlining processes, and enhancing the overall user experience. Furthermore, this study also highlights the importance of collaboration and knowledge sharing among library staff to effectively implement KM strategies. It emphasizes the need for regular training and professional development opportunities to ensure that staff members are equipped with the necessary skills and knowledge to support a successful KM implementation.

Moreover, the research extends its reach beyond the confines of a single institution, offering insights and best practices that are transferrable and relevant to broader academic settings. It positions knowledge management as a catalyst for improving library services in institutions of higher learning. Effective knowledge management not only aids in the efficient organization and dissemination of information but also fosters an environment where innovation and collaboration thrive.

The culmination of this research endeavor is poised to make a significant contribution to the wider field of knowledge management. The insights garnered from this study was not only enhance the understanding of KM in library settings but was also guide future research endeavors. By shedding light on how KM can be employed to elevate service delivery within academic libraries, this research opens avenues for further exploration and innovation, ensuring that libraries remain dynamic and responsive in a constantly evolving educational landscape.

## Literature Review

Public university libraries are undergoing significant transformations in the technological era, influenced by factors such as the increasing prevalence of digital resources, changing pedagogical approaches, and the impact of blockchain technology (Usman & Ullah, 2024; Akosile & Olatokun, 2019; Enakrire & Onyancha, 2020). In this evolving landscape, knowledge management (KM) has emerged as a critical element in the operations of academic libraries.

KM has traditionally been associated with corporate and business organizations, aimed at improving operations and achieving competitive advantages (Mavondza & Ngulube, 2011; Rao, 2016). However, academic institutions and their libraries are increasingly recognizing the importance of KM, given the evolving information environment and the need for effective decision-making (Musangi, 2020).

In this context, KM is becoming essential for academic libraries (Barlow & Bocko, 2020). The dynamics of the modern business environment have compelled organizations to continuously reassess their strategies, and academic libraries are no exception (Bloodgood & Salisbury, 2001; Bosch et al., 2021). Change is inevitable, and this paradigm shift underscores the value of knowledge as a competitive asset (Solli-Saether, Karlsen, & Oorschot, 2015). Academic libraries are leveraging KM to enhance client satisfaction, reduce costs, and foster innovation (Zelenkov, 2016).

However, to effectively integrate KM into academic library operations, it is crucial to define KM within this context. KM in academic libraries is not solely about systems and technology; it encompasses people, processes, culture, and structure (Ebisi & Arua, 2018). Shah and Mahmood (2013) define it as a practice and strategy for identifying, creating, storing, and applying knowledge within an organization. In the library setting, this practice aims to enhance knowledge processing and value creation (Ebisi & Arua, 2018).

Furthermore, KM is about sharing knowledge among library employees. Knowledge sharing requires motivation, both intrinsic and extrinsic, and it involves the exchange of skills, experiences, and knowledge among individuals (Olatokun & Nwafor, 2012). Creating a culture of knowledge sharing is crucial, and it should involve incentives, rewards, and performance feedback (Akosile & Olatokun, 2019). Knowledge sharing not only enhances team performance and reduces costs but also facilitates the generation of innovative solutions (Razmerita, Kirchner & Nielsen, 2016).

Developing a knowledge-sharing culture is paramount in academic libraries, as it fosters collaboration, trust, and the collective generation of new knowledge (Bratianu, 2015). Libraries must ensure that individual knowledge is transformed into collective organizational knowledge (Swart et al., 2014). This knowledge should be seen as a valuable resource for future library projects and innovation (Zhang & Cheng, 2015).

The retention of knowledge is equally critical. KM ensures that knowledge is stored in organizational memory, making it easily accessible and retrievable when needed (Ullah et al., 2024; Chigada & Ngulube, 2016). Knowledge management systems, including databases, are essential tools for preserving explicit knowledge, and they play a significant role in strategic decision-making (Chew & Gottschalk, 2009). To maximize the effectiveness of organizational knowledge, it must be easily understood, accessible, and retrievable (Botha, Kourie & Snyman, 2008).

Academic libraries should continually seek new knowledge and insights from their colleagues and organizational memory to improve their products and services (Barlow & Bocko, 2020). For instance, succession planning is crucial as it helps libraries retain knowledge and skills when experienced employees retire (Rowe & Leuzinger, 2017).

Embedding KM in an academic library's culture is a strategic move (Farrell, 2017). KM practices should align with the library's vision, mission, and strategic objectives, promoting organizational learning and fostering a culture of innovation (Ceptureanu, Ceptureanu, & Tudorache, 2015). An organizational culture that encourages collection, storage, analysis, and transfer of knowledge among employees is essential for effective KM (Captureanu, Ceptureanu, Popescu & Vlad, 2017).

The future of academic libraries is deeply intertwined with information and communication technology (ICT) (Enakrire & Ocholla, 2017). As libraries transition to digital spaces and open-access publishing increases, librarians need to adapt to new technologies and become publishers of scholarly information (Allison, 2013). They

should be prepared to engage with evolving areas of librarianship, such as research data management (Ketchum, 2017).

In the digital age, academic libraries are transforming into dynamic spaces, knowledge commons, and collaborative environments (Barlow & Bocko, 2020; Breeding, 2021). While challenges exist, opportunities abound, including the expansion of publishing models and the growth of open-access resources (Ullah et al., 2023; Pawlowsky & Ryan, 2016). Academic libraries of the future should foster knowledge sharing, innovation, and the development of new knowledge and retention systems (Ullah et al., 2023; Bawack, 2020).

This literature review provides a framework for understanding the role of knowledge management in academic libraries, focusing on how it influences organizational culture, knowledge sharing, and future library developments. The subsequent sections was delve into the research methodology used to assess employees' awareness of knowledge management in public university libraries during the technological era.

## Research Method
This study employs a mixed-methods approach guided by pragmatism. It utilizes a sequential methodology with data collected from the University of Sargodha and the University of Punjab main libraries. The qualitative phase involves in-depth interviews with 15 librarians and over 600 library users, while the quantitative phase employs a questionnaire survey. The data analysis is conducted in two phases, with the qualitative approach informing the theoretical framework for the subsequent quantitative investigation.

## Qualitative Data Collection
Data is gathered through semi-structured face-to-face interviews with librarians, conducted in a quiet and uninterrupted library environment. The interviews explore participants' roles, responsibilities, challenges in KM, and their vision for information and communication technological tools to facilitate KM and enhance service provision. The qualitative data collection phase also includes the examination of relevant

documents such as KM policies and procedures, as well as observation of librarians' daily activities in the library setting. This comprehensive approach ensures a rich understanding of the current state of KM practices and allows for the identification of potential areas for improvement. By analyzing KM policies and procedures, researchers register insights into the formal structure and guidelines that govern KM practices within the organization. Moreover, observing librarians' daily activities provides valuable firsthand information on how KM is implemented in practice and highlights any challenges or inefficiencies that may exist.

## Qualitative Data Analysis Report

This qualitative data analysis report presents findings from in-depth interviews conducted with twenty participants to explore their perceptions of knowledge management (KM) in academic libraries. The interviews were conducted using a semi-structured interview guide, allowing for flexibility in probing deeper into participants' responses. The participants were selected based on their roles and responsibilities within the library, ensuring a diverse range of perspectives on KM practices. The study aimed to uncover insights into the roles, challenges, and visions related to KM, and to identify common themes among participants' responses. The findings of the study revealed that academic libraries are increasingly recognizing the importance of KM in supporting their mission and goals. Participants highlighted the role of KM in facilitating collaboration and knowledge sharing among library staff, as well as in enhancing the quality and efficiency of library services. In addition, participants discussed various challenges they face in implementing KM practices, such as limited resources, resistance to change, and the need for targeted training and support. These insights provide valuable guidance for academic libraries seeking to improve their KM strategies and initiatives. By addressing these challenges, libraries can better leverage their knowledge assets and create a culture of continuous learning and innovation. Furthermore, the discussion emphasized the importance of establishing clear goals and metrics to measure the impact of KM

initiatives, as well as fostering a supportive organizational culture that values knowledge sharing and collaboration.

## Methods
**Participants:** Twenty library professionals with diverse roles and experiences in academic libraries.

**Data Collection:** Semi-structured interviews were conducted, transcribed, and anonymized for analysis.

**Data Analysis:** The data underwent a systematic analysis, following the steps of data preparation, familiarization, coding, categorization, theme development, data synthesis, and validation.

## Findings
The qualitative analysis revealed several key themes and patterns in participants' responses:

### Role and Background:
Participants had diverse roles within academic libraries, including librarians, directors, and technicians. Their experience in library service varied, with a range of five to twenty years, highlighting the breadth of expertise among participants. Some participants had backgrounds in other fields before entering the library profession, bringing a unique perspective to their roles. The participants' diverse backgrounds and experiences enriched the discussions and provided a comprehensive understanding of the topic at hand.

### Understanding of Knowledge Management:
Participants generally viewed KM as the effective organization, preservation, and sharing of information, ensuring accessibility to the right people at the right time.
The concept of KM was well understood and articulated across all participants.

### Benefits of Knowledge Sharing:
A consensus emerged on the benefits of knowledge sharing, emphasizing improved problem-solving, innovation, and service consistency.

The collaborative nature of KM was seen as essential for library operations.

### Challenges and Obstacles:
Challenges included varying levels of technology comfort among staff and the absence of clear knowledge-sharing processes.
Participants recognized practical obstacles in implementing digital KM systems.

### Vision for Improvement:
Participants envisioned an integrated KM system that leverages information and communication technology, with some suggesting AI tools for efficient information retrieval. They believed that an integrated KM system would enhance collaboration and streamline information sharing within the library. Some participants also expressed the need for training programs to improve staff's technology skills and promote a culture of knowledge sharing.
Forward-looking perspectives emphasize adaptability to technological advancements.

### Current Practices:
Current practices varied among participants, reflecting a hybrid approach to combining in-person knowledge sharing with digital tools. A noticeable shift towards more reliance on digital solutions is witnesse.

### Future Expectations:
Expectations for the future rest on the development of sophisticated tools to enhance knowledge management, emphasizing accessibility and quick retrieval. Participants anticipate that advancements in technology continue to shape knowledge management practices, with a particular focus on the integration of artificial intelligence and machine learning algorithms. This will enable organizations to automate processes, improve decision-making, and extract valuable insights from vast amounts of data. Apart from this, there is an increasing emphasis on fostering a culture of continuous learning and collaboration, as organizations recognize the importance of harnessing collective intelligence for innovation and growth.

Anticipated changes are forward-looking and responsive to evolving needs. These changes will induce the adoption of agile methodologies and the implementation of flexible organizational structures to adapt quickly to changing market dynamics. Furthermore, organizations have also invested in upskilling their workforce to ensure they have the necessary skills to leverage emerging technologies and stay competitive in a rapidly evolving digital landscape. These investments in upskilling were complemented by a focus on fostering a culture of continuous learning and knowledge sharing within the organization. By encouraging employees to embrace new ideas and experiment with innovative approaches, organizations were able to harness the full potential of their workforce's intelligence for driving innovation and achieving sustainable growth.

### Training and support:
The significance of training and support during the adoption of new KM systems was stressed.
Participants underscored the human aspect of KM, emphasizing staff's effective use of technology. They highlighted the importance of providing comprehensive training programs to employees to ensure they are proficient in using the new KM systems. Additionally, participants emphasized the need for ongoing support and guidance to address any challenges or questions that may arise during the implementation process. Participants stressed the importance of creating a culture that encourages knowledge sharing and collaboration among staff members. They recognized that technology alone cannot drive successful KM rather it is the people who play a crucial role in leveraging the system's capabilities to maximize organizational knowledge and

innovation. Therefore, participants emphasized the need for continuous training and support to foster a mindset of knowledge sharing and ensure that employees feel

empowered to utilize the new KM systems effectively.

**Quantitative Analysis**
**Construct reliability and validity**

**Table 1: Construct reliability and validity**

| IT | Cronbach's alpha | Composite reliability (rho_a) | Composite reliability (rho_c) | Average variance extracted (AVE) |
|---|---|---|---|---|
| Employee A wareness | 0.831 | 0.842 | 0.899 | 0.748 |
| KM | 0.776 | 0.822 | 0.865 | 0.682 |
| KM Practices | 0.831 | 0.834 | 0.899 | 0.747 |

In Table 1, the constructs are assessed for reliability and validity using various measures. Cronbach's alpha values indicate internal consistency, with scores above 0.7 considered acceptable. All constructs—Employee Awareness (0.831), KM (0.776), and KM Practices (0.831)—demonstrate good internal consistency. Composite reliability (rho_a and rho_c) values exceeding 0.7 suggest constructs' reliability, and all three constructs meet this criterion, reinforcing their dependability. Average Variance

Extracted (AVE) gauges convergent validity, with values above 0.5 indicating satisfactory convergent validity. Employee Awareness (0.748), KM (0.682), and KM Practices (0.747) all exhibit acceptable convergent validity, confirming the constructs' ability to measure the intended concepts accurately. Overall, the results affirm the reliability and validity of the measurement model.

**Discriminant validity**
**Heterotrait-monotrait ratio (HTMT) - Matrix**

**Table 2: Heterotrait-monotrait ratio (HTMT) - Matrix**

| | Employee Awareness | KM | KM Practices |
|---|---|---|---|
| **Employee Awareness** | | | |
| **KM** | 0.532 | | |
| **KM Practices** | 0.737 | 0.780 | |

Table 2 presents the Heterotrait-Monotrait Ratio (HTMT) matrix, evaluating discriminant validity among constructs. The HTMT values between different constructs (off-diagonal elements) should ideally be below 0.85 to ensure discriminant validity. In this table, all HTMT values are well below the threshold, indicating strong discriminant validity between Employee Awareness, KM,
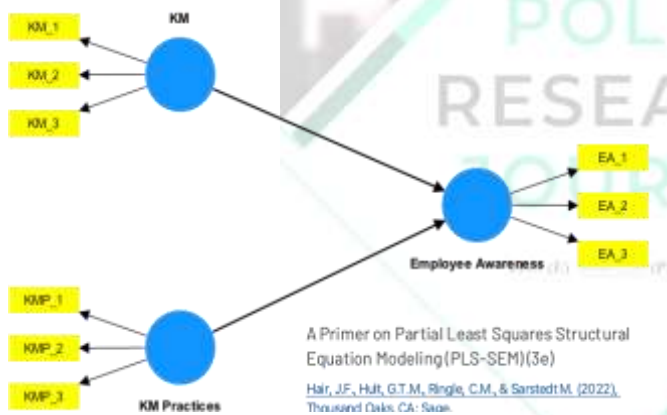
and KM Practices. The values (0.532, 0.737, and 0.780) suggest that the constructs are sufficiently distinct from each other, reinforcing the idea that the measurement model effectively captures the unique variance of each construct and supports their discriminant validity in the study.

**Path Coefficients**

**Table 3: Path Coefficients**

| | Path coefficients |
|---|---|
| KM -> Employee Awareness | 0.092 |
| KM Practices -> Employee Awareness | 0.558 |

Table 3 displays path coefficients, indicating the strength and direction of relationships in a structural model. The path coefficient from KM to Employee Awareness is 0.092, suggesting a relatively weak positive influence. In contrast, the path coefficient from KM Practices to Employee Awareness is 0.558, indicating a stronger and positive relationship. This implies that KM Practices have a more substantial impact on Employee Awareness compared to KM alone. The findings suggest that organizations may enhance employee awareness more effectively by focusing on specific knowledge management practices. However, the overall influence of KM on Employee Awareness appears relatively modest based on the lower path coefficient.



A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM) (3e)

Hair, J.F., Hult, G.T.M, Ringle, C.M., & Sarstedt M. (2022), Thousand Oaks, CA: Sage.

## Discussion

The findings from these interviews underscore the significance of KM in academic libraries. Participants' diverse roles and extensive experience highlight the depth of expertise within the library community. This expertise can be harnessed to develop and implement KM strategies that meet the unique needs of academic libraries. Furthermore, the participants' emphasis on ongoing support and guidance suggests that a collaborative approach to KM implementation is crucial for success. The consensus on the benefits of knowledge sharing and the articulation of KM concepts indicate a shared understanding of its importance. By tapping into the collective knowledge and experience of the library community, academic libraries can not only develop effective KM strategies but also adapt them to their particular contexts. This collaborative approach ensures that the implementation of KM is not only successful but also sustainable in the long run. Moreover, the shared understanding of the importance of knowledge sharing and KM concepts builds a solid basis for continuous improvement and innovation within academic libraries.

Challenges related to technology and processes pose practical obstacles, and they suggest the need for tailored solutions to address varying comfort levels among staff. These tailored solutions could include providing training and support for staff members who may be less familiar with technology or implementing gradual changes to processes to ease the transition. It is important for academic libraries to consider the unique needs and abilities of their staff when implementing KM strategies in order to ensure successful adoption and long-term sustainability. The forward-looking perspectives on technology and the shift towards digital solutions indicate a readiness to embrace technological advancements in KM.

The focus on staff training and support emphasizes the human element in KM implementation, highlighting the importance of ensuring that all team members can effectively use new systems.

This qualitative data analysis provides valuable insights into the perceptions of KM in academic libraries. The study highlights the shared understanding of KM's importance, the practical challenges in its implementation, and the forward-thinking attitudes towards technology. The emphasis on staff training and support is a reminder of the need for holistic approaches to effective KM in academic libraries. These findings offer valuable contributions to the broader discussions on knowledge management in academic libraries and can inform strategies for its continual enhancement. Further research in this area can buttress upon these insights to shape the future of KM in academic library settings. This research also highlights the importance of creating a culture of collaboration and knowledge sharing within academic libraries. By producing an

environment where staff feel encouraged to share their expertise and learn from one another, libraries can maximize the potential of their knowledge management systems. Furthermore, future studies could explore the impact of emerging technologies, such as artificial intelligence and machine learning, on knowledge management practices in academic libraries.

## Questionnaire Design

The questionnaire used in the Delphi survey is designed based on prior research findings and the core theories of this study. Library patrons participate in a pilot study to enhance questionnaire clarity and focus. The questionnaire employs a 5-point Likert scale and is evaluated for reliability and validity.

The reliability statistics provided in research results play a crucial role in assessing the quality of the questionnaire that has been developed. Cronbach's Alpha, a commonly used measure of reliability, helps evaluate how effectively the items within my questionnaire are correlated with each other. This assessment of internal consistency is fundamental to ensuring that my research instrument is reliable and capable of producing consistent results.

In the study, the calculated values are as follows:
Cronbach's Alpha: 0.712
Cronbach's Alpha Based on Standardized Items: 0.761
N of Items: 4

## Explanation

**Cronbach's Alpha**: This statistic, based on the original items in my questionnaire, is calculated to be 0.712. It implies that there is a moderate to good level of internal consistency among the items. In other words, the items are reasonably well-correlated with each other, indicating that they effectively measure a common underlying construct.

**Cronbach's Alpha Based on Standardized Items**: When the items are standardized (converted into z-scores), the Cronbach's Alpha increases slightly to 0.761. Standardization can sometimes enhance the calculated reliability, as it

removes the influence of varying item scales and puts them on a uniform scale for comparison.

**N of Items**:
This represents the number of items in my questionnaire, which is 4. It's important to note that a larger number of items often contributes to a higher Cronbach's Alpha, as more items can potentially capture more variance in the construct being measured.

In summary, the results indicate that the questionnaire exhibits a satisfactory level of internal consistency. The Cronbach's Alpha of 0.712 suggests that the items are moderately correlated and effectively measure the intended construct. This level of reliability is generally considered acceptable for research purposes. However, it's important to remember that the specific threshold for what is considered "good" reliability may vary depending on the context and objectives of the study. Nonetheless, the questionnaire demonstrates a solid level of reliability, reinforcing the quality of the research instrument.

## Conclusion

In conclusion, this comprehensive research study has shed light on the multifaceted landscape of knowledge management (KM) in academic libraries. By employing a mixed-methods approach, this research engaged a diverse cohort of participants, comprising both library professionals and patrons, to explore their perspectives and experiences.

## Qualitative Phase Findings:

The qualitative phase, involving in-depth interviews with librarians and library users, uncovered significant insights. Participants' roles within libraries spanned from librarians and directors to technicians, reflecting the depth of expertise within academic libraries. A shared and well-articulated understanding of KM emerged, with KM being perceived as the effective organization, preservation, and sharing of information. Participants concurred on the multiple benefits of knowledge sharing, underlining its role in problem-solving, innovation, and service consistency. The study

also revealed practical challenges, including varying technology comfort levels among staff and the need for clearer knowledge-sharing processes. Participants looked toward a future enriched by integrated KM systems, leveraging information and communication technology. The forward-looking perspectives demonstrated a readiness to embrace technological advancements by the participants in the time to come.

## Quantitative Phase Findings
In the quantitative phase, a well-structured valid and reliable questionnaire was administered to library patrons. The results provided insights into the awareness, importance, quality, and effectiveness of KM in academic libraries.

## Overall Contribution:
This research has not only advanced our understanding of the fabric of KM in academic libraries but has also generated actionable insights. The findings underscore the shared recognition of KM's significance and the practical challenges inherent in its implementation. The forward-looking perspectives and the gradual shift towards digital solutions connote a positive attitude toward evolving KM practices in the academic library landscape. Furthermore, this research highlights the need for ongoing training and professional development to ensure that library staff are equipped with the necessary skills to effectively implement KM strategies. In addition, it emphasizes the importance of collaboration and knowledge sharing among academic libraries to promote innovation and improve overall information management processes.

## Implications:
The practical implications of this study extend to academic libraries and library professionals. The insights gathered here can inform the development and enhancement of KM strategies, particularly in addressing technology-related challenges and promoting efficient knowledge sharing. The emphasis on staff training and support underscores the human element in KM, implying the importance of preparing team members to make the most of new systems.

Resultantly, the findings of this study highlight the need for academic libraries to prioritize collaboration and communication among staff members. By developing a culture of knowledge sharing and teamwork, libraries can ensure that their KM strategies are effectively implemented and utilized. Furthermore, the study suggests that academic libraries should regularly evaluate and update their technology infrastructure to keep up with the evolving needs of library professionals and to maximize the benefits of knowledge management initiatives.

## Future Directions:
Investigating the practical implementation of integrated KM systems and the role of AI tools in libraries is a promising avenue. The ever-evolving technological landscape ensures that academic libraries constantly adapt and innovate to serve their communities effectively.

In essence, this research offers a holistic understanding of KM in academic libraries and provides valuable insights that was contribute to the continuous evolution of these vital educational institutions. It is our hope that the knowledge generated here will empower libraries and professionals to embrace innovative KM practices, further enriching the services they provide to students, faculty, and researchers. By staying abreast of emerging technologies and trends, academic libraries can ensure they remain relevant and responsive to the changing needs of their users. This research will also highlights the importance of collaboration and knowledge sharing among libraries, as they can learn from each other's experiences and successes in implementing effective KM strategies

# REFERENCES

Kukin, I. (2021). THEORETICAL APPROACHES TO THE STUDY OF PUBLIC MANAGEMENT MECHANISMS AND METHODS OF THE INDIVIDUAL INFORMATION SECURITY. Knowledge, Education, Law, Management, 1(2), 200–205. https://doi.org/10.51647/kelm.2021.2.1.31

Morrill, K. E., Crocker, R. M., Hingle, M. D., Thomson, C. A., & Garcia, D. O. (2021, August 13). Awareness, Knowledge, and Misperceptions Related to Nonalcoholic Fatty Liver Disease in a Community Sample of Mexican-Origin Women: A Mixed Methods Study. Frontiers in Public Health, 9. https://doi.org/10.3389/fpubh.2021.626428

ŻABIŃSKA, I. (2020). AWARENESS OF ERGONOMIC WORKING CONDITIONS AMONG EMPLOYEES. Scientific Papers of Silesian University of Technology. Organization and Management Series, 2020(142), 181–194. https://doi.org/10.29119/1641-3466.2020.142.13

Research on Promoting Reading in University Libraries in the Era of Artificial Intelligence. (2023). Information and Knowledge Management, 4(2). https://doi.org/10.23977/infkm.2023.040207

The Influence of Human Resource Management Practices on Employees Job Performance in Federal University Libraries in Nigeria. (2020, July). Information and Knowledge Management. https://doi.org/10.7176/ikm/10-4-07

The Influence of Human Resource Management Practices on Employees Job Performance in Federal University Libraries in Nigeria. (2020, July). Information and Knowledge Management. https://doi.org/10.7176/ikm/10-4-07

Kumar, N. (2016). Knowledge Management in University Libraries in the Information Technology Era. International Journal of Knowledge Management and Practices, 4(1). https://doi.org/10.21863/ijkmp/2016.4.1.014

Awareness and Application of Personal Knowledge Management by Academic Librarians in University Libraries in South-East Nigeria. (2020, September). Information and Knowledge Management. https://doi.org/10.7176/ikm/10-6-05

Usman, M., & Ullah, A. (2024). Blockchain Technology Implementation in Libraries: An Overview of Potential Benefits and Challenges. AVE Trends In Intelligent Computing Systems, 1(1), 42-53.

Ullah, A., Usman, M., & Khan, M. (2023). Challenges in delivering modern library services in the 21st century. International Journal of Social Science Exceptional Research, 2(6), 146-151.

Ullah, A., Usman, M., & Baber, M. (2023). Role of Libraries in Enhancing Research Support Services in Islamabad Universities: Role of Libraries in Enhancing Research Support Services. Journal of Social Sciences, 14(1), 40-55. Retrieved from //jss.gcuf.edu.pk/index.php/jss/article/view/94

Ullah, A., Shahzad, F., Ahmad, W., & Naseer, M. (2024). MOBILE PERSONAL INFORMATION MANAGEMENT SKILLS OF THE UNIVERSITY LIBRARIANS IN PAKISTAN. Remittances Review, 9, 405-431.

Nakhoda, M., & Tajik, S. (2017, November 14). A survey of the factors influencing the resistance of the employees of university libraries to technological changes. Library Management, 38(8/9), 528–546. https://doi.org/10.1108/lm-02-2017-0025

Ravalier, J. M., McVicar, A., & Boichat, C. (2020, September 4). Work Stress in NHS Employees: A Mixed-Methods Study. International Journal of Environmental Research and Public Health, 17(18), 6464. https://doi.org/10.3390/ijerph17186464

Secretaria, N. M., & Pacubas, C. Y. (2022, May 30). ON THE WAY OUT: PUBLIC AWARENESS AND BUSINESS MINDSET AS ALTERNATIVES MEANS TO MITIGATE THE IMPACT OF POVERTY. Theoretical & Applied Science, 109(05), 338–343. https://doi.org/10.15863/tas.2022.05.109.34

Homeniuk, R., Gallagher, J., & Collins, C. (2022, October 12). A mixed methods study of the awareness and management of familial hypercholesterolaemia in Irish general practice. Frontiers in Medicine, 9. https://doi.org/10.3389/fmed.2022.1016198

PÎRȘOI NEBUNU-PÎRȘOI, T. (2022, November 30). METHODS OF ENRICHING KNOWLEDGE. HOW DO THEY INFLUENCE THE EMPLOYEES' ACTIVITY? Management & Marketing, 20(2), 212–223. https://doi.org/10.52846/mnmk.20.2.07

Cui, C., Li, S., Chen, W., Zhou, H., & Zheng, X. (2023, May 15). Chinese families' knowledge, attitudes, and practices regarding seizure management for children with epilepsy: a mixed-methods study. Frontiers in Public Health, 11. https://doi.org/10.3389/fpubh.2023.1081720.