Integrating Indian Knowledge System with

Current Trends and Technologies in Libraries and Information Sciences

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ABSTRACT

The integration of the Indian Knowledge System (IKS) with cutting-edge trends and technologies in Library and Information Science (LIS) offers a transformative pathway to connect ancient wisdom with modern innovation. By harnessing digital libraries, open-access platforms, and advanced tools such as Artificial Intelligence (AI), Machine Learning (ML), metadata standards, blockchain, and Virtual/Augmented Reality (VR/AR), IKS can be systematically preserved, organized, and shared on a global scale. These technologies facilitate the digitization of ancient manuscripts, interpretation of complex texts, and development of immersive educational experiences, making IKS accessible to a worldwide audience. Additionally, data analytics and visualization tools reveal hidden patterns and insights within traditional knowledge, providing innovative solutions to modern challenges. This integration also promotes interdisciplinary research, ethical information practices, community engagement, and international collaboration. While challenges such as standardization of digitization, language barriers, and ethical considerations exist, the teamwork. Between IKS and LIS holds significant

Possibleto enrich academia and professional fields, ensuring India's intellectual heritage remains relevant in the digital era. This convergence not only preserves cultural legacy but also fosters a more inclusive, diverse, and enlightened global knowledge ecosystem.

INTRODUCTION

The Indian Knowledge System (IKS), with its vast repository of ancient wisdom, and the rapidly evolving field of Libraries and Information Sciences (LIS) are two domains that, when integrated, can create a powerful teamwork. By combining the timeless principles of IKS with modern trends and technologies in LIS, we can preserve, organize, andcirculation traditional knowledge while addressing contemporary challenges. This integration not only enriches the academic and professional landscape but also ensures that India's intellectual heritage remains relevant in the digital age.

Current Trends and Technologies in LIS

The transition to digital libraries and open-access platforms haschanged the way information is stored, managed, and shared. By digitizing ancient Indian manuscripts, texts, and oral traditions, the Indian Knowledge System (IKS) can be made accessible to a global audience. This not only ensures the preservation of India's rich intellectual heritage but also enhances its relevance in the modern era. Open-access platforms can make available to allknowledge, allowing researchers, students, and enthusiasts worldwide to explore and benefit from the timeless wisdom embedded in IKS. Such initiatives bridge the gap between traditional knowledge and contemporary information systems, fostering a deeper understanding and appreciation of India's cultural and scientific contributions.

Machine Learning and Artificial Intelligence:

Artificial Intelligence (AI) and Machine Learning (ML) technologies have thepossibletoreformthe way traditional knowledge is organized, analyzed, and accessed. By leveraging AI-powered tools, vast amounts of Indian Knowledge System (IKS) resources can be systematically categorized, retrieved, and studied. For instance, AI can assist in decoding ancient scripts, interpreting complex texts, or identifying patterns in Vedic mathematics, astronomy, and other fields. These technologies enable efficient management of IKS materials, making them more accessible to researchers and learners. By integrating AI and ML into the study of IKS, we can unlock new insights, preserve cultural heritage, and bridge the gap between ancient wisdom and modern scientific exploration..

Metadata and Semantic Technologies:

Advanced metadata standards and semantic technologies play a crucial role in enhancing the discoverability and accessibility of Indian Knowledge System (IKS) resources. By creating structured and detailed metadata for ancient

texts, manuscripts, and other traditional knowledge materials, Libraries and Information Sciences (LIS) professionals can streamline the organization and retrieval of these resources. This structured approach not only facilitates interdisciplinary research but also promotes cross-cultural studies by connecting IKS with global knowledge systems. Through the use of semantic technologies, relationships between concepts, themes, and historical contexts can be mapped, enabling deeper insights and fostering a more comprehensive understanding of India's intellectual heritage.

Distributed Ledger Technology for Preservation:

Distributed Ledger Technology (DLT), such as blockchain, can play a pivotal role in safeguarding the authenticity and integrity of digitized Indian Knowledge System (IKS) materials. By creating immutable and transparent records of digital assets, DLT ensures that rare manuscripts, texts, and cultural heritage resources are protected from tampering, forgery, or misuse. This technology is especially critical for preserving the originality and credibility of ancient knowledge, which holds immense historical and cultural value. By leveraging DLT, Libraries and Information Sciences (LIS) professionals can establish a secure and trustworthy framework for the long-term preservation and circulationof IKS, ensuring that future generations can access these resources with confidence

Virtual World and Augmented Reality (VR/AR):

Virtual Reality (VR) and Augmented Reality (AR) technologies offer innovative ways to bring ancient Indian knowledge to life by creating immersive and interactive experiences. For example, VR can enable virtual tours of historical libraries, ancient universities like Nalanda, or recreated Vedic villages, allowing users to explore these spaces in a dynamic and engaging manner. Similarly, AR can be used to create interactive simulations of Vedic rituals, traditional crafts, or astronomical practices, making complex concepts more accessible and relatable for modern learners. By integrating VR/AR into the study of the Indian Knowledge System (IKS), educators and LIS professionals can foster deeper engagement, enhance understanding, and bridge the gap between ancient wisdom and contemporary learning methods.

Information Analysis, Data Examination, Interpretation, and Processing: Data analytics has the potential to uncover hidden insights within traditional knowledge systems, such as identifying patterns in Ayurvedic treatments, ecological practices, or Vedic astronomy. By analyzing large datasets derived from ancient texts and practices, researchers can extract valuable information that may have been overlooked. Visualization tools, such as graphs, charts, and interactive dashboards, can then transform these complex insights into accessible and understandable formats. This approach not only enhances the study of the Indian Knowledge System (IKS) but also makes it easier for scholars, students, and practitioners to apply this wisdom in modern contexts. Through data-driven exploration, IKS can be revitalized, offering innovative solutions to contemporary challenges while preserving its timeless relevance.

Integrating IKS with LIS

Curating IKS Collections:

Libraries and information centers have a unique opportunity to curate specialized collections dedicated to the Indian Knowledge System (IKS). These collections can include digitized manuscripts, translated texts, multimedia content, and other resources that showcase India's rich intellectual heritage. By organizing and preserving these materials, libraries can create a comprehensive repository that serves as a valuable resource for researchers, educators, and students. Such curated collections not only facilitate academic exploration but also promote a deeper understanding and value of IKS, ensuring that this ancient wisdom remains accessible and relevant for future generations.

Interdisciplinary Research: By incorporating Indigenous Knowledge Systems (IKS) into Library and Information Science (LIS), researchers can uncover valuable links between traditional wisdom and modern disciplines like sustainability, health, and technology. For instance, traditional Indian agricultural methods can offer insights and innovative approaches to contemporary sustainable farming practices.

Ethical Framework: The moral principles of IKS, such as *Dharma* (righteousness) and *Ahimsa* (non-violence), can serve as a foundation for creating inclusive and equitable information systems. These values resonate with the core mission of LIS to foster universal access to knowledge and ensure fairness in information circulation.

Public Participation-: Libraries can serve as crucial platforms for involving local communities in documenting and preserving oral traditions, folk knowledge, and traditional practices. This jointapproach helps ensure that Indigenous Knowledge Systems (IKS) continue to thrive as dynamic and evolving systems.

Global Collaboration: Partnering with international organizations can amplify the reach and recognition of Indigenous Knowledge Systems (IKS) on a global stage. Digital platforms can serve as bridges for cross-cultural dialogue, allowing researchers and scholars worldwide to engage with, study, and contribute to the preservation and advancement of Indian knowledge systems.

Challenges and Opportunities: Integrating Indigenous Knowledge Systems (IKS) with Library and Information Science (LIS) offers immense potential but also poses significant challenges. Key hurdles include establishing standardized frameworks for digitization, overcoming language barriers, and ensuring the ethical use of traditional knowledge. However, with thoughtful strategies and innovative technologies, these obstacles can be addressed, paving the way for the full realization of IKS's value in the contemporary world.

Conclusion: The integration of Indian Knowledge Systems (IKS) with contemporary trends and technologies in Library and Information Science (LIS) offers a transformative opportunity to connect the wisdom of the past with the innovations of the future. By harnessing digital tools, fostering interdisciplinary research, and adhering to ethical frameworks, LIS professionals can ensure that India's rich heritage continues to inspire and contribute to global advancement. This synergy not only safeguards cultural legacy but also enhances the modern knowledge landscape, fostering a more inclusive, diverse, and enlightened world.

Reference:

1. Akhil Bharatiya Shiksha Samagam Report, ABSS (2023). Report on Thematic Session on IKS. Ministry of Education, Government of India. https://www.education.gov.in/nep/indian-knowledge-systems
2. Amani, S. (2023). Blended learning approaches and multimedia usage in teacher education. International Education & Research Journal, 9(12), 149-151. http://www.ierj.in/journal/index.php /ierj/article/view/2454-9916
3. Azeemuddin, M. & Sayyad, S. S. (2021). The Impact of Persian on Indian Languages: A Historical and Linguistic Perspective (In the Context of the Urdu, Hindi, Punjabi, and Bengali Languages). International Research Journal of Management Sociology & Humanities. 12 (12), ISSN: 2277 – 9809
4. Dharampal (1983). The Beautiful Tree: Indigenous Indian Education in the Eighteenth Century (Volume 3). New Delhi: BibliaImpex.
5. Mahadevan, B., Bhat, V. R., Nagendra Pavana, R. N. (2022). Introduction to Indian Knowledge System: Concepts and Applications, PHI Learning Pvt. Ltd. ISBN: 9789391818203
6. Mandavkar, Pavan. (2023). Indian Knowledge System (IKS). SSR Electronic Journal.DOI10.2139 /ssrn.4589986. https://www.researchgate.net/publication /374373778_Indian_Knowledge_System_IKS
7. National Education Policy (2020). Ministry of Human Resource Development, Government of India. https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf
8. Okpokwasili, N.P., &Oladipupo, R.O. (2019). Appropriate Teaching Methods for Teaching Indigenous Knowledge in Universities in Nigeria. International Journal of Science and Research (IJSR), 8(1). https://doi.org/10.21275/ART20194788
9. Shinde, S. P., Waghmare, R., Pasa, E. K., &Saikia, B. (Eds.). (2024). NEP- 2020: Challenges and Opportunities. Bhumi Publishing. Kolhapur, Maharashtra, India. ISBN: 978-93-95847-06-3
10. Truschke, A. (2012). Perso-Indica: a critical survey of Persian works on Indian learned traditions. The Newsletter. No.59. https://www.academia.edu/1464919/Perso_ Indica_a_critical_survey_of_Persian_ works_on_Indian_learned_traditions

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