An Analysis of Digital Libraries Roles in Public Sector Organizations Utilizing VOSviewer

Taufiq Natsir[1]**, Haedar Akib**[2]**, Alexsander Yandra**[3]**,
Indra Dharma Wijaya**[4]**, & Ahmad Wahidiyat Haedar**[5]

[1,2,5]Universitas Negeri Makassar, Indonesia
[3]Universitas Lancang Kuning, Indonesia
[4]Politeknik Negeri Malang, Indonesia
Correspondence email: taufiq@unm.ac.id

Information	ABSTRACT
  	Digital libraries serve as centralized repositories, significantly improving information access for employees, stakeholders, and the public. This study examines the pivotal role of digital libraries within public sector organizations, focusing on key elements such as information accessibility, efficient resource management, enhanced collaboration and knowledge sharing, and data security and integrity. The data was gathered from the Scopus database, which was then analyzed and visualized using VOSviewer. The study reveals that they enhance resource management efficiency by systematically organizing digital assets and reducing reliance on physical storage. Additionally, these digital hubs foster a collaborative work environment by facilitating seamless knowledge exchange among employees. Moreover, robust security measures are implemented to ensure the integrity of government data, safeguarding against unauthorized access and data breaches. The significance of this study lies in its potential to inform public sector policymakers and administrators about the benefits of adopting digital libraries. By highlighting their impact on efficiency, collaboration, and data security, the study provides valuable insights for enhancing operational effectiveness and fostering a more informed and connected public sector workforce. **Keywords:** Digital library; digital library roles; digital library management

1. INTRODUCTION

Digitization has emerged as a primary driver in reshaping paradigms across various sectors, including the public sector. The progressive adoption of digital technology has become pivotal in enhancing the efficiency and effectiveness of services within it (Hoivik, 2007). A notable transformation resulting from this digital wave is the burgeoning development of digital libraries, which have provided broad access to and dissemination of information. However, their role extends beyond mere information providers; they significantly impact enriching resources and knowledge within public sector organizations (Chandio et al., 2019).

This research aims to explore the role played by digital libraries within the context of the public sector.

Digital libraries, integral parts of the digital transformation, are not merely information repositories but also the nucleus driving the growth of organizational knowledge and resources (Liukinevičienė & Kuodytė, 2021a). With easy and rapid access to contained information, digital libraries significantly contribute to the efficiency and effectiveness of public sector organizations (Warraich & Ameen, 2010). Understanding that digital libraries store information and function as invaluable knowledge processors and presenters (Boustani et al., 2022). The availability of up-to-date and high-quality information within these digital libraries can enhance the competitive edge of public sector organizations in making more precise and informed decisions (Boustani et al., 2022).

Likewise, the role of digital libraries within the public sector context cannot be overlooked. Their significant contribution to enriching resources and knowledge is one of the main pillars of achieving better efficiency and effectiveness in service delivery for the community (Manžuch, 2016). Thus, this research aims to provide deeper insights into digital libraries' crucial role in the public sector context. The use of VOSviewer analysis is expected to offer a more precise overview of the dynamics, interconnections, and contributions of digital libraries in supporting the progress and achievement of public sector organizational goals through the utilization of digital technology.

Digital libraries, playing an increasingly substantial role, have become a cornerstone in the efforts of public sector organizations to manage and present information more efficiently (Mumtaz & Khan, 2020). Digital transformation has paved the way for these institutions to holistically integrate technology in information service provision, enhancing information accessibility and supporting smarter and informed decision-making (Liukinevičienė & Kuodytė, 2021b).

In an era where data and information serve as primary assets, digital libraries have become vital spaces within the information ecosystem of public sector organizations. By providing platforms for efficient information storage, management, and distribution, digital libraries establish robust foundations for achieving organizational objectives (Chunpir & Ismailzadeh, 2020). Therefore, the importance of the role of digital libraries in supporting contemporary public sector activities cannot be underestimated. These libraries are no longer just repositories but have evolved into dynamic and digitally interconnected information hubs. This evolution enables stakeholders in the public sector to access data, research, literature, and other essential information more quickly and efficiently.

In that sense, visualization analysis tools offer an effective means to delve into detailed insights regarding how digital libraries contribute within the context of public sector organizations. VOSviewer is a highly useful tool for comprehending the complexity and contribution of digital libraries. This tool investigates and comprehends the dynamics and interrelationships among various elements within these digital libraries to provide deeper insights. Through VOSviewer analysis, patterns and relationships among various elements within these digital libraries can be uncovered. From the resulting data, it becomes apparent how specific topics are interrelated, the contributions of each topic, and how information and knowledge flow within these digital library systems.

This software enables users to map and analyze the interrelationships among various elements within digital libraries, such as available information types, accessibility levels, and how this information supports decision-making within public sector organizations. Through detailed visualization, VOSviewer aids in identifying critical patterns, trends, and interactions that might otherwise be challenging to discern.

In this context, VOSviewer analysis becomes essential in understanding how digital libraries shape an information ecosystem supporting public sector organizations' success. By analyzing information networks, frequently emerging topics, and the level of

interconnectedness among these topics, deeper insights can be gained into how digital libraries significantly add value to public sector organizations.

While digital libraries facilitate easier access to information, it is essential to remember that their success in the public sector context is not solely dependent on information availability. Their role is key to managing, connecting, and utilizing this information to support better and more efficient decision-making in a continually evolving organizational environment. Therefore, in the effort to comprehend the role of digital libraries within the context of public sector organizations, VOSviewer analysis emerges as a highly useful and effective tool. It opens doors to understanding the intricacies, relationships, and impacts of digital libraries in greater detail, which, in turn, can assist public sector organizations in maximizing the benefits of digital libraries in their quest to provide better services to the community.

Despite digital libraries becoming an integral part of the digital transformation efforts within the public sector, there hasn't been much research specifically analyzing their role using visualization approaches like VOSviewer. Hence, this research addresses key questions regarding how digital libraries enhance the performance and efficiency of public sector organizations and how visualization using VOSviewer can aid in understanding these complex dynamics. The primary objective of this study is to investigate and illustrate the role of digital libraries in improving the performance of public sector organizations. Specifically, the research will utilize the VOSviewer analysis tool to provide in-depth visual insights into patterns of relationships and contributions made by digital libraries toward organizational goals.

2. METHODS

The study employs qualitative and quantitative approaches, utilizing secondary and primary data to comprehensively explore the role of digital libraries within public sector organizations. The methodology integrates qualitative and quantitative research methods, allowing for a more nuanced understanding of the multifaceted contributions made by digital libraries (Buchanan et al., 2012). For the qualitative aspect, secondary data will be gathered from existing scholarly literature, reports, and publications on digital libraries in the public sector. This will involve an extensive review and analysis of academic articles, government reports, and organizational documents to extract valuable insights into the conceptual framework and established roles of digital libraries within public sector settings.

Meanwhile, the quantitative aspect will involve collecting primary data through surveys, interviews, or other data-gathering techniques within selected public sector organizations. This primary data will offer a more direct and firsthand perspective on digital libraries' utilization, impact, and effectiveness in enhancing organizational performance within the public sector. Then, the collected quantitative data will offer empirical evidence supporting the qualitative findings and enrich the understanding of the practical implications of digital library usage.

Integrating these qualitative and quantitative data sets will enable a comprehensive analysis of the multifaceted aspects of digital libraries' roles within public sector organizations (Huang, 2018). Thus, the data collected from both sources will be systematically organized and rigorously analyzed to derive meaningful conclusions.

Accordingly, the data analysis will be conducted primarily using VOSviewer, a sophisticated analysis and visualization tool. VOSviewer is a software tool for constructing and visualizing bibliometric networks (van Eck & Waltman, 2023). By utilizing mapping and clustering techniques, VOSviewer enables researchers to identify patterns, trends, and interactions among elements in the data, such as frequently occurring topics and the level of interconnectedness among these topics. This allows for a deeper understanding of the contributions of digital libraries to the goals of public sector organizations. Additionally, VOSviewer allows data to be visualized in easily understandable graphical forms, making it

easier for researchers to convey their findings clearly and effectively. VOSviewer will enable the construction of visual representations and network maps that illustrate digital libraries' interrelationships, connections, and contributions within the public sector context. Through VOSviewer's capabilities, relationships between different elements such as information types, accessibility, and their impact on organizational decision-making will be visually depicted.

3. RESULTS AND DISCUSSION

Results

The findings of this research illuminate the intricate landscape of E-Government's impact on public services through meticulous bibliometric analysis. The selected studies provide a comprehensive overview of the field through an exhaustive literature search and careful screening. The bibliometric analysis, utilizing advanced tools, uncovers patterns, collaboration networks, and influential authors, shedding light on the intellectual structure of E-Government in public services. Likewise, synthesizing these findings offers valuable insights into current trends, future directions, and the significance of technological advancements in reshaping governance. This research contributes to the scholarly understanding of E-Government's role, offering a nuanced perspective for policymakers, researchers, and practitioners alike.

The study presents the distribution of research articles across the specified years, revealing intriguing patterns in exploring the role of E-Government in public services. In the earlier years, specifically in 2012, 2015, 2017, and 2018, there is a modest representation with one research article each, indicating a gradual emergence of interest in this research domain. The momentum gains traction in 2019, where the number of research articles doubles to two, signifying a notable increase in scholarly attention. Subsequently, a substantial surge was observed in 2020, with seven research articles marking a turning point in the academic exploration of E-Government's impact on public services. The trend continues to intensify in the subsequent years, with 11 research articles in 2021, 14 in 2022, and six in 2023, reflecting a sustained and growing interest in this subject. This progressive increase underscores the evolving significance of E-Government in reshaping and influencing public service delivery, as evidenced by the expanding body of scholarly work dedicated to its analysis and understanding.

Citations Analysis

Based on the data, the following is the analysis of citations for each source, including the Author and Number of CiteScore. The sources are sorted based on their CiteScore in descending order.

Table 1. Citation analysis

No.	Source Title	CiteScore	Number of CiteScore
1	International Journal of Information Management	41.9	25458
2	Government Information Quarterly	17.3	5006
3	European Journal of Information Systems	17	2376
4	Information Processing and Management	14.8	13439
5	Journal of Cheminformatics	12.4	3985
6	Scientific Data	11.2	20302
7	Information and Organization	10.7	716
8	Information Communication and Society	10.7	5432
9	International Journal of Information Management Data Insights	10.5	1435

No.	Source Title	CiteScore	Number of CiteScore
10	International Journal of Geographical Information Science	10.2	4288
11	Journal of Chemical Information and Modeling	9.8	20024
12	Information Systems Management	9.5	924
13	Big Data and Society	9.3	2374
14	Social Science Computer Review	8.5	2094
15	Education and Information Technologies	8.2	10614
16	Information Systems Research	8.2	2371
17	Telecommunications Policy	8.1	2835
18	Quantitative Science Studies	7.9	1635
19	Journal of Information Technology	7.8	593
20	Information Technology and People	7.6	2560

The table above provides valuable insights into the impact and relevance of various academic journals in information management and related disciplines. This data includes the Source Title, CiteScore, and the Number of CiteScore for each journal. CiteScore is a metric that reflects the average citations received per document published in a specific journal over a defined period. At the top of the list is the "International Journal of Information Management," with an impressive CiteScore of 41.9, supported by a substantial number of citations at 25,458. This indicates that the journal is highly influential and frequently cited in academic literature. The "Government Information Quarterly" closely follows, with a CiteScore of 17.3 and 5,006 citations, emphasizing its significance in the academic community.

The "European Journal of Information Systems" and "Information Processing and Management" secure the third and fourth positions, respectively. Both journals have notable CiteScores of 17 and 14.8, suggesting their substantial impact on the field, supported by 2,376 and 13,439 citations, respectively. The fifth position is held by the "Journal of Cheminformatics," which, despite a lower CiteScore of 12.4, has a respectable 3,985 citations. This journal's focus on chemical informatics contributes to its influence in the academic realm. "Scientific Data" follows with an 11.2 CiteScore and a remarkable 20,302 citations. The breadth of topics this journal covers is reflected in its diverse range of citations.

Further down the list, "Big Data and Society," "Social Science Computer Review," and "Education and Information Technologies" showcase a CiteScore range of 8.5 to 9.3, signifying their relevance and impact in their respective domains.

It is worth noting that while CiteScore provides an overall measure of a journal's impact, the Number of CiteScore offers additional context by revealing the total citations received. These metrics collectively aid researchers, academics, and institutions in evaluating the significance and reach of journals in the dynamic field of information management. Researchers can use this information to make informed decisions about where to publish their work, contributing to the continuous advancement of knowledge in this field.

Trend of Publications Analysis

The table provided offers a comprehensive overview of the library and information sciences publication trends, focusing on various numbers of publications.

Table 2. The trend of publications analysis

Publishers	Number of Publications
1. Taylor & Francis Journal of Information Science Theory and Practice	119
2. Korea Institute of Science and Technology Information Journal of Statistics Applications and Probability	276
3. Natural Sciences Publishing Proceedings of the Association for Information Science and Technology	622
4. Wiley-Blackwell Revista Digital de Biblioteconomia e Ciencia da Informacao	154
5. Universidade Estadual de Campinas Archivaria	48
6. Association of Canadian Archivists College and Undergraduate Libraries	85
7. Thomas Daniel Wilson International Journal of Data Mining and Bioinformatics	90
8. Association of College and Research Libraries Lecture Notes in Control and Information Sciences	199
9. University of Alberta Evidence Based Library and Information Practice	210
10. Universidad de Buenos Aires, Instituto de Investigaciones Bibliotecologicas Informacion, Cultura y Sociedad	71

Natural Sciences Publishing, with an impressive 622 publications in the Proceedings of the Association for Information Science and Technology, emerges as a major contributor. This substantial volume of publications indicates a deep involvement in disseminating research findings and fostering scholarly discussions within the association. It is followed by the Korea Institute of Science and Technology Information Journal of Statistics Applications and Probability, which has a substantial impact and has 276 publications. This significantly emphasizes statistical applications and probability in information science, reflecting a dedicated research focus.

The University of Alberta, with 210 publications in Evidence-Based Library and Information Practice, emerges as a significant player in promoting evidence-based practices within the field. This substantial publication count indicates a commitment to bridging the gap between theory and practical applications. Meanwhile, with 199 publications in Lecture Notes in Control and Information Sciences, the Association of College and Research Libraries demonstrates a substantial contribution to the intersection of library science and control systems. This interdisciplinary approach suggests a focus on cutting-edge technologies and methodologies.

Wiley-Blackwell's Revista Digital de Biblioteconomia e Ciencia da Informacao, boasting 154 publications, showcases a consistent commitment to the digital aspects of library science and information. This suggests a focus on contemporary issues and technologies impacting the field. With 119 publications, the Taylor & Francis Journal of Information Science Theory and Practice stands out as a prolific contributor to the field. This suggests a consistent and active engagement in research, covering a broad spectrum of topics within Information Science Theory and Practice.

The Universidade Estadual de Campinas, with 48 publications in Archivaria, demonstrates a focused yet significant impact on archival studies. The Association of Canadian Archivists, through its 85 publications in College and Undergraduate Libraries, underscores a strong commitment to education and shaping undergraduate library practices. Meanwhile, Thomas Daniel Wilson's International Journal of Data Mining and Bioinformatics, with 90 publications, highlights a specialization in the intersection of data mining and bioinformatics, showcasing

the importance of information sciences in advancing biological research. Lastly, the Universidad de Buenos Aires, Instituto de Investigaciones Bibliotecologicas Informacion, Cultura y Sociedad, with 71 publications, emphasizes the cultural and societal aspects of library and information sciences, reflecting the broader implications of effective information management.

Subject Area Analysis

The data presented offers a comprehensive glimpse into the diverse subject areas within the expansive Library and Information Sciences field. By examining the journals and their corresponding subject areas, we gain valuable insights into the multifaceted nature of research and scholarship in this domain.
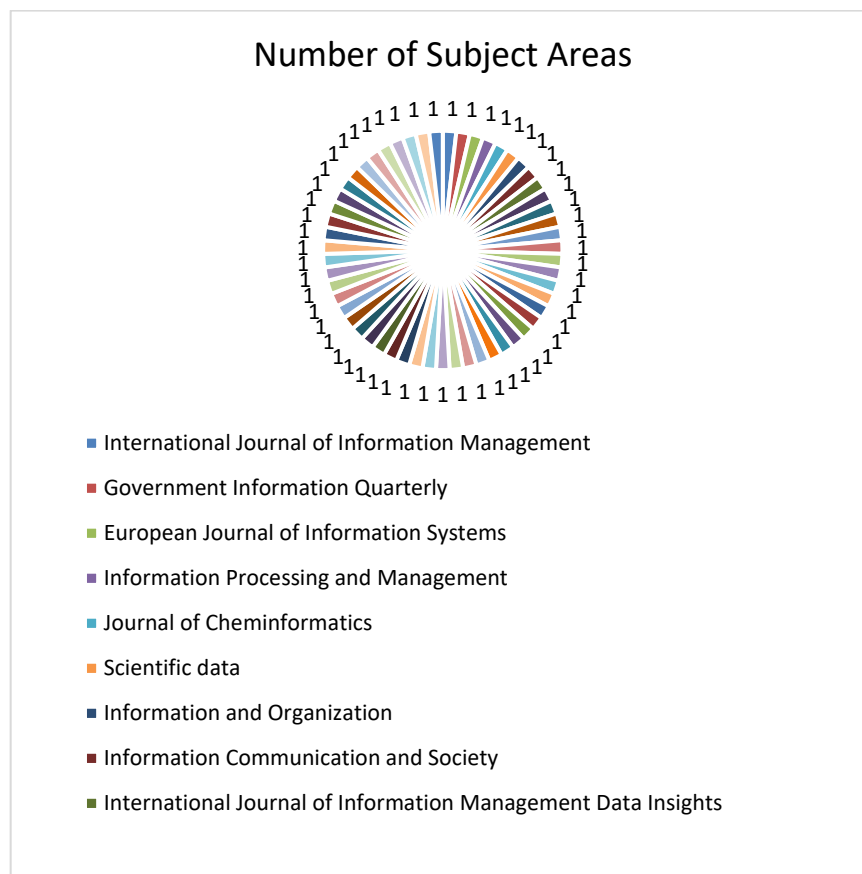

Figure 2. Subject area analysis

The International Journal of Information Management takes a strategic approach, focusing on Computer Networks and Communications. This journal advances our understanding of data transmission and communication systems within the rapidly evolving information technology landscape. By committing to exploring the intricacies of these technological realms, it positions itself as a key contributor to the ongoing dialogue in this dynamic field.

Moving to the Government Information Quarterly, this journal finds its niche in the legal dimensions of information management within government settings. As a subject area classified under Law, it is a crucial resource for researchers and professionals seeking insights into data privacy, access, and governmental policies. Its emphasis on legal aspects aligns with the ever-growing importance of ethical considerations in information management.

The European Journal of Information Systems distinguishes itself by embracing a broad spectrum of coverage within the Library and Information Sciences field. This journal likely addresses various facets of information systems, focusing on European contexts. This suggests a commitment to capturing the diverse landscape of information-related research and practices within the European region.

Information Processing and Management, with its focus on Media Technology, contributes significantly to our understanding of how information is processed and managed in the context of modern media. Encompassing areas such as digital content, information retrieval, and media technologies, the journal serves as a valuable resource for researchers navigating the complexities of managing information in the digital age.

The Journal of Cheminformatics, categorized under Library and Information Sciences, signifies a specialized focus on managing and disseminating chemical information. This journal likely explores cutting-edge advancements in information management within the chemical sciences, with a specific emphasis on computational chemistry and the role of information in modeling chemical processes.

Addressing Statistics and Probability, Information and Organization offers insights into the statistical dimensions of information management within organizational contexts. This likely involves studies on data organization, analysis, and decision-making processes, contributing to a nuanced understanding of the intersection between information and statistical methodologies.

Information Communication and Society, with its subject area classified under Communication, contributes significantly to our understanding of how information is disseminated and consumed in society. The journal bridges information management and societal communication dynamics by encompassing the study of communication technologies, social media, and information flow in various contexts.

The International Journal of Information Management Data Insights, falling within Library and Information Sciences, is positioned to provide insights into data management practices, emerging trends, and innovations within the field of information management. This journal likely serves as a valuable resource for professionals seeking a deeper understanding of the evolving landscape of data management.

In Library and Information Sciences, journals explore diverse technology, education, and society intersections. The Journal of Chemical Information and Modeling focuses on computational chemistry's informational aspects, while Big Data and Society examines the societal impacts of big data. Social Science Computer Review addresses legal and ethical issues in social science research, and Education and Information Technologies investigates technology's role in education. Information Systems Research and Information Technology and People explore theoretical, practical, and human aspects of information systems. Telecommunications Policy covers ICT policy dimensions, and Quantitative Science Studies applies quantitative methods to cultural phenomena. Journals like the Journal of Information Technology, Journal of Informetrics, and Information and Learning Science mostly focus on the metrics, educational contexts, and technological intersections within information sciences. Others, such as the Journal of the Association for Information Science and Technology, Bottom Line, and the Journal of Information Science, provide comprehensive insights into library science practices. Data Intelligence and VINE Journal focus on data-driven decision-making and knowledge management. Information Development and other dedicated journals discuss the evolution, challenges, and metrics of information management and retrieval, ensuring professionals stay informed about best practices and innovations in the field.
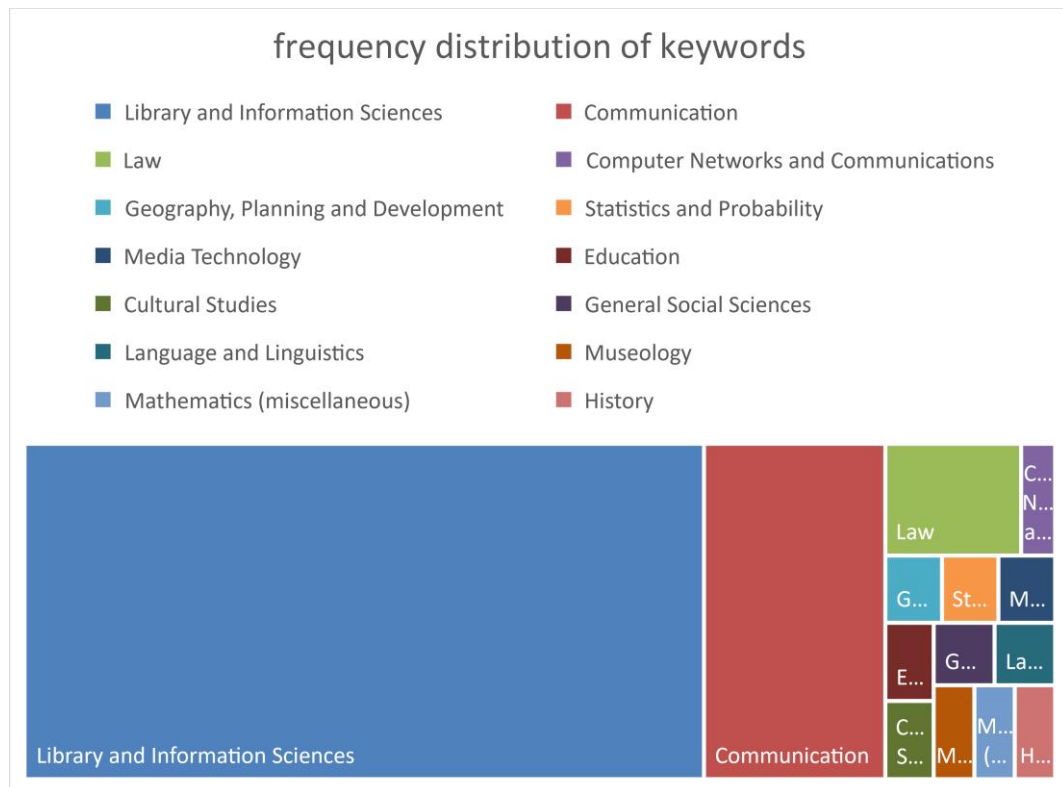
Figure 3. Keywords trends

The provided data analysis reveals a comprehensive frequency distribution of keywords and their corresponding occurrences. The table showcases a diverse range of keywords, shedding light on the varied focal points within the field under consideration. The keyword "Library and Information Sciences" is at the forefront, emerging with a notable frequency of 60 occurrences. This emphasizes a substantial emphasis on research and publications centered around the broader spectrum of library science and information management.

Moving forward, the keyword "Communication" surfaces as a significant thematic element, with 16 instances. This suggests a considerable focus on understanding and exploring communication dynamics within the context of the subject matter. Furthermore, keywords such as "Law," with 4 occurrences, underline the intersection of legal dimensions with information management, reflecting a nuanced exploration of ethical and legal considerations.

The table also highlights several keywords with singular occurrences, showcasing the dataset's diversity and breadth of topics. "Computer Networks and Communications" focuses on the technological aspects of information transmission and communication systems. Similarly, "Geography, Planning and Development" signifies a niche exploration of the intersection between geographical data and information systems, contributing to spatial planning and development.

Accordingly, the inclusion of "Statistics and Probability" as a keyword reflects a quantitative approach to information management within organizational contexts. This emphasizes the significance of statistical methodologies in data organization, analysis, and decision-making processes. Additionally, "Media Technology" underscores a dedicated exploration of how information is processed and managed in the context of modern media, encapsulating digital content, information retrieval, and media technologies.

Keywords like "Education" focus on the intersection of information technologies and educational practices, providing insights into how technology impacts learning and information dissemination in educational settings. "Cultural Studies" and "General Social

Sciences" suggest a quantitative approach to studying cultural phenomena, providing a data-driven perspective on understanding cultural trends and patterns.

The inclusion of "Language and Linguistics," "Museology," "Mathematics (miscellaneous)," and "History" highlights the interdisciplinary nature of the field, encompassing linguistic aspects, museum studies, mathematical applications, and historical perspectives. These singular occurrences represent specialized research areas, contributing to a well-rounded and multifaceted Library and Information Sciences exploration.

Discussion

Information Accessibility and Dissemination

In the contemporary landscape of public sector organizations, the role of digital libraries has emerged as a critical component in the pursuit of enhancing information accessibility and dissemination (Buyannemekh et al., 2023). Digital libraries serve as dynamic and centralized repositories, fostering a seamless and efficient flow of information within the public sector. This pivotal role contributes to government operations' efficiency, transparency, and effectiveness (Jones, 2015).

One of the primary functions of digital libraries is to break down barriers to information accessibility. In traditional settings, the dissemination of information within public sector organizations was often hindered by physical constraints, making it challenging for stakeholders, employees, and the general public to access essential resources (Iqbal & Rafiq, 2023). Digital libraries address this challenge by providing a unified platform where extensive information can be easily stored, organized, and retrieved.

Public sector employees benefit significantly from the enhanced accessibility of information that digital libraries facilitate. These platforms empower government officials, administrators, and staff with immediate access to a wealth of documents, reports, and data (Stejskal & Hajek, 2015). Whether it's legislative documents, policy briefs, or research papers, the centralized nature of digital libraries ensures that relevant information is just a few clicks away. This accessibility accelerates decision-making processes, fosters informed policy development and improves the overall operational efficiency of public sector entities.

Stakeholders, including citizens, researchers, and other external entities, also reap the rewards of improved information accessibility. Digital libraries act as transparent conduits, offering citizens insights into government activities, policies, and initiatives (Yadav, 2022). This transparency promotes trust and accountability, as citizens can independently access and verify information related to public sector operations. Researchers benefit from the availability of a vast data repository, enabling them to conduct thorough analyses and contribute to evidence-based policymaking.

Moreover, the public gains a deeper understanding of governmental functions and can actively participate in civic processes when information is readily accessible. Digital libraries empower citizens to stay informed about legislative changes, public services, and government expenditures. This not only strengthens the democratic fabric but also encourages an engaged and educated citizenry.

Efficient Resource Management

In the realm of public sector organizations, the advent of digital libraries has ushered in a new era of efficient resource management (Borbély, 2022). At the core of this transformation is the ability of digital libraries to serve as sophisticated platforms for the storage, organization, and retrieval of a diverse range of digital assets, thereby revolutionizing how public sector entities manage their resources.

One of the primary contributions of digital libraries to efficient resource management lies in their capacity to store vast amounts of digital content (Haines, 1998). Traditionally, public sector organizations grappled with the challenges of physical storage constraints, leading to

the proliferation of paper-based documentation. Digital libraries mitigate this challenge by offering a centralized repository for storing a wealth of documents, reports, and multimedia content in a digital format. This reduces the demand for physical storage space and minimizes the environmental impact of paper usage (Mergel, 2012).

Moreover, the organization of digital assets within these libraries is structured and systematic, enabling streamlined resource management. By implementing metadata, categorization, and indexing systems, digital libraries ensure that each piece of content is tagged with relevant information, making it easily searchable and retrievable (Carpenter, 1999). This organizational efficiency translates into significant time savings for public sector employees who can swiftly access pertinent information without navigating through extensive physical archives.

The transition to digital libraries also contributes to cost-effectiveness in resource management. The expenses of maintaining physical archives, including printing, storage facilities, and document distribution, are substantially reduced (Adhi, 2018). Digital libraries offer a sustainable and economical alternative by consolidating resources into a digital format, eliminating the need for excessive paper consumption and manual document handling.

Additionally, the efficiency gains extend to information retrieval processes. With digital libraries, public sector employees can perform quick and targeted searches, retrieving the required information in a matter of seconds. This contrasts with the traditional method of sifting through voluminous paper archives, which is time-consuming and prone to errors and oversights. Information retrieval's enhanced speed and accuracy contribute to more informed decision-making processes within public sector organizations.

Furthermore, digitizing resources facilitates remote access, allowing authorized personnel to retrieve information from anywhere with an internet connection. This feature is especially pertinent in today's dynamic work environment, where flexibility and accessibility are paramount. Public sector employees can access crucial documents, reports, and data even when working remotely, fostering a more agile and responsive organizational structure.

Enhanced Collaboration and Knowledge Sharing

In the contemporary landscape of public sector organizations, the role of digital libraries extends beyond conventional resource management; they serve as dynamic catalysts for enhanced collaboration and knowledge sharing among employees (Vlasyuk et al., 2022). By leveraging the capabilities of digital libraries, public sector entities can cultivate a collaborative work environment that prioritizes the seamless exchange of knowledge, best practices, and valuable resources (Bryant et al., 2009a).

Digital libraries act as centralized hubs for information, breaking down traditional silos and fostering a culture of collaboration. Through these platforms, employees can easily share insights, expertise, and relevant resources with their colleagues across various departments (Kulikauskienė, 2019b). This accessibility to a shared knowledge repository accelerates the dissemination of information, enabling public sector organizations to operate more cohesively and efficiently.

One of the pivotal features that contribute to enhanced collaboration is the ability of digital libraries to store and organize diverse content formats (Kulikauskienė, 2019a). From documents and reports to multimedia resources, these libraries offer a comprehensive knowledge repository. This inclusivity ensures employees can share textual information and visual and auditory resources, facilitating a more holistic understanding of complex topics.

Moreover, digital libraries often incorporate collaborative tools and features beyond basic document sharing. Version control, annotation capabilities, and collaborative editing allow employees to engage with shared content actively. This collaborative environment allows for real-time interactions, feedback, and the iterative development of ideas, ultimately fostering a sense of collective intelligence within the organization (Bollo, 2021).

The seamless sharing of best practices is another significant outcome of the collaborative nature of digital libraries. Public sector employees can document and share successful strategies, innovative solutions, and lessons learned from various projects. This knowledge-sharing not only prevents the reinvention of the wheel but also promotes a culture of continuous improvement. Teams can draw on the experiences of their peers, leading to more informed decision-making and optimized processes.

Furthermore, digital libraries play a crucial role in onboarding new employees by providing them access to a wealth of institutional knowledge. Rather than relying solely on formal training programs, newcomers can tap into the collective wisdom stored in the digital library, gaining insights into organizational practices, historical context, and established procedures. This accelerates the integration of new team members and contributes to a smoother transition into their roles.

The collaborative features of digital libraries also extend beyond the confines of individual organizations. Inter-agency collaboration becomes more feasible as public sector entities can securely share relevant information and resources with external partners. This interconnectedness promotes a broader exchange of knowledge, fostering collaborative initiatives and contributing to the development of innovative solutions to shared challenges.

Data Security and Integrity

The critical importance of data security and integrity cannot be overstated in the contemporary landscape of public sector organizations. Digital libraries, as custodians of vast amounts of sensitive government data, play a pivotal role in ensuring this information's confidentiality, availability, and integrity (Wu, 2021).

One of the primary functions of digital libraries is to implement robust security measures that shield government data from unauthorized access and potential breaches. This involves deploying encryption protocols, secure access controls, and multi-factor authentication mechanisms. These layers of protection are designed to create a formidable defense against external threats, ensuring that only authorized personnel can access classified or sensitive information (Bryant et al., 2009b).

Unauthorized access to government data poses significant risks, including the potential compromise of national security, privacy breaches, and public trust. Digital libraries act as fortified vaults, employing state-of-the-art security technologies to thwart cyber threats and malicious activities. Regular security audits and vulnerability assessments contribute to the ongoing refinement of these defenses, ensuring they remain adaptive to the evolving landscape of cybersecurity threats (Kendrick et al., 2023).

Furthermore, digital libraries play a crucial role in preserving the integrity of government data. This involves safeguarding information's accuracy, reliability, and consistency throughout its lifecycle. Mechanisms such as data validation, checksums, and version control are implemented to detect and prevent any unauthorized alterations or tampering with the stored data (Hackett, 2018).

The commitment to data integrity extends to preventing data corruption or loss. Digital libraries often employ redundant storage systems, backup procedures, and disaster recovery plans to mitigate the risk of data loss due to unforeseen events such as hardware failures, natural disasters, or cyberattacks. These measures ensure that the government's critical information remains intact and recoverable despite unexpected challenges.

In addition to protecting against external threats, digital libraries address internal risks by implementing role-based access controls and audit trails. These features restrict access to sensitive data based on an individual's role within the organization and provide a transparent record of who accessed the data and when. This accountability enhances the overall governance of information within public sector entities.

Moreover, as the landscape of cybersecurity threats continues to evolve, digital libraries actively stay abreast of emerging trends and adopt proactive measures to counter potential risks. This may involve integrating artificial intelligence and machine learning technologies to detect anomalous patterns indicative of a security threat, allowing for rapid response and mitigation.

4. CONCLUSION

In conclusion, the multifaceted role of digital libraries within public sector organizations is instrumental in fostering efficiency, collaboration, and security. The discussion has highlighted various key aspects, starting with the pivotal role of digital libraries in enhancing information accessibility. These digital hubs make a wealth of information readily available to employees, stakeholders, and the public by serving as centralized repositories.

Efficient resource management is another significant contribution of digital libraries. They streamline the organization's information retrieval processes by providing a platform for storing and organizing digital assets, ultimately reducing physical storage needs. This optimizes resource utilization and contributes to a more sustainable and environmentally friendly approach. Furthermore, enhanced collaboration and knowledge sharing emerge as crucial components of the digital library landscape. These platforms facilitate seamless employee collaboration, enabling the sharing of knowledge, best practices, and valuable resources. Thus, this collaborative environment contributes to innovation, problem-solving, and a more informed and skilled workforce.

Moreover, the discussion underscores the paramount importance of data security and integrity. Digital libraries implement robust security measures to protect sensitive government data from unauthorized access and potential breaches. This commitment ensures information accuracy, reliability, and consistency, with measures in place to detect and prevent unauthorized alterations or tampering. The comprehensive approach to data security encompasses safeguards against external threats and measures to address internal risks. By implementing role-based access controls, audit trails, and proactive measures against emerging cybersecurity threats, digital libraries contribute to a secure information ecosystem within public sector entities.

REFERENCES

Adhi, H. S. (2018). Peran Pustakawan dalam Mewujudkan Layanan Perpustakaan Berbasis Inklusi Sosial Melalui Program PROLITERASIKU. *Jurnal IPI (Ikatan Pustakawan Indonesia)*, *3*(2).

Bollo, A. (2021). The future of libraries standing the test of time: reflections about the document Disegnare il futuro della biblioteca: linee guida per la redazione dei piani strategici per le biblioteche pubbliche. *AIB Studi*, *61*(2). https://doi.org/10.2426/aibstudi-13303

Borbély, M. (2022). Public Library Digital Competency Mapping 2019: A Survey on Digital Skills of Library Professionals with Different Qualifications. *Frontiers in Education*, *7*. https://doi.org/10.3389/feduc.2022.909502

Bryant, J., Matthews, G., & Walton, G. (2009a). Academic libraries and social and learning space. *Journal of Librarianship and Information Science*, *41*(1). https://doi.org/10.1177/0961000608099895

Bryant, J., Matthews, G., & Walton, G. (2009b). Academic libraries and social and learning space: A case study of Loughborough University Library, UK. *Journal of Librarianship and Information Science*, *41*(1). https://doi.org/10.1177/0961000608099895

Buchanan, S., Gibb, F., Simmons, S., & McMenemy, D. (2012). Digital library collaboration: A service-oriented perspective. In *Library Quarterly* (Vol. 82, Issue 3). https://doi.org/10.1086/665930

Buyannemekh, B., Gil-Garcia, J. R., & Gascó-Hernández, M. (2023). Exploring emergent collaborations for digital transformation in local governments: The engagement of public libraries in the development of smart cities. *Public Policy and Administration*. https://doi.org/10.1177/09520767231197600

Carpenter, J. (1999). Struggling to define the library of the future: some observations on what makes a digital librarian? *New Review of Information Networking*, *5*. https://doi.org/10.1080/13614579909516938

Chandio, S., Seman, M. S. A., Koondhar, M. Y., & Shah, A. (2019). Qualitative study on ICT Adoption and Management practices in Public Sector Universities in Sindh Province, Pakistan. *University of Sindh Journal of Information and Communication Technology*, *3*(3).

Chunpir, H. I., & Ismailzadeh, M. (2020). Comparison of information technology service management (ITSM) practices in e-infrastructures, libraries, public administration and the private sector. *Advances in Intelligent Systems and Computing*, *972*. https://doi.org/10.1007/978-3-030-19135-1_4

Hackett, D. (2018). An elephant in the room? Information literacy in the narrative of UK public libraries. *Journal of Information Literacy*, *12*(1). https://doi.org/10.11645/12.1.2305

Haines, M. (1998). The Future of Libraries in the Information Society: The UK Library and Information Commission's Vision. *Alexandria: The Journal of National and International Library and Information Issues*, *10*(2). https://doi.org/10.1177/095574909801000204

Hoivik, T. (2007). Public libraries in the Norwegian reference market. *New Library World*, *108*. https://doi.org/10.1108/03074800710823935

Huang, Y. (2018). Public Digital Libraries: Observations and Prospects from the Chinese Experience. *Journal of Arts Management Law and Society*, *48*(2). https://doi.org/10.1080/10632921.2017.1377662

Iqbal, M., & Rafiq, M. (2023). Determinants of overall user success in an academic digital library environment: validation of the integrated digital library user success (IDLUS) model. *Electronic Library*, *41*(4). https://doi.org/10.1108/EL-10-2022-0230

Jones, M. (2015). Innovation Study: Challenges and Opportunities for Australia's Galleries, Libraries, Archives and Museums. *Archives and Manuscripts*, *43*(2). https://doi.org/10.1080/01576895.2015.1047818

Kendrick, T., Rowan, J., & Windecker, J. (2023). A Hard Look in the Mirror: Re-imagining the Role of the Librarian at the Greater Victoria Public Library. *Public Library Quarterly*, *42*(1). https://doi.org/10.1080/01616846.2021.1930772

Kulikauskienė, K. (2019a). Socialiai įtraukios bibliotekos samprata besikeičiančioje visuomenėje. *The Concept of Socially Inclusive Library in Changing Society.*, *42*(2).

Kulikauskienė, K. (2019b). The Concept of Socially Inclusive Library in Changing Society. *Socialiniai Tyrimai*, *42*(1). https://doi.org/10.21277/st.v42i1.265

Liukinevičienė, L., & Kuodytė, K. (2021a). The Management of Strategic Change in the Municipal Public Library. *Socialiniai Tyrimai*, *44*(2). https://doi.org/10.15388/10.15388/soctyr.44.2.4

Liukinevičienė, L., & Kuodytė, K. (2021b). The Management of Strategic Change in the Municipal Public Library. *Socialiniai Tyrimai*, *44*(2). https://doi.org/10.15388/soctyr.44.2.4

Boustani, N. M., Sayegh, M., & Boustany, Z. (2022). Strengthening Public Institutions and Social Inclusion of Vulnerable Groups in A Developing Country - Innovation in Organizations and Artificial Intelligence Implications. *Pacific Asia Journal of the Association for Information Systems*, *14*(3). https://doi.org/10.17705/1pais.14304

Manžuch, Z. (2016). Project LiBiTOP: Evidence-based decisions for strategic management of the Lithuanian Libarary Network. *Alexandria: The Journal of National and International Library and Information Issues*, *26*(1).

Mergel, I. (2012). OpenCollaboration in Public Sector: The case of social codign on Github. *Government Information Quarterly*, *1*(1).

Mumtaz, R., & Khan, S. A. (2020). Management and Organization of Theses held in University Libraries: An Investigation from Information Professionals in Pakistan. *Library Philosophy and Practice*, *2020*.

Stejskal, J., & Hajek, P. (2015). Effectiveness of digital library services as a basis for decision-making in public organizations. *Library and Information Science Research*, *37*(4). https://doi.org/10.1016/j.lisr.2015.07.001

van Eck, N. J. & Waltman, J. (2023). VOSviewer manual. Universiteit Leiden. https://www.vosviewer.com/documentation/Manual_VOSviewer_1.6.20.pdf

Vlasyuk, L., Chotua, I., & Khvorostyanaya, A. (2022). Strategic Opportunities of Libraries in the Era of Digitalization and Experience Economy. *Strategizing: Theory and Practice*, *2022*(1). https://doi.org/10.21603/2782-2435-2022-2-1-31-48

Warraich, N. F., & Ameen, K. (2010). Perceptions of LIS professionals regarding use of Pakistan National Digital Library databases. *Electronic Library*, *28*(1). https://doi.org/10.1108/02640471011023414

Wu, J. (2021). Looking into the Future Library and Society. *Journal of Library Science in China*, *47*(2). https://doi.org/10.13530/j.cnki.jlis.2021009

Yadav, A. K. S. (2022). Key skills and competencies of LIS professionals in the digital library environment: a content analysis of job advertisements. *Library Management*, *43*(1–2). https://doi.org/10.1108/LM-03-2021-0030