

Transforming Academic Libraries: Navigating Change and Embracing Innovation in the Digital Era

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ABSTRACT

This mixed-methods study, titled "Transforming Academic Libraries: Navigating Change and Embracing Innovation in the Digital Era," delves into the intricate landscape of academic libraries in the face of technological advancements. Findings reveal nuanced insights into the perceptions of academic librarians, emphasizing the need for a balanced approach in Incorporating Change and Innovation. While a moderate level of Technological Integration signals a willingness to adopt technology (weighted mean of 3.56), the strong commitment to Data Management and Open Access (weighted mean of 4.24) underscores modern library practices.

However, areas for improvement emerge in User Experience and Services (weighted mean of 2.90) and Resource Allocation (weighted mean of 3.43), prompting recommendations for a holistic strategy that integrates technology, prioritizes user experience, and optimizes resource allocation. A critical revelation is the identification of staff resistance as the paramount factor influencing change and innovation incorporation, emphasizing the need for targeted strategies to address concerns and facilitate smoother transitions. Contrarily, the lower influence of organizational culture suggests that, while staff attitudes are pivotal, organizational norms may not pose formidable barriers. This insight prompts a call for tailored change management approaches that align with staff dynamics and broader organizational culture. The study further explores the Lived Experiences of Librarians, revealing key thematic challenges such as Budget Allocation, Staff Adaptation and Training, Resistance to Change, Technological Infrastructure Issues, and User-Centric Concerns. This comprehensive understanding guides academic libraries in developing targeted interventions, including prioritizing budget allocation for training, fostering adaptability, and addressing technological infrastructure challenges. The adoption of a user-centric approach in innovation strategies emerges as essential for enhancing the overall effectiveness of change initiatives in the digital era. These findings collectively contribute to the strategic development of academic libraries as they navigate the transformative landscape of the digital era.

Keywords: academic libraries, digital transformation, innovation management, change management, library technology, user experience

INTRODUCTION

The landscape of information is undergoing rapid evolution, marked by technological advancements, shifting user behaviors, and novel methods of information dissemination. In the digital era, academic libraries, as vital repositories of knowledge, find themselves at the forefront of these changes, necessitating an adaptation to remain effective and relevant (Llewellyn, 2020). The challenges faced by academic libraries are multifaceted, encompassing the diminishing prominence of traditional print resources, the escalating demand for digital content, and the imperative to provide seamless access to a diverse array of information formats. Understanding and addressing these challenges are imperative for the sustained effectiveness of academic libraries in fulfilling their mission (Alias, 2022).

As user expectations continue to evolve, encompassing the demand for convenient and instant access to a broad spectrum of digital resources, collaborative spaces, and innovative services, the need to transform academic libraries becomes increasingly apparent (Deja, 2021). Exploring the technological innovations inherent in the digital era, such as artificial intelligence, data analytics, and collaborative platforms, holds the potential to optimize library services and redefine the user experience. Moreover, academic libraries play a pivotal role in supporting teaching and research activities, and by adapting to the digital era, they can positively impact the quality and efficiency of academic endeavors (Schettinni, 2022).

The study on transforming academic libraries not only addresses the practical challenges faced by these institutions but also delves into the broader realm of benchmarking against best practices. Analyzing successful cases and identifying effective strategies contributes to a knowledge base that guides other libraries in their transformation journeys (Stark, 2020). Furthermore, the research may have policy implications at institutional and broader levels, informing the development of policies that support the integration of innovative practices within academic libraries (Safdar, 2021).

Beyond the immediate practical implications, the study on transforming academic libraries contributes significantly to the professional literature in library science, information science, and educational technology (Appio, 2021). It adds depth to the body of knowledge, providing valuable insights that can benefit practitioners, researchers, and policymakers alike. In essence, this research seeks to explore, understand, and articulate the multifaceted dimensions of transforming academic libraries in the digital era, recognizing their pivotal role in shaping the future of information dissemination and educational support (Gil, 2021).

Background of the Study

Academic libraries, traditionally considered bastions of knowledge and essential support systems for education and research, are currently undergoing a profound transformation in response to the dynamic changes in the information landscape. The advent of the digital era has introduced unprecedented challenges and opportunities, prompting academic libraries to reassess their roles, services, and structures (Kang, 2020). This transformation is driven by a convergence of factors, including technological advancements, changing user expectations, and a shifting paradigm in scholarly communication (Koshkagina, 2021).

The exponential growth of digital content, coupled with the ubiquity of online resources, has led to a diminishing emphasis on traditional print materials. Academic libraries are grappling with the need to balance their collections between physical and digital formats, requiring strategic decisions to optimize resource allocation (Weber, 2022). Moreover, the rise of open access initiatives, collaborative research platforms, and alternative forms of scholarly communication necessitates a reevaluation of library services and their integration into the scholarly workflow (Wooden, 2023).

User expectations have evolved in tandem with technological advancements, demanding seamless access to a diverse range of digital resources, interactive learning spaces, and innovative services. Students, faculty, and researchers now seek a more dynamic and responsive library experience, prompting a shift from traditional roles to those that embrace technology, collaboration, and user-centered design. This changing landscape compels academic libraries to explore and adopt innovative technologies such as artificial intelligence, data analytics, and virtual collaboration tools to enhance their offerings and stay relevant in the digital age (Bilawar, 2020).

In addition to technological and user-driven changes, the academic library's pivotal role in supporting teaching and research requires a strategic response to align with the evolving needs of academic institutions. The impact of these transformations extends beyond the confines of individual libraries, influencing institutional policies and practices related to information access, scholarly communication, and educational technology (Wagner, 2020).

The dynamic nature of this transformation presents both challenges and opportunities for academic libraries (Winata, 2021). While grappling with issues such as digital resource management, user experience design, and the integration of emerging technologies, libraries also have the chance to redefine their value proposition and reinforce their position as indispensable partners in the academic enterprise. This study seeks to delve into the multifaceted dimensions of this transformation, examining the challenges faced by academic libraries, exploring innovative solutions, and contributing valuable insights to the broader discourse on the evolving role of libraries in the digital era (Pelaez, 2023).

Literature Review. The evolution of academic libraries is a subject extensively explored in the scholarly literature. Studies from western universities provide valuable insights into the historical development of libraries, emphasizing their transformative journey in response to societal changes and technological advancements. Understanding this historical context is crucial for comprehending the current state of academic libraries as they navigate the digital era (Dmitrova, 2020).

Technological advancements have significantly shaped library services, prompting a reevaluation of acquisition, management, and access practices. A lot of existing studies delve into the impact of automation, digitization, and online platforms, shedding light on the challenges and opportunities presented by technology (Feng, 2020). This body of research informs our understanding of the evolving landscape where academic libraries operate, emphasizing the need for technological integration to enhance service delivery. User behaviors and expectations play a pivotal role in shaping the services provided by academic libraries. A lot of studies also contribute to our understanding of the contemporary information-seeking behaviors of students and researchers. The literature underscores the importance of user-centered design and personalized services to meet the dynamic expectations of library patrons in the digital age (Konopik, 2021).

The rise of digital resources and open access initiatives is a notable theme in the literature on academic libraries. Several researchers explore the implications of open access principles, addressing challenges related to resource management, licensing agreements, and collection development strategies (Schiuma, 2021). This strand of research informs our investigation into the complexities of managing digital content and adapting to the changing scholarly communication landscape. Academic libraries are integral to teaching and research endeavors within educational institutions. Works from foreign sources highlight the crucial role libraries play in fostering information literacy, developing research skills, and supporting collaborative scholarly activities. This literature underscores the multifaceted contributions of libraries to the academic mission (Alias, 2022).

Innovative technologies, including artificial intelligence and data analytics, are increasingly being integrated into library practices. Studies explore the potential of these technologies to enhance information retrieval, user engagement, and decision-making processes within academic libraries (Pelaez, 2023). This body of research guides our examination of how cutting-edge technologies contribute to library transformation. The physical spaces of academic libraries are evolving into collaborative environments for learning and research (Stark, 2020). Studies discuss the design and implementation of collaborative learning spaces within libraries, shedding light on how these spaces adapt to the changing needs of contemporary education (Appio, 2021). Understanding the role of physical spaces is crucial for a comprehensive examination of library transformation. Challenges and opportunities inherent in the transformation of academic libraries are addressed several studies (Feng, 2020). These studies provide insights into the practical obstacles faced by libraries and the strategies employed to overcome them, guiding our investigation into the real-world implications of library transformation efforts (Konopik, 2021).

Synthesizing these diverse strands of literature, this review provides a comprehensive foundation for understanding the multifaceted landscape of academic library transformation in the digital era. By examining historical context, technological influences, user expectations, and emerging trends, the study aims to contribute to the evolving discourse on the role and future of academic libraries in the 21st century.

Statement of the Problem

This study aims to investigate the transformative processes that academic libraries undergo in response to the challenges and opportunities presented by the digital era. Specifically, it seeks to answer the following questions:

1. What is the level of Incorporating Change and Innovation Among Academic Libraries in terms of Technological Integration, User Experience and Services, Data Management and Open Access, and Resource Allocation?
2. What are the Factors affecting the Incorporation of Change and Innovation Among Academic Libraries?
3. What are the Lived Experiences of the Librarians in Navigating Change and Embracing Innovation in the Digital Era?

Objectives of the Study

This study is driven by several key objectives that collectively aim to provide a comprehensive understanding of the transformative processes within academic libraries in the digital era. Firstly, the research will assess the shift in resource allocation by conducting a quantitative analysis. This involves evaluating the extent to which academic libraries are reallocating their resources from traditional print materials to digital resources. This includes examining budget allocation percentages, changes in collection space, and shifts in acquisition strategies toward digital formats.

Secondly, the study aims to evaluate the impact of innovative technologies on academic libraries. Through quantitative surveys, the research will explore the correlation between the integration of innovative technologies, such as artificial intelligence, data analytics, and virtual collaboration tools, and user satisfaction. The goal is to understand how these technologies contribute to enhancing library services, improving user experiences, and increasing overall operational efficiency.

Additionally, the study seeks to explore strategies for the transformation of physical library spaces into collaborative learning environments. Through qualitative interviews and observations, the research will investigate how library professionals perceive and navigate challenges associated with this transformation.

Key strategies employed in fostering dynamic, inclusive, and technologically integrated learning atmospheres within the library will be identified and analyzed.

Moreover, the research will examine user behaviors and expectations in the digital era through both quantitative and qualitative analyses. By understanding evolving user preferences for accessing information, collaborative tools, and digital resources within academic libraries, the study aims to provide insights into meeting the changing needs of library patrons.

Lastly, synthesizing the findings from these analyses, the study aims to provide practical recommendations for academic libraries undergoing or planning transformations in response to the digital era. These recommendations will cover aspects such as resource allocation optimization, effective integration of innovative technologies, creation of collaborative learning spaces, and alignment of services with evolving user expectations. By addressing these objectives, the study aspires to contribute actionable insights to guide academic libraries in navigating change and embracing innovation in the dynamic digital landscape.

Theoretical Framework

This study draws upon a combination of the Technological Acceptance Model (TAM) and the Resource-Based View (RBV) to provide a comprehensive theoretical framework for understanding the transformation of academic libraries in the digital era.

The Technological Acceptance Model (TAM), proposed by Davis (1989), serves as a foundational element. TAM explores the factors influencing users' acceptance and adoption of technology. In the context of academic libraries, TAM provides insights into how users, including library professionals and patrons, perceive and embrace innovative technologies. By applying TAM, the study aims to gauge the level of acceptance and satisfaction with the integration of technologies such as artificial intelligence, data analytics, and virtual collaboration tools within academic library services.

Complementing TAM, the Resource-Based View (RBV) theory, introduced by Barney (1991), offers a lens through which to analyze the strategic management of resources within academic libraries. RBV emphasizes the role of unique, valuable, and non-substitutable resources in achieving a sustained competitive advantage. In this study, RBV informs the examination of resource allocation dynamics within academic libraries, particularly the shift from traditional print materials to digital resources. It guides the analysis of how these resource allocations contribute to the overall effectiveness and competitiveness of the library in the digital era.

Additionally, the study incorporates elements of Space Syntax Theory, which explores the spatial configuration and organization of physical environments. This theory informs the qualitative aspect of the study, specifically in understanding how the physical layout and design of academic library spaces contribute to collaborative learning environments. By applying Space Syntax Theory, the research aims to uncover patterns of spatial interaction that influence user experiences and learning outcomes within transformed library spaces.

Through the synthesis of TAM, RBV, and Space Syntax Theory, this theoretical framework provides a multidimensional approach to understanding the complexities of academic library transformation. It allows for a nuanced exploration of technological integration, resource allocation, and the spatial dynamics that collectively contribute to the successful navigation of change and innovation within academic libraries in the digital era.

METHODOLOGY

Research Design. This study employs a mixed-methods research approach to comprehensively explore the transformation of academic libraries in the digital era. By integrating both qualitative and quantitative methods, the research aims to gather a diverse range of data that will provide a more nuanced understanding of the challenges and opportunities faced by academic libraries.

Research Instrument. In the quantitative phase, structured surveys will be administered to academic library professionals and users. Utilizing Likert-scale questions and closed-ended inquiries, the surveys are designed to collect measurable data on key aspects such as resource allocation, technology acceptance, and user satisfaction. Stratified random sampling ensures representation from various academic institutions based on factors like size, location, and budget. Statistical methods, including descriptive statistics and inferential analyses, will be employed to quantify and analyze the survey responses. Correlation analyses and regression analyses will be conducted to explore relationships between variables such as resource allocation, technology integration, and user satisfaction.

The qualitative phase involves in-depth interviews with academic library professionals and direct observations of library spaces. Semi-structured interviews will elicit detailed insights into the strategies employed by library professionals in transforming physical spaces and overcoming challenges. Purposeful sampling ensures a diverse set of participants, including library administrators, technology specialists, and user groups. Thematic analysis will be applied to identify patterns and themes within the qualitative data, providing a deeper understanding of the strategies and challenges related to academic library transformation.

The study will integrate the results from both quantitative and qualitative analyses to offer a comprehensive perspective on academic library transformation. Triangulation of data will be employed to ensure that findings are both statistically robust and contextually rich. This approach allows for a holistic interpretation of the research questions, leveraging the strengths of both qualitative and quantitative methods to contribute meaningful insights to the field of academic library science. In adopting a mixed-methods approach, this study seeks to provide a balanced and in-depth exploration of the multifaceted dimensions of academic library transformation in the digital era, bridging the gap between quantitative measurements and qualitative insights.

Respondents

This study involves two primary categories of respondents—academic library professionals and library users. The first group comprises librarians, library administrators, and technology specialists actively engaged in the management and operations of academic libraries. Participants will be selected based on their roles, expertise, and experience in library services, resource management, and technology integration. The second group consists of library users, including students, faculty, and researchers. This category will be stratified to ensure a diverse representation from different user groups, academic disciplines, and levels of engagement with library resources. This approach aims to capture a broad range of perspectives on the effectiveness of library services and the impact of transformation on user experiences.

Data Gathering Procedures

Quantitative data will be collected through structured surveys administered to academic library professionals and users. These surveys will include Likert-scale questions and closed-ended inquiries focusing on resource allocation, technology acceptance, and user satisfaction. Surveys will be distributed

electronically, utilizing stratified random sampling to select participants from various academic institutions. The survey instruments will be pilot-tested to ensure clarity and reliability before widespread distribution.

Qualitative data will be gathered through in-depth interviews with academic library professionals, using semi-structured interview guides to explore strategies, challenges, and experiences related to library transformation. Additionally, direct observations of library spaces will be conducted to understand spatial dynamics and technology integration. Purposeful sampling will be employed to select interview participants, ensuring representation from various roles within academic libraries. Observations will be carried out in libraries that have undergone or are undergoing transformation.

The integration of data will involve a triangulation process, combining quantitative and qualitative findings to draw comprehensive conclusions. Ethical considerations will be strictly adhered to, with informed consent obtained from all participants, ensuring voluntary participation and understanding of the study's purpose. Anonymity and confidentiality will be maintained, and data will be securely stored and used solely for research purposes.

By engaging academic library professionals and users in both quantitative and qualitative data collection, this study aims to provide a holistic understanding of the challenges and opportunities in the transformation of academic libraries in the digital era.

Data Analysis

In the data analysis phase, the study will employ a rigorous approach to both quantitative and qualitative data. For quantitative data collected through surveys, descriptive statistics, including measures of central tendency and dispersion, will be utilized to summarize variables such as resource allocation and user satisfaction. Inferential statistical analyses, such as correlation and regression, will be employed to explore relationships between these variables. On the qualitative front, data from in-depth interviews and observations will undergo thematic analysis. This qualitative approach involves identifying patterns and themes within the data, offering a rich understanding of the strategies employed by academic library professionals during the transformation process. The integration of quantitative and qualitative findings, through triangulation, will provide a comprehensive view, leveraging the strengths of both methodologies.

Ethical Considerations

In ensuring the ethical conduct of the study, several key considerations will be observed. Prior to participation, all respondents will receive detailed information about the study, including its purpose, procedures, and potential risks. Informed consent will be obtained from each participant, emphasizing their voluntary agreement to participate. The confidentiality of participants will be strictly maintained, with personal identifiers removed to ensure anonymity. Vulnerable participants, such as students, will receive special attention to safeguard their rights and minimize potential discomfort. Data security measures, including password protection and secure storage, will be implemented to protect the integrity of collected information. Transparent reporting will be upheld, acknowledging study limitations and potential biases. This ethical framework aims to respect participant rights and contribute valuable insights to the understanding of academic library transformation in the digital era while prioritizing participant well-being and data integrity.

RESULTS AND DISCUSSION

This section presents all the findings of the study based on the data gathering procedures done by the researcher including their corresponding interpretation, discussion, and analysis as supported by existing literature.

Incorporating Change and Innovation Among Academic Libraries. The first problem of this study focuses on the degree to which academic libraries are incorporating change and innovation to their system.

Table 1. Technological Integration

Indicator Statements	Weighted Mean	Verbal Description
1. The library effectively integrates digital resources into its collection.	3.44	Highly Incorporated
2. The library updates and employs modern library management systems.	3.89	Highly Incorporated
3. The library actively seeks and implements emerging technologies.	3.22	Highly Incorporated
4. The library provides adequate training for staff on new technologies.	3.90	Highly Incorporated
5. The library ensures seamless access to electronic resources for users.	3.19	Highly Incorporated
6. The library regularly assesses the effectiveness of its technological integration strategies.	3.77	Highly Incorporated
Weighted Mean	3.56	Highly Incorporated

The finding suggests that within the realm of Incorporating Change and Innovation Among Academic Libraries, as perceived by academic librarians serving as respondents, there is a moderate level of Technological Integration, with a weighted mean of 3.56. This indicates that academic libraries are embracing technology to a certain extent, but there may be room for further advancement and integration of innovative technological solutions. The moderate score suggests that academic librarians recognize the importance of incorporating technology into library services and operations, but there may be challenges or opportunities for improvement in fully leveraging the potential of technological advancements.

This study is supported by existing literature and studies claiming that to enhance Technological Integration in academic libraries, it may be beneficial for institutions to assess the specific areas where technology can be better incorporated, such as digital resource management, user interfaces, or data analytics (Alias, 2022). This finding underscores the importance of ongoing efforts to stay abreast of technological trends and best practices, fostering a culture of adaptability and continuous improvement within academic library settings (Stark, 2020). Additionally, it may be valuable for academic librarians to collaborate with technology experts and engage in professional development opportunities to enhance their digital literacy skills, ensuring they are well-equipped to navigate and harness the potential benefits of emerging technologies within the academic library environment.

Table 2. User Experience and Services

Indicator Statements	Weighted Mean	Verbal Description
1. The library designs spaces to support collaborative learning and individual study.	3.12	Highly Incorporated
2. The library provides user-centric services that meet evolving needs.	3.99	Highly Incorporated
3. The library offers online reference services and personalized assistance.	2.89	Incorporated
4. The library actively seeks user feedback to improve services.	2.22	Incorporated
5. The library fosters a welcoming and inclusive environment for users.	2.13	Incorporated
6. The library continually evaluates and adapts services to changing user expectations.	3.10	Highly Incorporated
Weighted Mean	2.90	Incorporated

The finding reveals that, within the context of Incorporating Change and Innovation Among Academic Libraries and drawing insights from academic librarians who participated as respondents, there exists a moderate level of emphasis on User Experience and Services, as indicated by a weighted mean of 2.90. This suggests that academic libraries are placing a degree of importance on user-centric practices and services, but there may be opportunities for improvement in optimizing the overall user experience. The moderate score implies a recognition among academic librarians of the significance of tailoring services to meet the evolving needs of library patrons, yet it also signals that there may be challenges or areas where enhancements could be implemented to elevate user satisfaction.

This study is supported by existing literature and studies claiming that to enhance User Experience and Services in academic libraries, there could be a focus on gathering user feedback and conducting usability assessments to identify specific areas for improvement (Safdar, 2021). This finding underscores the potential benefits of investing in user-centric technologies, streamlining access to resources, and developing innovative services that align with the preferences and expectations of library users (Dmitrova, 2020). Collaborative efforts between academic librarians and users, such as through focus groups or surveys, can provide valuable insights for refining services and ensuring that academic libraries remain dynamic and responsive to the changing needs of their user communities.

Table 3. Data Management and Open Access

Indicator Statements	Weighted Mean	Verbal Description
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1. The library supports researchers in managing and sharing their data.	3.45	Highly Incorporated
2. The library actively promotes open access initiatives.	3.12	Highly Incorporated
3. The library provides resources and training for research data management.	3.78	Highly Incorporated
4. The library ensures the security and integrity of research data.	3.92	Highly Incorporated
5. The library collaborates with researchers to enhance data sharing practices.	3.70	Highly Incorporated
6. The library regularly updates policies to align with open access principles.	3.26	Highly Incorporated
Weighted Mean	4.24	Highly Incorporated

The finding underscores a notable emphasis on Data Management and Open Access within the context of Incorporating Change and Innovation Among Academic Libraries, as indicated by the high weighted mean of 4.24 reported by academic librarians serving as respondents. This suggests that academic libraries are placing a strong focus on effectively managing data resources and fostering open access initiatives. The elevated score reflects a proactive approach by academic librarians in recognizing the critical role of data management in contemporary library services, as well as a commitment to advancing open access principles. This signifies a recognition among librarians of the evolving landscape of scholarly communication and the importance of making research outputs more widely accessible.

This study is supported by existing literature and studies claiming that to build on the positive trends observed in Data Management and Open Access, academic libraries may consider further investments in infrastructure, training, and support mechanisms to ensure robust data stewardship practices (Stark, 2020). This finding highlights an opportunity for academic librarians to continue advocating for and implementing policies that promote open access to scholarly information, contributing to the broader movement towards transparency and collaboration in academic research (Dmitrova, 2020). It also suggests that academic libraries are aligning themselves with the changing scholarly publishing landscape, embracing the principles of open science, and actively contributing to the dissemination of knowledge in a more accessible and inclusive manner (Schettinni, 2022).

Table 4. Resource Allocation

Indicator Statements	Weighted Mean	Verbal Description
1. The library allocates resources (funds and personnel) for new technologies.	3.44	Highly Incorporated
2. The library efficiently manages resource utilization in its operations.	3.12	Highly Incorporated
3. The library conducts regular assessments to optimize resource allocation.	3.16	Highly Incorporated

4. The library adapts resource allocation based on changing priorities.	3.88	Highly Incorporated
5. The library prioritizes investments that enhance user services.	3.90	Highly Incorporated
6. The library aligns resource allocation with long-term strategic goals.	3.12	Highly Incorporated
Weighted Mean	3.43	Highly Incorporated

The finding reveals that within the framework of Incorporating Change and Innovation Among Academic Libraries, academic librarians serving as respondents assign a moderate level of importance to Resource Allocation, as indicated by a weighted mean of 3.43. This suggests that academic libraries are actively engaged in considering how resources, including financial, human, and technological assets, are allocated to support change and innovation initiatives. The moderate score implies that while there is a recognition among librarians of the need to allocate resources strategically, there may be areas where improvements or refinements could enhance the efficiency and effectiveness of resource allocation processes. It also signifies a balanced approach, acknowledging the importance of investing in innovative practices while being mindful of constraints and competing priorities.

This study is supported by existing literature and studies claiming that to enhance Resource Allocation in the context of promoting change and innovation, academic libraries may benefit from conducting a comprehensive assessment of current resource distribution practices (Kang, 2020). This could involve identifying areas where additional investments might yield significant returns in terms of technological advancements, staff development, or new services (Wagner, 2020). Collaborative decision-making processes involving library administrators, staff, and other stakeholders could be employed to ensure that resource allocation aligns with the broader strategic goals of the academic institution and supports the evolving needs of library users (Alias, 2022). This finding suggests that academic libraries are actively navigating the challenge of resource allocation in the pursuit of innovation, aiming to strike a balance that fosters positive change while maintaining a sustainable and efficient operational framework.

Factors affecting the Incorporation of Change and Innovation Among Academic Libraries. The second problem of this study focuses on the factors affecting the incorporation of change and innovation among academic libraries.

Table 5. Factors affecting the Incorporation of Change and Innovation Among Academic Libraries

Factors	Weighted Mean	Verbal Description
1. Budget Constraints	3.22	Highly Influenced
2. Staff Resistance	3.90	Highly Influenced
3. Technological Infrastructure	3.11	Highly Influenced
4. Lack of Training and Professional Development	2.22	Highly Influenced
5. Organizational Culture	2.12	Highly Influenced
6. Resistance from Traditional Practices	3.16	Highly Influenced
7. Limited Time and Resources	3.29	Highly Influenced

8. Uncertain Return on Investment	3.42	Highly Influenced
9. External Regulatory and Policy Constraints	3.01	Highly Influenced
10. Insufficient Stakeholder Collaboration	3.89	Highly Influenced

The finding that staff resistance remains the top factor affecting the incorporation of change and innovation among academic libraries highlights a common challenge faced by institutions striving for transformative initiatives. Staff resistance can manifest in various forms, including reluctance to adopt new technologies, skepticism about the benefits of change, or concerns about the impact on established workflows. Overcoming staff resistance requires a strategic and empathetic approach, involving transparent communication, training programs, and fostering a culture that values continuous learning and adaptation. Recognizing and addressing the concerns of staff members, providing adequate support during the transition, and involving them in the decision-making process are essential steps to mitigate resistance and encourage a more positive reception of innovation.

Conversely, the finding that organizational culture is the least influential factor suggests that, in comparison to staff resistance, the prevailing norms, values, and attitudes within academic libraries might not be as formidable barriers to change (Gil, 2021). This study is supported by existing literature and studies claiming that to this could indicate that the organizational culture within these libraries is relatively open to embracing new ideas and practices (Llewellyn, 2020). However, it is crucial for institutions to remain vigilant and proactive in cultivating a culture that actively promotes innovation (Appio, 2021). A supportive organizational culture is fundamental for sustaining change initiatives, as it fosters an environment where experimentation and adaptation are encouraged rather than hindered. Leadership can play a pivotal role in shaping and nurturing a culture that values innovation, creating a positive and conducive atmosphere for academic libraries to evolve and remain responsive to the dynamic needs of the academic community.

Lived Experiences of the Librarians in Navigating Change and Embracing Innovation in the Digital Era

The last problem of this study focuses on the lived experiences of the librarians in navigating change and embracing innovation in the digital era and the thematic analysis shows the results of the researcher's findings.

Challenges in Budget Allocation

Participant A shared, "It's frustrating; we have great ideas for digital improvements, but the budget constraints limit our ability to make them a reality." Participant B added, "We've had to prioritize essentials due to budget limitations, leaving little room for investing in innovative digital technologies." Participant C echoed, "Our budget struggles impact morale; it's disheartening when we can't implement changes that could greatly benefit our users."

The thematic finding on challenges in budget allocation reflects a shared frustration among participants regarding the limitations imposed by budget constraints on the ability of academic libraries to implement digital improvements and invest in innovative technologies. Participant A's remark emphasizes the disconnect between visionary ideas for digital enhancements and the practical constraints imposed by budget limitations. This frustration suggests a desire for more financial flexibility to turn promising concepts into reality, highlighting the potential unrealized opportunities that exist due to financial constraints (Alias, 2022). Participant B further emphasizes the impact of budget limitations on priorities, stating that essentials take precedence over investments in innovative digital technologies. This prioritization reflects the difficult decisions that libraries must make when allocating limited resources, often favoring immediate needs over long-term technological advancements. This trade-off underscores the

challenges faced by academic libraries in balancing the maintenance of essential services with the pursuit of innovation in the face of constrained budgets. Participant C introduces an emotional dimension to the challenge, noting that budget struggles have a negative impact on morale. The sentiment of disheartenment when unable to implement changes that could greatly benefit users underscores the personal and professional toll that budget constraints can take on library staff. This aspect highlights the broader consequences of budget limitations, extending beyond operational considerations to affect the motivation and satisfaction of library personnel (Kang, 2020).

Staff Adaptation and Training

Participant D mentioned, "Adapting to new technologies is a learning curve for everyone. We need more training programs to ensure everyone feels confident using these tools." Participant E emphasized, "Staff resistance often stems from a lack of understanding. Training is essential, but it needs to be ongoing to keep everyone up to speed." Participant F stated, "Training is a key factor in successful implementation. Without it, there's a risk of staff feeling overwhelmed and hesitant to embrace digital changes."

The comments from Participant D, Participant E, and Participant F collectively highlight the crucial role of training in addressing challenges related to staff adaptation to new technologies within academic libraries. Participant D underscores the universal nature of the learning curve associated with adopting new technologies, emphasizing the need for comprehensive training programs to instill confidence among staff members (Llewellyn, 2020). This observation recognizes that technology adoption is not only a technical challenge but also a learning process that involves building the skills and knowledge necessary for effective utilization (Schettinni, 2022).

Participant E emphasizes a critical aspect of staff resistance, attributing it to a lack of understanding. The comment suggests that staff members may be resistant to change not out of inherent opposition but rather due to unfamiliarity or uncertainty about the new technologies. The call for ongoing training indicates an awareness that technology is dynamic, and continuous learning is necessary to keep pace with advancements. This perspective highlights the dynamic nature of technology and the importance of creating a learning environment that supports staff in adapting to evolving tools and practices (Kang, 2020). Participant F reinforces the theme by emphasizing the pivotal role of training in successful implementation. The statement brings attention to the potential risks associated with inadequate training, including staff feeling overwhelmed and hesitant to embrace digital changes. This sentiment recognizes that effective training programs are not only essential for building technical skills but also for fostering a positive and confident attitude among staff members, minimizing resistance, and promoting a smoother transition to digital innovations (Bilawar, 2020).

Resistance to Change

Participant G noted, "Some staff members are set in their ways. Convincing them of the benefits of digital changes requires a cultural shift within the organization." Participant H shared, "Resistance is a real obstacle; it's not just about technology, but a mindset shift. We need strategies to address this resistance effectively." Participant I expressed, "Change can be intimidating, especially for those who've been doing things a certain way for years. Breaking through that resistance is a constant effort."

The remarks from Participant G, Participant H, and Participant I collectively underscore the significant challenge of addressing staff resistance to digital changes within academic libraries and highlight the need for a cultural shift and effective strategies to overcome this resistance.

Participant G draws attention to the ingrained habits and resistance of some staff members who are "set in their ways." The comment emphasizes that overcoming resistance is not merely a technical challenge but requires a cultural shift within the organization. This insight suggests that successful adoption of digital changes involves not only introducing new technologies but also fostering a broader change in the organizational mindset and culture. Participant H further emphasizes that resistance is a genuine obstacle, emphasizing that it goes beyond the technological aspects and involves a shift in mindset. This acknowledgment aligns with the understanding that successful change management involves addressing psychological and cultural factors, recognizing that staff members may be resistant due to concerns, uncertainties, or fears that go beyond the practicalities of adopting new technologies (Konopik, 2021).

Participant I contributes to the discussion by noting the intimidating nature of change, especially for individuals accustomed to certain practices over an extended period. The remark highlights the emotional and psychological dimensions of change, suggesting that breaking through resistance requires persistent and concerted efforts (Schiuma, 2021). This acknowledgment aligns with the idea that change is a continuous process, and efforts to address resistance should be ongoing to foster a more adaptive and innovative organizational culture (Stark, 2020).

Technological Infrastructure Issues

Participant J explained, "Our outdated systems slow down the implementation process. It's frustrating to see potential innovations hindered by the limitations of our infrastructure." Participant K added, "Upgrading our technological foundation is crucial. Without a solid infrastructure, any digital changes we make are like building on shaky ground." Participant L shared, "Infrastructure issues are a reality. It's not just about new technologies; sometimes, it's about fixing what's already in place."

The comments from Participant J, Participant K, and Participant L collectively highlight the critical role of infrastructure in shaping the success and efficiency of digital changes within academic libraries. The participants express concerns about the impact of outdated systems and emphasize the need for upgrading technological foundations to support innovation effectively. Participant J points to the frustration caused by outdated systems that slow down the implementation process. This frustration underscores the tangible hindrance that technological limitations can pose to the realization of potential innovations within academic libraries. The remark highlights the interconnected nature of technology and innovation, emphasizing that the effectiveness of digital changes is intricately linked to the capabilities of the existing infrastructure (Dmitrova, 2020).

Participant K expands on this by emphasizing the crucial importance of a solid technological infrastructure. The analogy of building on shaky ground vividly illustrates the significance of a robust foundation for any digital changes. This perspective suggests that efforts to introduce new technologies or implement innovations may be compromised without first addressing underlying infrastructure issues. It underscores the need for strategic investments in updating and modernizing the technological backbone of academic libraries (Llewellyn, 2020).

Participant L adds a practical perspective by acknowledging that infrastructure issues are a reality. The recognition that addressing these issues is not solely about introducing new technologies but also about fixing what is already in place reflects a pragmatic approach. It highlights the importance of system maintenance, upgrades, and remediation efforts as essential components of a comprehensive strategy for technological advancement within academic libraries (Kang, 2020).

User-Centric Concerns

Participant M said, "User expectations are evolving rapidly. It's a challenge to adapt our services to meet those expectations while ensuring accessibility and user satisfaction." Participant N noted, "Users want convenience and seamless access. Adapting our services to their evolving needs requires constant monitoring and adjustments." Participant O remarked, "Staying user-centric is the goal, but it's tough when users' expectations are a moving target. We need to anticipate their needs better."

The comments from Participant M, Participant N, and Participant O collectively highlight the dynamic nature of user expectations and the challenges academic libraries face in adapting their services to meet evolving needs. These participants emphasize the rapid pace at which user expectations are changing and the importance of maintaining a user-centric approach amidst this shifting landscape.

Participant M begins by pointing out the rapid evolution of user expectations, highlighting the challenge it poses for academic libraries. The acknowledgment of this challenge reflects an awareness of the fast-paced nature of technological advancements and changing user behaviors. It suggests that staying ahead of these shifts is crucial for academic libraries to remain relevant and effective in meeting the needs of their users (Dmitrova, 2020). Participant N builds on this by noting that users desire convenience and seamless access to services. This observation underscores the importance of aligning library services with the expectations of modern users who prioritize efficiency and accessibility. The emphasis on constant monitoring and adjustments implies a proactive and responsive approach to ensuring that library services remain in tune with users' evolving preferences (Llewellyn, 2020).

Participant O extends the discussion by emphasizing the difficulty of staying user-centric when user expectations are a moving target. The comment highlights the need for academic libraries to not only react to current user needs but also to anticipate future expectations. This forward-looking perspective suggests that libraries should be proactive in identifying emerging trends, technologies, and user behaviors to stay ahead of the curve and provide services that are both relevant and anticipatory of user needs (Kang, 2020).

Summary of Findings

The following are the findings of this study:

1. The finding suggests that within the realm of Incorporating Change and Innovation Among Academic Libraries, as perceived by academic librarians serving as respondents, there is a moderate level of Technological Integration, with a weighted mean of 3.56. The finding reveals that, within the context of Incorporating Change and Innovation Among Academic Libraries and drawing insights from academic librarians who participated as respondents, there exists a moderate level of emphasis on User Experience and Services, as indicated by a weighted mean of 2.90. The finding underscores a notable emphasis on Data Management and Open Access within the context of Incorporating Change and Innovation Among Academic Libraries, as indicated by the high weighted mean of 4.24 reported by academic librarians serving as respondents. The finding reveals that within the framework of Incorporating Change and Innovation Among Academic Libraries, academic librarians serving as respondents assign a moderate level of importance to Resource Allocation, as indicated by a weighted mean of 3.43.
2. The finding that staff resistance remains the top factor affecting the incorporation of change and innovation among academic libraries highlights a common challenge faced by institutions striving for transformative initiatives. Conversely, the finding that organizational culture is the least influential

factor suggests that, in comparison to staff resistance, the prevailing norms, values, and attitudes within academic libraries might not be as formidable barriers to change.

3. The Lived Experiences of the Librarians in Navigating Change and Embracing Innovation in the Digital Era can be understood through these themes: Challenges in Budget Allocation, Staff Adaptation and Training, Resistance to Change, Technological Infrastructure Issues, and User-Centric Concerns.

Conclusions

1. The findings pertaining to Incorporating Change and Innovation Among Academic Libraries provide nuanced insights into the perceptions of academic librarians. The moderate level of Technological Integration (weighted mean of 3.56) suggests a balanced approach, indicating a willingness to adopt technology while acknowledging potential challenges. The noteworthy emphasis on Data Management and Open Access (weighted mean of 4.24) signals a strong commitment to modern library practices. However, the moderate emphasis on User Experience and Services (weighted mean of 2.90) and Resource Allocation (weighted mean of 3.43) indicates areas for improvement. These insights can guide academic libraries in refining their strategies, fostering a holistic approach that integrates technological advancements, prioritizes user experience, and optimizes resource allocation.
2. The revelation that staff resistance is the top factor influencing the incorporation of change and innovation in academic libraries highlights a common challenge faced by institutions. This finding emphasizes the need for targeted strategies to address staff concerns, foster engagement, and facilitate a smoother transition during transformative initiatives. Conversely, the lower influence of organizational culture suggests that, while staff attitudes are pivotal, prevailing organizational norms may not pose as formidable barriers. Academic libraries should leverage this insight to tailor change management approaches, recognizing the need for nuanced strategies that address staff dynamics while aligning with the broader organizational culture.
3. The exploration of the Lived Experiences of Librarians in Navigating Change and Embracing Innovation in the Digital Era illuminates key themes. Challenges in Budget Allocation, Staff Adaptation and Training, Resistance to Change, Technological Infrastructure Issues, and User-Centric Concerns collectively define the dynamic landscape faced by librarians. This comprehensive understanding can guide academic libraries in developing targeted interventions. Prioritizing budget allocation for training, fostering a culture of adaptability, and addressing technological infrastructure challenges will be essential. Additionally, adopting a user-centric approach in innovation strategies can enhance the overall effectiveness of change initiatives in the digital era.

Recommendations

1. In response to the nuanced insights into Incorporating Change and Innovation Among Academic Libraries, it is recommended that academic libraries adopt a holistic approach. While maintaining the commendable emphasis on Data Management and Open Access, libraries should invest in enhancing Technological Integration and User Experience and Services. Prioritizing resources and initiatives that bridge these moderate gaps will contribute to a more comprehensive and effective strategy for change and innovation in the academic library landscape.

2. Given the findings on staff resistance as the top influencing factor, it is recommended that academic libraries develop targeted strategies for staff engagement during change initiatives. This may involve proactive communication, tailored training programs, and creating forums for staff input and feedback. Recognizing and addressing staff concerns will be instrumental in overcoming resistance and fostering a collaborative environment conducive to successful change and innovation.
3. Considering the lived experiences of librarians navigating change and embracing innovation in the digital era, it is recommended that academic libraries implement tailored interventions. Addressing Challenges in Budget Allocation may involve advocating for increased funding for training and technology. Staff Adaptation and Training can be improved through personalized professional development plans. Resistance to Change may be mitigated through transparent communication, and Technological Infrastructure Issues require strategic investments. Adopting a user-centric approach will enhance libraries' ability to meet evolving user needs in the digital era.

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