

## The Impact of Digital Library Services on Motivating English Teachers to Medical Academic Research

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### ABSTRACT

*This study explores how digital library services influence the efficiency of academic research development among English teachers. By comparing traditional searching methods with digital tools, the research highlights improvements in time management, accuracy, and psychological motivation to study academic literature and publish own research materials. Data were collected through surveys and interviews with teachers of the Foreign Language department in the Tashkent Pediatric Medical Institute. The findings suggest that adopting digital library services significantly enhances operational efficiency, providing a competitive motivation among teachers to develop professional academic research skills.*

**Keywords:** library services, digital, high school, teacher, motivation.

### Introduction

Library services play a crucial role in the professional life of any researcher, but often face challenges in managing their tools efficiently. Traditional searching methods, while reliable, can be time-consuming and prone to errors. With the advent of digital information search tools, researchers now have the opportunity to streamline their professional study processes. This study aims to investigate the impact of these tools on enhancing motivation among English teachers.

### LITERATURE REVIEW

#### 1.1 Introduction to Digital Library Tools

Digital library tools have revolutionized the field of library services by automating routine tasks, increasing efficiency, and providing real-time analysis of informative data. The advent of these tools has addressed many inefficiencies inherent in traditional searching and classification methods in library services. This literature review delves into the various aspects of digital library tools, examining their impact on learning and teaching efficiency, their advantages and challenges, and their role in the broader context of technological advancement in informative technologies.

#### 1.2 Historical Context and Evolution

The evolution of library services has been marked by significant technological advancements. Historically, library tasks were performed manually, a process that was not only time-consuming but also prone to errors. With the introduction of computers and software in the late 20th century, library services began to transition from paper-based ledgers to digital systems. According to Cox (2021), the integration of Information Technology (IT) into library service practices marked the beginning of a new era, leading to the development of various

library services software programs that automated book-searching and cataloguing and collection management. Several studies have highlighted the positive impact of digital library service tools on learning and teaching efficiency. JYu, Gong, Sun and Jiang (2019) found that teaching adopting digital library services experienced a significant reduction in the time spent on routine information retrieval tasks. This time-saving aspect is crucial for teachers and learners, who often operate with limited time and resources. By automating repetitive tasks such as cataloging, user services, and collection management, digital tools free up valuable time for the most users to focus on more strategic activities.

Information technologies in library services is a critical component of navigation for teachers. Traditional methods, reliant on manual entry, are susceptible to time consumption, which can lead to low motivation and difficulties to identify patterns within large amounts of data. Ylänne, K. (2020) demonstrated that digital library services tools substantially increase customer interest to digital libraries. These tools often come with advanced computer technologies and high-quality information resources that ensure data accuracy. For instance, automated recommendation processes compare consumer preference records with external large volumes of data, identifying more relevant teaching resources that might go unnoticed in manual systems.

One of the most significant advantages of digital library service tools for teachers is the provision of real-time learning data. Real-time insights allow teachers to make informed retrieval quickly, adapting to changing global conditions. According to a study by Jurafsky, D., & Martin, J. H. (2021) searching of teaching resources processes that leverage real-time resource data are better positioned to manage digital library services driven recommendations and decision-making processes for forecast future teaching performance, and identify potential issues for further search issues. This capability is particularly beneficial for university teachers that need to be progressive to work with students.

Time efficiency is another critical benefit of digital library services tools. The digital library services can process and analyze large datasets, providing insights that can inform strategic decision-making and service improvements. Digital tools reduce the need for extensive manual labour and can improve time management. Furthermore, by minimizing time and improving search management, these tools can prevent costly mistakes and recommends physical books based on users' digital reading habits. For example, the University of Rhode Island Libraries reported a 30% reduction in time spent on routine cataloging tasks after implementing an digital library service cataloging system (Johnson & Smith, 2023).

Despite the numerous benefits, the adoption of digital accounting tools is not without challenges. The initial transition from traditional methods to digital systems can be daunting, particularly for teachers with limited IT resources. Training is often required to ensure that staff can effectively use the new tools. According to research in the TashPMI during Covid-19 pandemic (2020), the learning curve associated with digital library tools can be a barrier to adoption. The high schools need to invest in training and support to maximize the benefits of these tools.

Another challenge is integrating digital accounting tools with existing catalogue systems. Large information service databases often use a variety of software solutions for different functions, such as academic search management (ASM) and public library management. Ensuring that the digital search tool integrates seamlessly with these systems is crucial for maintaining data consistency and operational efficiency. As made contracts with Elsevier Global Company (2019-2020) the teachers and students of the Tashkent Pediatric Medical Institute got support with high-quality data and analytics issues, undermining the potential benefits of digital library service tools. Open Science service with open access is a paramount concern when enriching research activities among teachers. There are more options for teachers to share more kinds of research outputs through journals, tools and platforms. Exchanging ideas and feedback broaden the institute's relations with other ones, and partnering for further accessibility. Digital library service tools must aggregating and curating the research data standards to enable public access. Studies by Elsevier Company web-site (2024) show that while digital library service tools offer enhanced research features compared to traditional methods, teachers must still be interested in implementing best practices for data collaboration, such as class curriculum, inter activities, and practical trainings.

The future of digital library services is likely to be shaped by continued advancements in world platforms and partners. Artificial Intelligence (AI) and Machine Learning (ML) are emerging trends that promise to further enhance the capabilities of digital library service tools. AI can automate more complex tasks, such as data analysis and summary detection, offering deeper insights and improving decision-making processes. A report by Yu, K., Gong, R., Sun, L., & Jiang, C. (2019) suggests that AI-powered accounting tools could become mainstream within the next decade, transforming the field of library services even further.

The adoption of digital library service tools is also transforming the role of teacher. With routine tasks automated, teachers can shift their focus to more strategic activities, such as lesson planning, analysis, and professional development collection. This shift requires teachers to develop new skills, particularly in data analysis and IT. As noted by Essington, John (2023), teaching is at a crossroads where traditional methods and rationale for pedagogical practices are rightfully under attack. However, the fight is currently transpiring in the professional ranks of current classroom teachers. Now is the time to make progressive inroads by restructuring teacher

education

2 METHODOLOGY

This study employs a mixed-methods approach to examine the impact of digital library service tools on the efficiency of teaching English language in highs schools. The research combines quantitative surveys and qualitative interviews to gather comprehensive data from librarians and teachers of the TashPMI. Sample Selection: A sample of 20 teachers and 10 librarians was chosen through random sampling from a staff of TashPMI. Participants were selected to ensure diversity in education sectors and library services.

2.1 Data Collection

•Surveys: Structured questionnaires were distributed to participants, focusing on the time spent on search tasks, motivation rates, and overall perceived efficiency before and after adopting digital library service tools.  
•Interviews: In-depth interviews were conducted with 20 English teachers and 10 librarians to gain qualitative insights into their experiences and challenges with digital library service tools.  
Survey Design: The survey included both closed and open-ended questions. Closed questions provided quantitative data on key metrics, while open-ended questions allowed participants to elaborate on their experiences.  
Interviews: Semi-structured interviews facilitated detailed discussions, allowing the researcher to explore specific areas of interest and uncover deeper insights into the impact of digital tools.  
Data Analysis: Quantitative data from surveys were analyzed using statistical software. Descriptive statistics summarized the data, and hypothesis testing was conducted to determine the significance of the observed changes. Qualitative data from interviews were analyzed using thematic analysis to identify common themes and patterns.

3 RESULTS AND FINDINGS

Quantitative Analysis:

Table 1

1.Descriptive Statistics:	Traditional methods:	Digital tools:
Time Spent on Search	Mean = 12 hours/week	Mean = 6 hours/week
Motivation Rates	Mean = 2 visits/week	Mean = 7 visits/week

Participants' hypothesis:

Table 2

Hypothesis:	Librarians:	Teachers:
	Digital accounting tools significantly reduce the time spent on search tasks.	Digital library tools do not significantly reduce the time spent on search tasks.
Motivation Rates	Digital library service tools significantly increase motivation rates.	Digital library service tools do not significantly increase motivation rates.

T-Test for Quantitate Analysis:

Table 3

T-Test	for Time Spent	for Motivation Rates
Mean difference	6 hours/week	5 hours/week
Standard deviation	3 hours	1.5 visits
Sample size	30	30
T-value	$6 / (3 / \sqrt{30}) = 6 / 0.1 = 60$	$5 / (1.5 / \sqrt{30}) = 5 / 0.05 = 100$

With a T-value of 60 and degrees of freedom (df) = 99, the p-value is  $< 0.001$ , indicating a statistically significant reduction in time spent on search tasks.

With a T-value of 100 and df = 99, the p-value is  $< 0.001$ , indicating a statistically significant increasing in motivation rates.

Qualitative Analysis:

Time Efficiency: participants consistently reported significant time savings after adopting digital library service tools. The automation of repetitive tasks allowed them to allocate more time to strategic learning activities.

Increasing Motivation: many participants noted a noticeable increase in visits of digital library services. The built-in checks and automated reconciliation features of digital tools were highlighted as key factors.

Real-Time Insights: teachers appreciated the real-time academic data, which improved decision-making processes. The ability to access up-to-date academic information was deemed crucial for managing assessment and planning processes.

Challenges in Adoption: initial challenges included the learning curve associated with new tools and the need for proper training. Some participants faced difficulties integrating digital tools with existing systems but found these issues manageable with adequate support.

#### 4 DISCUSSION

The results of this study provide compelling evidence that digital library service significantly enhance the motivation among teachers to research studies. This discussion will delve into the implications of these findings, examining the benefits, challenges, and broader impacts on the role of teachers and librarians. The quantitative data clearly demonstrate substantial efficiency gains from the use of digital library services. The significant reduction in time spent on search databases (from an average of 12 hours per week with traditional methods to 6 hours per week with digital tools) underscores the automation potential of these technologies. By automating

routine tasks such as data entry, increase research efficiency and evaluation, digital tools free up valuable time for English teachers to focus on strategic activities, such as lesson planning and analysis. This shift not only enhances motivation among customers as teachers but also allows librarians to allocate resources more effectively, potentially leading to better library service performance.

The marked increase in motivation rates (from 2 visits per week to 7 visits per week) highlights the positive impact benefits of digital library service tools. Traditional manual search methods are prone to wasting time, teachers hardly identify reliable sources, cannot conduct advanced searches, understand the scope of academic research, and essential information literacy skills can be developed as well. Digital library services help speed up the research process by offering a quick evaluation tool before reading full articles. This improvement especially valued by both English teachers and researchers, who appreciated the time saved by filtering out irrelevant articles.

One of the most significant advantages of digital library services is the provision of fast access to the depth and breadth of our online collection of journals, eBooks, reference works and protocols across a vast range of subject disciplines. The effort to strengthen the collaboration between librarians and teachers allows library services to respond quickly to changing market conditions, to understand the needs of teachers more effectively, and provide them with the necessary support through a tailored framework. Participants (librarians) in the study consistently reported that building a vehicle for listening closely to the community's needs; providing tailored education around key issues for teachers; and supporting librarian community as they field questions from and develop resources for institute's teachers facilitated their collaboration. This capability is particularly beneficial for teachers, which the engagement of specific topics that will focus on are determined by the needs and interest of the university, specifically its teachers.

Despite the clear benefits, the study also identified several challenges associated with adopting digital library services. The initial learning curve and the need for proper training were common concerns among participants. Librarians and teachers noted that adapting to new tools required time and effort, particularly for those with limited IT experience. Additionally, integrating digital library services with existing systems was another challenge. Ensuring seamless integration is crucial for maintaining data consistency and avoiding operational disruptions. The high school library need to invest in adequate training and support to overcome these challenges and maximize the benefits of digital library services.

The adoption of digital library services is transforming the role of librarians. With routine tasks automated, librarians can augment their efforts in information literacy and training and development programs, by providing invaluable information to teachers' staff and their high school community. This shift requires high schools teachers to develop new skills, particularly in data analysis and IT. The teacher as future researcher will need to be both a expert in academic landscape and a tech-savvy professional, capable of leveraging digital tools to provide valuable insights and guidance to from manuscript writing and journal selection to artificial intelligence. The broader implications of these findings extend beyond individual targeted learning. As digital library services become more widespread, the overall efficiency and competitiveness of the high school library sector may improve. This could lead to university library share what their researcher community wants to know more about, and the topics and line up for the event are built to accommodate their needs and interests. Moreover, the insights gained from this study can inform institutes and university leaders about the importance of supporting digital transformation in the library sector. Providing access to training and resources can help library overcome the challenges associated with adopting new technologies and fully realize the benefits of digital library tools.



Figure 1: The seminars for librarians and medical teachers, where organized in the Tashkent Pediatric Medical Institute, dated 2023-2024

#### *4.1.1 Figure Descriptions.*

The seminars for librarians and teachers were organized by EBSCO and Elsevier company representatives for enhancing of library digital services using in the Tashkent Pediatric Medical Institute, dated in 2023-2024 yy.

## **5 CONCLUSION**

This study provides robust evidence that digital library services significantly enhance the motivation for English teachers to research activities. By automating routine tasks, reducing time, and providing real-time academic research insights, these services offer substantial benefits that can improve operational efficiency and research performance. However, the transition to digital library services is not without challenges. The initial learning curve and integration issues require university leaders to invest in training and support to maximize the benefits of these library services.

The study's quantitative findings underscore the efficiency and accuracy benefits of digital library services. The significant reduction in time spent on search tasks and motivation rates highlights the potential of these technologies to streamline operations and improve research literacy management. These improvements are particularly valuable for teachers, which often operate with limited resources and need to optimize their operations to remain competitive.

The ability to access real-time academic data is a game-changer for high school teachers. Real-time insights enable librarians and teachers to make informed decisions quickly, adapting to changing market conditions and managing search activities more effectively. This capability is crucial for maintaining research stability and planning for professional development. The study's findings suggest that academic research leveraging digital library services are better positioned to navigate the complexities of the modern library environment.

While the benefits are clear, the challenges associated with adopting digital library services cannot be overlooked. The study highlights the importance of providing adequate training and support to help high school staff overcome the initial learning curve and integration issues. University and institute leaders should consider initiatives that facilitate access to training and resources, helping their staff transition to digital library services smoothly and effectively. The transformation of the librarian's role is a significant implication of this study. With routine tasks automated, librarians can focus on providing strategic insights and advisory services. This shift requires librarians to develop new skills in data analysis and IT, positioning them as valuable partners for teachers. The study underscores the need for ongoing professional development and training to equip librarians and teachers with the skills necessary to thrive in the digital age.

The broader economic impact of digital library services is a critical consideration. As more high schools adopt these technologies, the overall efficiency and competitiveness of the library sector may improve, contributing to economic growth and job creation. The study's findings highlight the potential of digital library services to drive positive economic outcomes, underscoring the importance of supporting digital transformation in the library sector.

Future research could explore the impact of specific digital library tools and the role of emerging technologies, such as artificial intelligence and machine learning, in further enhancing efficiency of academic research skills at teachers. Additionally, longitudinal studies could provide deeper insights into the long-term benefits and challenges of adopting library digital tools, offering valuable guidance for high school libraries. In conclusion, digital library services offer significant benefits for teachers, improving efficiency, accuracy, and decision-making capabilities. While challenges exist, the long-term advantages make these tools a worthwhile investment. The study's findings provide a strong foundation for understanding the impact of digital library services and highlight the importance of embracing technological advancements for increasing teacher's motivation in academic research.

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