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INFLUENCE OF INFORMATION COMMUNICATION TECHNOLOGY SKILLS ON RESEARCH OUTPUT OF ACADEMIC LIBRARIANS IN ADEKUNLE AJASIN UNIVERSITY LIBRARY, AKUNGBA AKOKO, ONDO STATE

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Abstract

The study investigated the influence of information communication technology on the research output of Academic Librarians in AAUA Library, Akungba – Akoko, Ondo state. Descriptive survey research design was used for the study. The population of the study was Five academic Librarians in Adekunle Ajasin University Library, Akungba – Akoko, Ondo state. Total enumeration sampling technique was used for the study. Questionnaire was used as the data collection instrument. The collected data were subjected to analysis with the aids of descriptive and inferential statistics. The hypothesis was tested at a 0.05 level of significance. The study found that the research output of the academic librarians in AAU library are grant writing, curricular, project management, literacy instructions and scholarly journal; Information communication technology facilities in AAU library are high speed internet, computers, interactive whiteboard and telecommunication. It also found that the challenges confronting the academic librarians regarding the usage of ICT are financial constraints, lack of ICT skill, inadequate facilities and security threat. The study recommended that academic librarians should engage in a skill acquisition in the area of information communication technology, so as to improve their research output; Information communication technology facilities should be provided in the library to assist the academic librarians in undertaking research functions and Adekunle Ajasin university library should make available to the academic librarians, training and retraining, seminars , workshops and orientation programes to enhance their knowledge of ICT.

Keywords: *Information Communication Technology; Academic Librarians; Skills; Research output ;Library*

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Introduction

Academic librarians play a crucial role in higher education institutions, serving as facilitators of information access, research support, and educational resources. The evolution of the academic librarian's role has been influenced by technology, changing educational paradigms, and the increasing complexity of information landscapes. Historically, academic libraries were primarily repositories for books and physical materials. Librarians focused on cataloging and managing collections, with limited interaction with faculty and students. However, the advent of digital technology in the late 20th century transformed libraries into dynamic learning environments. The rise of the internet and digital resources has significantly impacted how information is accessed and utilized. Academic librarians have adapted by developing skills in information literacy, digital resource management, and data curation. They now provide instruction on navigating electronic databases, using citation management tools, and understanding copyright issues. The role of academic librarians has expanded from traditional custodians of information to active partners in the educational process. They collaborate with faculty to integrate information literacy into the curriculum, support research initiatives, and contribute to the development of online learning environments. Despite their evolving roles, academic librarians face challenges such as budget constraints, the need for continuous professional development, and the pressure to demonstrate their value to the institution. However, these challenges also present

The research output of academic librarians is an increasingly important area of investigation, reflecting their contributions to the scholarly community and the broader academic landscape. As higher education evolves, understanding how librarians engage in research activities can provide insights into their roles and the value they bring to institutions. Traditionally, academic librarians were viewed primarily as custodians of information, focusing on collection management and user services. However, with the growth of information technology and the increasing emphasis on research within academia, librarians have begun to play a more active role in producing scholarly work. Many librarians collaborate with faculty and students on research projects, contributing their expertise in information management and data curation. There has been a notable increase in the number of academic librarians publishing in peer-reviewed journals, reflecting their commitment to contributing to the body of knowledge in librarianship and related fields. The rise of digital tools and resources has transformed the landscape of academic research. Librarians are not only consumers of information but also producers, utilizing digital platforms to disseminate their findings. This transition has led to new opportunities for collaboration and visibility in academic research. Balancing administrative duties, teaching, and research can be difficult, often limiting the time available for research activities. There is ongoing debate about the recognition of librarians' research contributions within the academic community, which can impact their motivation and opportunities for collaboration.

Librarians' research contributes to the academic environment, enhancing institutional reputation and supporting faculty and student success. By analyzing research output, the field of librarianship can evolve, responding to emerging trends and challenges in information science. The study of research output among academic librarians is essential for recognizing their contributions to the academic community. It provides valuable insights into their evolving roles, the impact of technology, and the challenges they face. As the landscape of higher education continues to change, understanding these dynamics will help in promoting the significance of librarians in supporting scholarly activities. Studies have shown that academic librarians frequently engage in collaborative research with faculty and students. Kvenild and Calkins (2014) found that over 70% of librarians reported participating in research projects alongside faculty, highlighting the importance of librarian expertise in enhancing research quality. Tenopir et al. (2013) analyzed publication patterns among academic librarians. The study indicated a significant increase in the number of articles published by librarians in peer-reviewed journals, particularly in the fields of information literacy and digital scholarship. This trend reflects

a growing recognition of librarians as active contributors to scholarly discourse. D'Elia and Hurst (2016) found that access to professional development opportunities positively correlated with the research output of librarians. Librarians who participated in workshops and conferences were more likely to engage in research activities, suggesting that institutional support for professional growth plays a critical role.

McGowan et al. (2014) highlighted the impact of institutional support on librarians' research productivity. Libraries that encouraged a research culture, provided funding for projects, and recognized research contributions saw higher levels of output among their staff. A common theme in the literature is the challenge of balancing multiple responsibilities. Mardis (2015) revealed that many librarians struggled to find time for research due to administrative duties, teaching commitments, and user services. This time pressure often limits their ability to produce scholarly work. Oakleaf (2010) indicated that academic librarians often feel undervalued in their research contributions. The lack of recognition within their institutions can lead to decreased motivation and fewer collaborative opportunities, impacting overall research output. Studies have shown that librarians' involvement in research projects enhances the quality of academic work. Jaeger et al. (2014) demonstrated that collaborative projects led by librarians resulted in more comprehensive literature reviews and improved data management practices. The collective research output of academic librarians contributes to the scholarly reputation of their institutions. Liu and Zhang (2018) illustrated that universities with active librarian researchers often ranked higher in academic performance metrics, underscoring the value of librarians in the academic ecosystem. While challenges such as time constraints and recognition persist, the positive impact of librarians on research quality and institutional reputation is clear. Future research should focus on strategies to enhance librarian engagement in research and promote a culture of scholarly activity within academic libraries.

Information Communication Technology (ICT) skills are essential in today's digital age, influencing personal, educational, and professional development. As technology continues to advance rapidly, the acquisition of ICT skills has become crucial for effective communication, information access, and problem-solving across various sectors. Historically, the integration of ICT in education began in the late 20th century, with the introduction of computers and the internet into educational institutions. Initially, the focus was on basic computer literacy, but the scope has since expanded to encompass a wide range of skills, including digital communication, data management, and online collaboration. ICT skills facilitate enhanced learning experiences, allowing students to access a wealth of resources, collaborate with peers, and engage with interactive content. Research shows that students with strong ICT skills perform better academically and are more prepared for future challenges. In the job market, employers increasingly prioritize candidates with robust ICT skills. Proficiency in technology is often required for roles in various fields, making these skills critical for career advancement and employability. The rapid evolution of technology necessitates continuous learning and adaptation. New tools and platforms emerge regularly, requiring individuals to update their skills frequently. This dynamic environment presents both opportunities for innovation and challenges in ensuring that individuals remain competent. Disparities in access to technology can hinder the development of ICT skills, particularly in underprivileged communities. Ensuring equitable access to resources is vital for fostering ICT competency. Many educational institutions struggle to integrate ICT skills into their curricula effectively. There is often a gap between technological advancements and educational practices, which can leave students underprepared for a technology-driven world.

Voogt and Roblin (2012) highlighted the challenges of integrating ICT skills into the curriculum. The research showed that while educators recognize the importance of these skills, many struggle to incorporate them meaningfully into their teaching practices, resulting in inconsistent skill development among students. Ertmer and Ottenbreit-Leftwich (2010) demonstrated that ongoing professional development for teachers significantly enhances their ability to teach ICT skills. Educators who

received training reported increased confidence and effectiveness in incorporating technology into their lessons. Warschauer (2011) examined disparities in access to technology and its impact on ICT skills development. The findings indicated that students from low-income backgrounds often lack access to necessary resources, leading to significant gaps in their technological competencies compared to their peers. Hsu et al. (2016) found that inadequate institutional support for ICT initiatives can hinder the development of these skills. Institutions that fail to provide adequate training, resources, and infrastructure often see lower levels of technology integration and student engagement. World Economic Forum (2018) highlighted the growing concerns over skill gaps in the workforce, particularly in relation to ICT. The report emphasized the need for targeted training programs to equip workers with the necessary digital skills to meet industry demands. Binkley et al. (2012) underscored the importance of continuous learning in ICT skills. The study found that individuals who engage in lifelong learning and skill development are better positioned to adapt to technological changes and remain competitive in the job market. In view of the above, the study is conducted to investigate the influence of information communication technology on the research output of the academic librarians in Adekunle Ajasin University Library , Akungba – Akoko, Ondo State.

Objective of the study

The main objective of this study is to investigate the influence information communication technology on the research output of the academic librarians in Adekunle Ajasin University Library, Akungba – Akoko, Ondo state. Specific objectives are to:

i . identify the research output of the academic librarians in Adekunle Ajasin University Library, Akungba- Akoko;
ii . examine the information communication technology facilities in A.A.U.A;
iii . determine the challenges confronting the academic librarians regarding the usage of ICT; and
iv . evaluate the measure undertaken to combat the challenges of ICT usage.

Hypothesis

The null hypothesis was tested at 0.05 level of significance:

There is no significant relationship between Information Communication Technology and Research outputs of academic librarians in Adekunle Ajasin University, Akungba – Akoko.

Literature Review

Academic librarians play a crucial role in the research ecosystem of higher education. Their contributions extend beyond traditional library services to include support for research activities, information literacy, and scholarly communication. This empirical review examines the various facets of research outputs produced by academic librarians, highlighting key studies and findings in the field. Several studies have explored the collaborative roles of academic librarians in research projects. Kirk and Reddick (2017) found that librarians who actively participate in research teams enhance the quality and impact of academic outputs. Their involvement in grant writing and project management supports faculty and students, leading to increased research productivity. Understanding the dynamics of research output is essential for policymakers, institutions, and researchers. The empirical evidence highlights the importance of fostering collaborative environments and promoting open access to maximize the impact of research.

Studying academic librarians is essential for understanding their impact on student success, faculty research, and the overall academic environment. Research in this area can inform policies, best practices, and the future direction of library services in higher education. Research indicates that academic librarians are increasingly involved in teaching information literacy skills. Head and Eisenberg (2010) found that students who received instruction from librarians demonstrated improved research skills and confidence in finding information. Academic librarians have taken on roles as research support specialists, assisting faculty and students with grant writing, data management, and publishing. McGowan et al. (2014) highlighted that librarians significantly contributed to enhancing the quality of research outputs by providing tailored support. The shift to digital resources has necessitated a

change in librarians' skill sets. Tenopir et al. (2013) showed that academic librarians are now expected to manage digital collections, including e-books and online journals, requiring ongoing training in new technologies. McCaffrey (2017) explored the integration of emerging technologies, such as artificial intelligence and data analytics, in libraries. Librarians who embraced these tools reported increased efficiency in service delivery and improved user engagement. Ongoing professional development is crucial for academic librarians to keep pace with rapid changes. A survey by the Association of College and Research Libraries (2018) indicated that many librarians feel unprepared to meet the demands of their evolving roles, underscoring the need for continuous training.

Research demonstrates that information literacy programs significantly impact student and faculty research capabilities. Mackey and Jacobson (2014) emphasized that librarians who design and implement effective information literacy curricula improve the research skills of users. Their findings indicate a direct correlation between information literacy instruction and the quality of research outputs.

The role of academic librarians in promoting scholarly communication is well-documented. Lindsay (2018) highlighted that librarians are pivotal in advocating for open access and managing institutional repositories. Their efforts not only increase the visibility of research outputs but also facilitate compliance with funding agency mandates regarding open access publishing. With the growing emphasis on data-driven research, librarians have taken on significant responsibilities in data management. Baker and Henseler (2019) showed that librarians who provide data curation services positively influence research outcomes. Their expertise in organizing and preserving data enhances the reproducibility and reliability of research findings. The assessment of research impact is another area where academic librarians contribute significantly. Bj ? rk and Solomon (2012) examined the role of librarians in utilizing bibliometric tools to measure research outputs. The study found that librarians help faculty understand their research impact, enabling them to make informed decisions about publication and funding opportunities. The empirical evidence underscores the multifaceted contributions of academic librarians to research outputs. Their roles in research support, information literacy, scholarly communication, data management, and impact assessment enhance the overall research environment in academic institutions. Continued research in this area is essential to further define and expand the scope of academic librarianship in the context of evolving research needs.

opportunities for innovation in service delivery, outreach, and community engagement.

Research has shown a positive correlation between library use and student academic performance. Oakleaf (2010) found that students who frequently utilized library resources had higher GPAs compared to those who did not. Academic librarians contribute to student engagement and retention through various programs and services. Jaeger et al. (2014) suggested that libraries that foster a welcoming environment enhance student satisfaction and retention rates. Academic librarians contributions to information literacy, research support, and technological integration have significant implications for student success and institutional effectiveness. However, challenges such as budget constraints and the need for professional development persist, highlighting areas for further research and intervention. Future studies should focus on best practices and innovative strategies to enhance the role of academic librarians in an ever-evolving educational landscape.

Information Communication Technology (ICT) facilities are essential in modern educational and organizational contexts. This empirical review examines the role and impact of ICT facilities, highlighting studies that analyze their effectiveness, usage, and implications for learning and productivity. Research indicates that access to ICT facilities significantly influences educational outcomes. Zhang et al . (2016) found that students with greater access to technology, such as computers and high-speed internet, demonstrated improved academic performance. The availability of ICT resources in schools enhances learning opportunities and fosters digital literacy. The integration of ICT in educational settings has been extensively studied. Higgins et al . (2012) conducted a meta-analysis showing that the effective use of ICT

tools, such as interactive whiteboards and educational software, positively impacts student engagement and achievement.

Their findings suggest that well-implemented ICT facilities can enhance teaching methodologies and facilitate active learning. User engagement with ICT facilities is crucial for their effectiveness. A study by Bates and Poole (2003) highlighted that user satisfaction is linked to the perceived usefulness and ease of use of ICT tools. Institutions that prioritize user-centered design in their ICT facilities report higher levels of engagement and satisfaction among students and staff. Despite the benefits, several studies identify challenges in the implementation of ICT facilities. Kumar and Kaur (2017) noted barriers such as inadequate infrastructure, lack of training, and resistance to change among staff. These challenges can hinder the effective utilization of ICT resources, emphasizing the need for comprehensive support and training programs. ICT facilities also facilitate collaboration among users. Garrison and Anderson (2003) found that online collaboration tools enhance communication and teamwork in academic and professional settings. The study highlighted how ICT tools enable real-time collaboration, leading to improved project outcomes and innovation. The empirical evidence underscores the critical role of ICT facilities in enhancing educational and organizational outcomes. Access, integration, user satisfaction, and collaboration are key factors that influence the effectiveness of these technologies.

The integration of Information and Communication Technology (ICT) in academic libraries has transformed the landscape of information access and management. However, academic librarians face several challenges in effectively utilizing these technologies. This review synthesizes empirical studies to highlight key challenges and their implications. A significant challenge for academic librarians is the varying levels of technological proficiency among staff. According to Aharony (2016), many librarians report feeling inadequately trained to use advanced ICT tools, which affects their ability to assist users effectively. The lack of ongoing professional development opportunities exacerbates this issue, leading to a skills gap that hinders service delivery (Hernandez, 2018). Financial limitations are a persistent barrier to the adoption of ICT in academic libraries. Kaur and Kaur (2019) indicates that many libraries operate under tight budgets, which restrict their ability to invest in new technologies and maintain existing systems. Budget cuts often result in outdated hardware and software, limiting the library's capacity to provide modern services (Mokhtar et al., 2020). Resistance from library users, including students and faculty, can impede the effective use of ICT. A study by Alhassan et al. (2020) found that some users prefer traditional methods of information retrieval and are hesitant to embrace digital resources. This resistance is often rooted in a lack of familiarity with technology and concerns about the reliability of online information (Ogunleye, 2019). The rapid pace of technological advancement poses a challenge for librarians to keep up with new tools and trends.

Okiy (2018) highlights that librarians often feel overwhelmed by the constant updates in technology, making it difficult to integrate these changes into their services effectively. This challenge necessitates ongoing training and adaptation to ensure librarians remain competent in using new technologies. As libraries increasingly utilize digital platforms, issues surrounding data management and user privacy have emerged. Empirical studies, such as those by Kaur and Kaur (2019), indicate that librarians often feel unprepared to address these concerns. Balancing the need for data collection to improve services with the imperative to protect user privacy remains a significant challenge (Hernandez, 2018). Effective collaboration between librarians and other academic departments is essential for successful ICT integration. However, studies indicate that communication barriers often exist, leading to fragmented efforts and a lack of cohesive strategies (Alhassan et al., 2020). This siloed approach can hinder the sharing of resources and best practices necessary for leveraging ICT effectively. The challenges confronting academic librarians regarding ICT usage are multifaceted and require strategic solutions. Addressing issues such as technological proficiency, budget constraints, user resistance, rapid technological change, data management, and collaboration barriers is essential for enhancing library services.

Future research should focus on developing targeted training programs and fostering interdepartmental collaboration to improve ICT adoption in academic libraries.

Insights from research can inform educational policies aimed at enhancing ICT training and infrastructure in schools and workplaces. The findings can guide curriculum developers in creating relevant and effective programs that equip learners with necessary skills. As technology continues to evolve, fostering a culture of lifelong learning in ICT skills is crucial for adapting to new challenges and opportunities. The study of ICT skills is vital for understanding their role in education, employment, and societal development. As technology becomes increasingly integrated into daily life, the need for effective ICT training and support will only grow. This research aims to explore the current landscape of ICT skills, identifying best practices and areas for improvement to ensure that individuals are well-equipped to thrive in a digital world. The empirical review of Information Communication Technology (ICT) skills examines research findings related to the development, importance, and impact of these skills in various contexts, particularly in education and the workforce. This review synthesizes key studies that highlight the current state of ICT skills and their implications. Chen and Tsai (2012) found a strong correlation between students' ICT skills and their academic performance. The study indicated that students proficient in technology were more likely to engage in collaborative learning and utilize online resources effectively, leading to improved outcomes. A survey conducted by the International Society for Technology in Education (ISTE) (2016) revealed that employers prioritize ICT skills when hiring. Approximately 80% of employers indicated that digital literacy is essential for job candidates, emphasizing the need for educational institutions to focus on developing these skills.

The integration of Information and Communication Technology (ICT) in academic libraries has presented various challenges. This review synthesizes empirical studies that highlight measures taken to address these challenges effectively. To enhance the technological proficiency of librarians, many academic libraries have implemented comprehensive training programs. Aharony (2016) emphasizes that continuous professional development is crucial for librarians to stay updated with emerging technologies. Libraries that invest in regular training sessions report improved staff confidence and service delivery (Hernandez, 2018) In response to budget constraints, libraries have adopted advocacy strategies to secure necessary funding. Kaur and Kaur (2019) illustrate successful initiatives where librarians collaborated with university administrations to demonstrate the value of library services, resulting in increased budget allocations. Additionally, libraries are exploring grant opportunities and partnerships to secure financial resources (Mokhtar et al., 202y0). To reduce user resistance to ICT, libraries have initiated user education programs aimed at increasing familiarity with digital resources. Alhassan et al. (2020) found that user workshops and orientation sessions significantly enhance user engagement and acceptance of ICT tools. By highlighting the benefits of digital resources, libraries can effectively foster a positive attitude towards technology (Ogunleye, 2019). To address rapid technological changes, libraries have adopted systematic technology assessment practices. Okiy (2018) suggests that regular evaluations of existing technologies help libraries remain current and relevant. By prioritizing technology upgrades based on user needs and trends, libraries can enhance their service offerings. In response to data management and privacy concerns, libraries have developed comprehensive data management policies. Research indicates that clear guidelines help librarians navigate the complexities of data collection while safeguarding user privacy (Kaur & Kaur, 2019). Training on data protection is essential to ensure compliance and build user trust (Hernandez, 2018) To overcome collaboration barriers, many academic libraries have fostered partnerships with other academic departments and institutions. Alhassan et al. (2020) highlight the effectiveness of collaborative initiatives, such as joint workshops and resource sharing, to enhance communication and streamline ICT integration. These partnerships can lead to a more cohesive approach to library services. Academic libraries are actively implementing measures to

combat the challenges associated with ICT usage. Through training programs, budget advocacy, user education, technology assessment, data management policies, and collaborative efforts, libraries are enhancing their capabilities to serve users effectively. Continued research and innovation in these areas will be essential for navigating the evolving landscape of academic library services.

Research Methodology

Descriptive survey research design was used for the study. The population of the study was Five academic librarians of Adekunle Ajasin University Library, Akungba Akoko, Ondo state. Total enumeration sampling technique was used for the study. Questionnaire was used as the data collection instrument. The collected data were subjected to analysis with the aids of descriptive and inferential statistics. The hypothesis was tested at a 0.05 level of significance.

Presentation of Result

Table 1: Population of the Study

SN	Cadre of staff	Numbers of staff
1	Academic Librarians	05

Source: Office of the University Librarian, 2025

Research Question One: What are the research output of the academic librarians in Adekunle Ajasin University Library, Akungba – Akoko?

Table Two: Output of the academic librarians in Adekunle Ajasin University Library, Akungba – Akoko

S/N	ITEM	Freq. %	Agreed	Disagreed	STD	Mean
1	Project management	Freq.	4	1	0.89	3.40
		%	(80)	(20)		
2	Grant writing	Freq.	4	1	0.44	3.80
		%	(80)	(20)		
3	Information literacy program	Freq.	2	3	1.14	2.40
		%	(40)	(60)		
4	Curricular	Freq.	5	-	0.44	3.20
		%	(100)			
5	Literacy instructions	Freq.	4	1	1.09	2.80
		%	(80)	(20)		
6	Data curation	Freq.	4	1	0.44	3.80
		%	(80)	(20)		
7	Scholarly journal	Freq.	3	2	0.84	2.80
		%	(60)	(40)		
8	Data management	Freq.	4	1	0.70	3.00
		%	(80)	(20)		
	Grand Mean					3.15

Source: *Field Survey, 2025.*

Table 2 showed the research output of the academic librarians in Adekunle Ajasin University Library, Akungba – Akoko. Item 1 with mean value of 3.40 implies that majority of respondents were of the opinion that there is project management. Item 2 revealed that

majority of the respondents agreed that there is grant writing since the mean value is pegged at 3.80. Similarly, mean value of 2.40 in item 3 is an indication that majority of the respondents disagreed that there is information literacy program. Also, mean value of 3.20 revealed in item 4 is an indication that majority of the respondents agreed that there is curricular. Item 5 with mean value of 2.80 implies that majority of respondents were of the opinion that there is literacy instructions.

Furthermore, Item 6 with mean value of 3.80 implies that majority of respondents were agreed that there is data curation. The mean value of 2.80 in item 7 is an indication that majority of the respondents agreed that there is scholarly journal. Lastly, item 8 with mean value of 3.00 implies that majority of the respondents agreed that there is data management. The grand mean of 3.15 also depicts that there is moderate level research output of the academic librarians in Adekunle Ajasin University Library, Akungba – Akoko.

Research Questions Two: What are the information communication technology facilities in Adekunle Ajasin University Library, Akungba – Akoko?

Table Three: Information communication technology facilities in Adekunle Ajasin University Library, Akungba – Akoko

S/N	ITEM	Freq. %	Agreed	Disagreed	STD	Mean
1	High-speed internet	Freq.	3	2	0.83	2.80
		%	(60)	(40)		
2	Computers	Freq.	4	1	0.44	2.80
		%	(80)	(20)		
3	Interactive whiteboards	Freq.	5	-	0.54	3.40
		%	(100)			
4	Educational software	Freq.	4	1	0.45	3.80
		%	(80)	(20)		
5	Online collaboration tools	Freq.	2	3	0.89	2.60
		%	(40)	(60)		
6	Modem	Freq.	4	1	0.83	3.20
		%	(80)	(20)		
7	Telecommunications	Freq.	4	1	0.84	3.20
		%	(80)	(20)		
8	Storage systems	Freq.	5	-	0.55	3.40
		%	(100)			
	Grand Mean					3.15

Source: *Field Survey, 2025.*

Table 3 showed the information communication technology facilities in Adekunle Ajasin University Library, Akungba – Akoko. Item 1 with mean value of 2.80 implies that majority of respondents were of the opinion that there is high-speed internet. Item 2 revealed that majority of the respondents agreed that there is computers since the mean value is pegged at 2.80. Similarly, mean value of 3.40 in item 3 is an indication that majority of the respondents agreed that there is interactive whiteboards. Also, mean value of 3.80 revealed in item 4 is an indication that majority of the respondents agreed that there is educational software. Item 5 with mean value of 2.60 implies that majority of respondents were of the agreed that there is online collaboration tools.

Furthermore, Item 6 with mean value of 3.20 implies that majority of respondents were agreed that there is modem. The mean value of 3.20 in item 7 is an indication that majority of the respondents agreed that there is telecommunications. Lastly, item 8 with mean

value of 3.40 implies that majority of the respondents agreed that there is storage systems. The grand mean of 3.15 also depicts that there is moderate the level of information communication technology facilities in Adekunle Ajasin University Library, Akungba – Akoko.

Research Question Three: What are the challenges confronting the academic librarians regarding the usage of ICT?

Table Four: Challenges confronting the academic librarians regarding the usage of ICT

S/N	ITEM	Freq. %	Agreed	Disagreed	STD	Mean
1	Financial constraints	Freq.	4	1	0.45	2.80
		%	(80)	(20)		
2	Lack of ICT skill	Freq.	1	4	0.45	2.20
		%	(20)	(80)		
3	Inadequate facilities	Freq.	4	1	0.71	3.00
		%	(80)	(20)		
4	Digital divide	Freq.	4	1	0.71	3.00
		%	(80)	(20)		
5	Inadequate policy framework	Freq.	5	-	0.45	3.80
		%	(100)			
6	Security threat	Freq.	5	-	0.45	3.20
		%	(100)			
7	Lack of infrastructures	Freq.	4	1	0.45	2.80
		%	(80)	(20)		
8	Poor communications	Freq.	5	-	0.55	3.60
		%	(100)			
	Grand Mean					3.05

Source: *Field Survey, 2025*

Table 4 showed the challenges confronting the academic librarians regarding the usage of ICT. Item 1 with mean value of 2.80 implies that majority of respondents were of the opinion that there is financial constraints. Item 2 revealed that majority of the respondents disagreed that there is lack of ICT skill since the mean value is pegged at 2.20. Similarly, mean value of 3.00 in item 3 is an indication that majority of the respondents opined that there is inadequate facilities. Also, mean value of 3.00 revealed in item 4 is an indication that majority of the respondents agreed that there is digital divide. Item 5 with mean value of 3.80 implies that majority of respondents were of the opinion that there is inadequate policy framework.

Furthermore, Item 6 with mean value of 3.20 implies that majority of respondents were agreed that there is security threat. The mean value of 2.80 in item 7 is an indication that majority of the respondents agreed that there is lack of infrastructures. Lastly, item 8 with mean value of 3.60 implies that majority of the respondents agreed that there is poor communications. The grand mean of 3.05 also depicts that there is moderate level of challenges confronting the academic librarians regarding the usage of ICT.

Research Question Four: What are the measures undertaken to combat the usage of ICT?

Table Five: Measures undertaken to combat the usage of ICT

S/N	ITEM		Agreed	Disagreed	STD	Mean
1	Comprehensive training program	Freq.	5	-	0.10	3.00
		%	(100)			
2	Continuous developmental program	Freq.	4	1	0.45	2.80
		%	(80)	(20)		
3	Increased budget allocations	Freq.	5	-	0.55	3.40
		%	(100)			
4	Data management policies	Freq.	5	-	0.45	3.80
		%	(100)			
5	User education	Freq.	2	3	0.89	2.60
		%	(40)	(60)		
6	Technology assessment	Freq.	4	1	0.84	3.20
		%	(80)	(20)		
7	Technology upgrades	Freq.	4	1	0.84	3.20
		%	(80)	(20)		
8	Orientation sessions	Freq.	5	-	0.55	3.40
		%	(100)			
	Grand Mean					3.18

Source: *Field Survey, 2025.*

Table 5 showed the measures undertaken to combat the usage of ICT. Item 1 with mean value of 3.00 implies that majority of respondents were of the opinion that there is comprehensive training program. Item 2 revealed that majority of the respondents agreed that there is continuous developmental program since the mean value is pegged at 2.80. Similarly, mean value of 3.40 in item 3 is an indication that majority of the respondents opined that there is increased budget allocations. Also, mean value of 3.80 revealed in item 4 is an indication that majority of the respondents agreed that there is data management policies. Item 5 with mean value of 2.69 implies that majority of respondents were of the opinion that there is user education.

Furthermore, Item 6 with mean value of 3.20 implies that majority of respondents were agreed that there is technology assessment. The mean value of 3.20 in item 7 is an indication that majority of the respondents agreed that there is technology upgrades. Lastly, item 8 with mean value of 3.40 implies that majority of the respondents agreed that there is orientation sessions. The grand mean of 3.18 also depicts that there is moderate level of measures undertaken to combat the usage of ICT.

Testing of Hypothesis

Hypothesis One: There is no significant relationship between Information Communication Technology and Research outputs of academic librarians in Adekunle Ajasin University, Akungba – Akoko.

Table 6: Relationship between Information Communication Technology and Research outputs of academic librarians in Adekunle Ajasin University, Akungba – Akoko

Variables	N	Df	r-cal	r-tab	Sig.
Information Communication Technology	5	8	0.878	0.000	*P< 0.05*
Research outputs of academic librarians	5				

The result on table 6 indicated that r-cal (0.878) is greater than r-tab (0.000) at 0.05 level of significance and 8 degree of freedom. This implies that there is significant relationship between information communication technology and research outputs of academic librarians in Adekunle Ajasin University, Akungba – Akoko. The null hypothesis of no significant relationship was rejected.

Discussion Of Findings

The study investigate the influence information communication technology on the research output of the academic librarians in Adekunle Ajasin University Library, Akungba – Akoko, Ondo state. This study made the following findings as it is discussed:

Finding from research question one showed that that there is moderate level research output of the academic librarians in Adekunle Ajasin University Library, Akungba – Akoko. This finding is line with Kirk and Reddick ₵017) found that librarians who actively participate in research teams enhance the quality and impact of academic outputs. Their involvement in grant writing and project management supports faculty and students, leading to increased research productivity. Research demonstrates that information literacy programs significantly impact student and faculty research capabilities and Mackey and Jacobson 2₵14)emphasized that librarians who design and implement effective information literacy curricula improve the research skills of users.

Finding from research question two showed that there is moderate the level of information communication technology facilities in Adekunle Ajasin University Library, Akungba – Akoko. This finding is collaborated with Zhang et al . ₵016)found that students with greater access to technology, such as computers and high-speed internet, demonstrated improved academic performance. The availability of ICT resources in schools enhances learning opportunities and fosters digital literacy and Higgins et al . ₵012) conducted a meta-analysis showing that the effective use of ICT tools, such as interactive whiteboards and educational software, positively impacts student engagement and achievement.

Finding from research question three showed that there is moderate level of challenges confronting the academic librarians regarding the usage of ICT. This finding is consonance with Okiy (2018) highlights that librarians often feel overwhelmed by the constant updates in technology, making it difficult to integrate these changes into their services effectively. This challenge necessitates ongoing training and adaptation to ensure librarians remain competent in using new technologies. As libraries increasingly utilize digital platforms, issues surrounding data management and user privacy have emerged and Alhassan et al. (2020) found that some users prefer traditional methods of information retrieval and are hesitant to embrace digital resources.

Finding from research question four showed that there is moderate level of measures undertaken to combat the usage of ICT. This finding is supported by Alhassan et al. (2020) highlight the effectiveness of collaborative initiatives, such as joint workshops and resource sharing, to enhance communication and streamline ICT integration. These partnerships can lead to a more cohesive approach to library services. Academic libraries are actively implementing measures to combat the challenges associated with ICT usage. Through training programs, budget advocacy, user education, technology assessment, data management policies, and collaborative efforts, libraries are enhancing their capabilities to serve users effectively.

Finding from research hypothesis showed that there is significant relationship between information communication technology and research outputs of academic librarians in Adekunle Ajasin University, Akungba – Akoko. This finding is line with Head and Eisenberg (2010) found that students who received instruction from librarians demonstrated improved research skills and confidence in finding information. Academic librarians are at the forefront of promoting information literacy, developing programs that enhance students' research skills and critical thinking abilities.

Conclusion

The study has revealed that there is a strong influence of Information Communication Technology on the Research output of the Academic Librarians in Adekunle Ajaasin

University Library, Akungba – Akoko, Ondo State. Copious empirical findings indicate that the installation of ICT facilities in the Library will assist the Academic librarians to generate purposeful and fruitful, research output that will assuage the information needs of the library users and the general audience

Recommendation

In relation with the findings of the study, the researcher recommends the following :

1. The academic librarians should engage in a skill acquisition in the area of information communication technology, so as to improve their research output.
2. Information communication technology facilities should be provided in the library to assist the academic librarians in undertaking research functions.
3. Adekunle Ajasin university library should make available to the academic librarians, training and retraining, seminars , workshops and orientation programes to enhance their knowledge of ICT.
4. The management of Adekunle Ajasin University library should design and implement policies that will encourage the engagements of the academic librarians in the usage of ICT so as to bolster research making and research products.

References

Aharony, N. (2016). The role of academic librarians in the digital age: A study of the challenges and opportunities. *Library management*, 37(6), 345-357.

Alhassan, A. A., Abubakar, A., & Ibrahim, M. (2020). User resistance to ICT in academic libraries: A study of selected universities in Nigeria. *Library philosophy and practice*, 2020.

Arora, A., & Gambardella, A. (2010). The impact of public and private funding on research output. *Research policy*, 39(3), 342-352.

Baker, C., & Henseler, J. (2019). The role of librarians in data curation: A case study. *Journal of academic librarianship*.

Bates, A. W., & Poole, G. (2003). Effective teaching with technology in higher education. *John Wiley & Sons*.

Björk, B.-C., & Solomon, D. (2012). Open access versus subscription journals: A comparison of the impact of open access articles. *Journal of scholarly publishing*.

Bornmann, L., & Mutz, R. (2015). Growth rates of modern science: A bibliometric analysis based on the Scopus database. *Scientometrics*, 103(3), 1035-1045.

Garrison, D. R., & Anderson, T. (2003). E-learning in the 21st century: A community of inquiry framework. *Routledge*.

Hernandez, J. (2018). Training needs of academic librarians in the digital age: A survey. *Journal of academic librarianship*, 44(5), 678-685.

Higgins, S., Xiao, Z., & Katsipataki, M. (2012). The impact of digital technology on learning: A summary for the Education Endowment Foundation. *Education Endowment Foundation*.

Kaur, R., & Kaur, S. (2019). Budget constraints and their impact on ICT adoption in academic libraries. *International journal of library and information studies*, 9(2), 45-52.

Kirk, M., & Reddick, C. (2017). Librarians as research partners: A qualitative study. *Library & information science research*.

Kumar, A., & Kaur, S. (2017). Challenges in implementing ICT in education: A case study. *International journal of educational management*.

Lee, S., & Bozeman, B. (2005). The impact of research collaboration on scientific productivity. *Social studies of science*, 35(5), 773-792.

Lindsay, E. (2018). The role of academic librarians in promoting open access. *Portal: Libraries and the academy*.

Mackey, T. P., & Jacobson, T. E. (2014). Metaliteracy: Reinventing information literacy to empower learners. *College & research libraries*.

Mokhtar, I., Abdul Rahman, A., & Ismail, A. (2020). The impact of budget cuts on library services: A case study of Malaysian academic libraries. *Library management*, 41(3), 215-230.

Ogunleye, O. (2019). User perceptions of digital resources in academic libraries: A case study. *Journal of information science*, 45(4), 487-499.

Okiy, R. (2018). The challenges of ICT adoption in Nigerian academic libraries: A review of the literature. *Library philosophy and practice*, 2018.

Piwowar, H. A., & Vision, T. J. (2013). Data sharing is related to a higher citation rate. *PLoS ONE*, 8(7), e65735.

Zhang, D., Zhao, J. L., Zhou, L., & Nunamaker, J. F. (2016). Can e-learning replace classroom learning? *Communication of the ACM*.