



Whatsapp Technology and its Impact on Library Services: A Study of Federal College of Freshwater Fisheries Technology, New-Bussa, Niger State, Nigeria.

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ARTICLE INFO	ABSTRACT
Published Online: 20 July 2026	This study investigated the impact of WhatsApp technology on library services at the Federal College of Freshwater Fisheries Technology (FCFFT), New-Bussa, Niger State, Nigeria. Utilising a descriptive survey design, the study aimed to: determine the adoption of WhatsApp in FCFFT library services, identify the purposes for which WhatsApp is used, explore the library services that can be delivered via WhatsApp, assess the effectiveness of these services, ascertain user preference for WhatsApp as a communication mode and identify factors affecting service delivery through WhatsApp. A self-developed questionnaire was administered to 200 National Diploma 1 and Higher National Diploma 1 students during the 2023/2024 academic session, achieving a 100% response rate. Data were analysed using frequency distributions and simple percentages, supplemented by the researcher's observations. The findings revealed high WhatsApp usage among students, with a perception of it being a suitable platform for receiving current information. However, a significant portion of students were unaware of the potential for WhatsApp-based library services. The study concluded that WhatsApp is a robust technology that can be effectively integrated with digital library services to enhance accessibility, particularly in remote areas. The study recommended increasing awareness of WhatsApp-based library services, incorporating WhatsApp into academic activities such as online classes and lecture reviews, establishing student WhatsApp platforms for information dissemination, promoting access to affordable devices and actively adopting WhatsApp for library service delivery.
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INTRODUCTION

The advent of Information and Communication Technology (ICT) and its subsequent adoption by both developed and developing countries ushered in the information age, fundamentally transforming information systems, communication processes and access to knowledge worldwide (Paris, Oladele & Bambi, 2025). The rapid advancement of ICT has revolutionised the ways in which information is generated, stored, processed, disseminated and accessed, thereby reshaping social, educational, economic and cultural activities worldwide. Through the integration of computers, telecommunications networks, mobile technologies and the Internet, ICT has significantly enhanced the speed, efficiency and effectiveness of communication and

information exchange. In the contemporary information age, information has become a vital strategic resource for social, economic, educational and technological development. At the same time, mobile phone technologies have profoundly transformed human communication and everyday activities (Alsaleh, 2024).

The rapid proliferation of mobile phones has significantly transformed how individuals access and use information in contemporary society. The widespread adoption of mobile technologies has enhanced information accessibility, enabling users to access information instantly and conveniently, regardless of time or location. Globally, the number of mobile phone users reached over 8.58 billion in 2022, and the figure continues to rise steadily, thereby

increasing demand for immediate, uninterrupted access to information resources. In Nigeria, mobile phone penetration has also grown substantially, with the number of mobile subscribers increasing from 225.88 million in 2022 to 226.84 million in 2023 (Ufuoma, 2023). This continuous growth underscores the expanding role of mobile technologies in communication, information dissemination and digital service delivery across various sectors, including education and library services.

As a result, Library and Information Science professionals must adopt innovative approaches to meet the evolving information needs of users who expect easy, instant access. The application of mobile phones to provide library and information services thus became a significant step in this direction, most especially WhatsApp. WhatsApp, a widely used social networking application, offers 24/7 accessibility, enabling libraries to reach users both on campus and in remote locations. This technology is available 24 hours a day, 7 days a week, to users on campus and in remote locations. Its potential for integration with digital library services offers a robust and efficient means of delivering high-quality services.

The application of mobile phones in the provision of library and information services has become a significant development in modern librarianship, particularly in response to the increasing demand for digital, flexible and user-centred information services. The rapid growth of mobile technologies has transformed the way libraries communicate with users, disseminate information resources and provide access to knowledge beyond the physical boundaries of the library. Mobile phones, due to their portability, affordability and widespread usage, have created opportunities for libraries to extend their services to users regardless of geographical location or time constraints (Prakash (2023)). Consequently, libraries worldwide are increasingly integrating mobile applications and social networking platforms into their service delivery systems to enhance accessibility, responsiveness and user engagement.

Among these mobile-based communication tools, WhatsApp has emerged as one of the most widely adopted social networking and instant messaging applications for library service delivery. WhatsApp enables instant communication through text messages, voice notes, video calls, document sharing, and multimedia exchange, thereby making it a valuable platform for library-user interaction (Kamble, 2025). The application provides 24/7 accessibility, enabling libraries to maintain continuous communication with users on campus and in remote locations. Through WhatsApp, librarians can offer reference, current awareness, selective dissemination of information (SDI), user education and real-time updates on library activities. This immediacy of communication improves service delivery efficiency and enhances user satisfaction (Kamble, 2025).

Furthermore, integrating WhatsApp with digital library services offers a robust, efficient approach to delivering high-quality information services in the contemporary information environment. The platform supports the sharing of electronic resources such as e-books, journal articles, institutional repository links and online databases, thereby facilitating remote access to academic materials and promoting continuous learning (Talikoti, 2023). Its multimedia features also support collaborative learning, group discussions and academic interaction among students, researchers and librarians. In addition, the low cost of internet access required for WhatsApp usage makes it particularly relevant in developing countries where access to advanced digital infrastructure may be limited.

The adoption of WhatsApp in library operations also aligns with the broader concept of Library 2.0, which emphasises user participation, interactivity and the use of web-based technologies to improve library services (Ubogu & Okpodu-Philipp, 2023). By leveraging WhatsApp and similar mobile technologies, libraries can remain relevant in the digital age, expand their reach to underserved populations and provide timely, personalised, and user-oriented services. Therefore, the integration of mobile communication technologies into library and information service delivery is increasingly recognised as an essential strategy for enhancing information accessibility, promoting academic engagement and meeting the evolving information needs of contemporary library users. WhatsApp was created in 2009 by Brian Acton and Jan Koum, both former Yahoo employees who wanted to make free communication available to everyone. In 2014, Facebook acquired WhatsApp Inc. and took over its operations. According to Oladokun, Enakrire, Morodi and Haruna (2025), WhatsApp is a mobile messaging application that enables users to send instant messages, multimedia files and other forms of communication free of charge, provided they have Internet or mobile data access. The author further noted that WhatsApp, alongside Facebook Messenger, ranks among the most widely used messaging applications globally due to their accessibility, convenience and widespread adoption across regions. WhatsApp enables text messaging between mobile phones as a replacement for regular SMS. Masalimova, Zheltukhina, Sergeeva, Sokolova, Sizova and Kochneva (2025) described WhatsApp as a social networking application that enables users to send and receive real-time messages, images, videos, audio files, and location information to individuals or groups via an Internet connection at little or no cost.

WhatsApp Messenger is a mobile communication application that operates over an Internet connection and requires both communicating parties to have the application installed on their mobile devices. The platform provides users with various interactive and social features, including the ability to determine when contacts are online, actively typing

messages, or last accessed the application. These features enhance real-time communication and user engagement. Furthermore, Christopher & Christian (2026) observed that WhatsApp's advertisement-free nature significantly improves the user experience by providing a distraction-free communication environment.

Statement of the Problem

While numerous studies have explored the use of social media and mobile instant messaging tools such as WhatsApp in academic activities and libraries, a significant knowledge gap remains regarding the specific impact of WhatsApp on library services at the Federal College of Freshwater Fisheries Technology (FCFFT), New-Bussa. Specifically, there is a need to investigate its effectiveness in enhancing library services and its potential to reach underserved, remote clients 24/7. This study was therefore undertaken to address this gap by examining the implementation and impact of WhatsApp in FCFFT library services.

Objectives of the Study

- i. To identify the adoption of WhatsApp technology in FCFFT library services.
- ii. To identify the purposes for which WhatsApp is used in FCFFT library services.
- iii. To identify the specific library services offered via WhatsApp in the FCFFT library.
- iv. To evaluate the effectiveness of library services delivered through WhatsApp in the FCFFT library.
- v. To ascertain the reasons for user preference of WhatsApp as a communication mode within the FCFFT library.
- vi. To identify the factors that influence the delivery of library services through WhatsApp at FCFFT library.

Research Questions

- i. Is WhatsApp technology utilised in FCFFT library services?
- ii. For what purposes is WhatsApp employed in FCFFT library services?
- iii. What specific library services are delivered via WhatsApp in the FCFFT library?
- iv. How effective are the library services delivered through WhatsApp in the FCFFT library?
- v. What are the reasons for user preference of WhatsApp as a communication mode within the FCFFT library?
- vi. What factors influence the delivery of library services through WhatsApp at FCFFT library?

LITERATURE REVIEW

In the contemporary information-driven society, access to timely, accurate and relevant information has become essential for educational, social, economic and professional

development. The increasing dependence on digital communication and online information resources has positioned mobile technology as a critical tool for facilitating information access and knowledge sharing. According to Osman, Mohamud, Ali, Hassan and Kafi (2024), mobile technology has emerged as a major enabler of communication and information exchange, allowing users to connect, interact and share information efficiently across different geographical locations. Mobile technology refers to the use of portable electronic devices, particularly mobile phones and smartphones, for communication and information activities such as messaging, Internet browsing, social networking, online learning and digital content sharing.

The portability, flexibility and remote accessibility of mobile technology have significantly transformed how individuals search for, retrieve, receive and interact with information (Ruichen, Habibah & Muhd, 2025). Unlike traditional information systems that require users to be physically present in specific locations, mobile technologies enable continuous access to information resources regardless of time and place. This has enhanced convenience and promoted real-time communication, thereby increasing users' ability to access information instantly and efficiently.

In the education sector, mobile technology has revolutionized teaching, learning and research by transcending the limitations of the traditional classroom. Students, researchers and educators can now engage in learning activities on the go, access digital learning materials remotely and participate in virtual academic interactions via mobile applications and Internet-enabled platforms. Mobile technology supports both quick reference services and in-depth scholarly research by providing access to electronic books, online databases, academic journals, multimedia resources and collaborative learning tools.

Furthermore, the integration of mobile technology into library and information services has enhanced the delivery of user-centred services through mobile library applications, instant messaging platforms, social media tools and digital reference services. These innovations have improved communication between libraries and users, increased access to information and promoted greater user engagement in the digital information environment. Consequently, mobile technology continues to play a significant role in bridging information gaps, supporting lifelong learning and promoting digital inclusion in contemporary society.

Supporting the growing significance of mobile technology in information service delivery, Makinde & Oyekale (2026) asserted that its capabilities extend beyond personal communication to include library and information services, facilitating effective communication, information dissemination, and knowledge sharing with users regardless of time and location. The integration of mobile technologies into library operations has enabled libraries to provide more

flexible, user-centred and accessible services in response to the evolving information needs of contemporary users. Through mobile platforms, libraries can offer virtual reference services, current awareness services, selective dissemination of information and remote access to electronic resources, thereby enhancing user engagement and satisfaction.

Among the various mobile communication applications, WhatsApp has emerged as one of the most widely used and influential instant messaging platforms globally. Shira, Hananel, Chen, and Hila (2025) reported that WhatsApp recorded over 1.5 billion active users as of August 2019, demonstrating its extensive global acceptance and communication relevance. Similarly, Sllife, Chul and Lucienne (2025) emphasised WhatsApp's global dominance by noting that the platform reached approximately 2 billion users worldwide in 2020, making it the most popular mobile instant messaging (MIM) application globally. The widespread adoption of WhatsApp can be attributed to its ease of use, affordability, multimedia capabilities, end-to-end encryption and ability to facilitate instant communication across diverse geographical regions.

The popularity of WhatsApp among young adults and university students has further contributed to its increasing integration into higher education environments for teaching, learning and academic communication. According to Romero-Saritama, Espinosa-Tapia and Palacios-Rodríguez (2025), WhatsApp has become an important educational tool that supports collaborative learning, peer interaction and academic engagement among students and educators. The platform enables users to exchange lecture materials, share academic resources, participate in group discussions and maintain continuous communication beyond the traditional classroom setting. Its real-time messaging and multimedia-sharing capabilities make it particularly effective for supporting interactive and learner-centred educational practices.

In the context of library and information services, WhatsApp has increasingly been adopted as a communication and service-delivery tool in academic libraries and other information centres. According to Kamble (2025), libraries utilise WhatsApp to provide instant reference services, notify users about newly acquired resources, respond to users' inquiries, disseminate information about library programs and facilitate access to digital resources. The platform's accessibility and low-cost communication structure make it especially valuable in developing countries where access to advanced technological infrastructure may be limited (Raihan, Subroto, Chowdhury, Koch, Ruttan and Turin, 2025). Furthermore, the use of WhatsApp in libraries aligns with the principles of Library 2.0, which emphasise interactivity, user participation and the application of digital technologies to improve service delivery.

Consequently, the growing integration of WhatsApp and other mobile technologies into educational and library environments reflects the broader digital transformation occurring globally in information and communication systems (Istiyanto, Mardiana, Widjanarko and Ayuningtyas, 2026). These technologies continue to play a significant role in enhancing information accessibility, promoting collaborative learning and supporting efficient communication between libraries and their users in the contemporary digital age.

The proliferation of mobile technology, according to Koteswara, Mamidi, and Veeranjanyulu (2025), has ushered in the era of the "libraries in hand/pocket" trend. Library and Information Science (LIS) professionals are tasked with understanding how these devices impact information access and dissemination, ensuring effective communication and content delivery to library users. LIS professionals must be prepared to take on this challenge to increase market demand for mobile access to personalised facts and information anytime, anywhere, on one's own handheld device. This necessitates leveraging mobile devices for personalised information services, using features such as search history and location data to enhance service accuracy and personalisation. By mastering these technologies, LIS professionals can improve library service quality and user satisfaction.

According to a study by Ubogu & Okpodu-Philipp (2023) on WhatsApp as a means of sharing information among LIS professionals, instant messaging apps are predominantly used for communication, suggesting that WhatsApp can be a valuable tool for libraries to reach end users and improve service satisfaction. Tetteh & Kankam (2024) also emphasised WhatsApp's popularity, particularly among younger generations, making it an ideal platform for delivering library and information services. Moreover, Kaapu and Zimu-Biyela (2025) further support this in their study, revealing favourable user attitudes towards WhatsApp in library services due to its potential to enhance service delivery.

Supporting this trend, Akuku and Izaruku (2025) noted that Indian academic libraries have successfully utilised WhatsApp to promote services, new acquisitions and customer support, while also facilitating communication among librarians. Similarly, in Malawi, libraries such as LUANAR, KCN, The Polytechnic and MZUNI have expressed plans to leverage WhatsApp for service delivery (Hussain, 2022). The benefits of using WhatsApp in library services include enhanced engagement and interaction between staff and users, improved feedback, increased utilisation of library content and facilitated collaboration and communication (Kamble, 2025).

METHODOLOGY

This study employed a descriptive survey design to investigate the impact of WhatsApp technology on library services at the Federal College of Freshwater Fisheries Technology (FCFFT), New-Bussa. A self-developed questionnaire was used as the primary data collection instrument. The target population comprised National Diploma 1 (ND 1) and Higher National Diploma 1 (HND 1) students who had completed the library orientation program at the beginning of the 2022/2023 academic session. National Diploma 2 and Higher National Diploma 2 students were excluded due to their engagement in seminar presentations and SIWES defence. A total of 200 questionnaires were randomly distributed among ND 1 and HND 1 students and all were returned, yielding a 100% response rate.

The questionnaire consisted of two sections: the first section collected students' background information. In contrast, the second section explored their experiences and perceptions of using WhatsApp for library services.

Data analysis was conducted using frequency distribution and simple percentages. Additionally, the researchers' personal observations were used to supplement and corroborate the questionnaire data.

DATA ANALYSIS AND DISCUSSION

Table 1: Demographic information of respondents

Gender	Frequency	Percentage
Male	120	60
Female	80	40
Total	200	100

The study analysed WhatsApp usage by gender, with 120 male respondents (60%) and 80 female respondents (40%), as presented in Table 1. This demonstrates a higher participation rate among males. This result is consistent with Rikichi's (2025) research on students' use of WhatsApp for learning in Kaduna, Nigeria, which also reported a significant male dominance: 431 males (72.07%) and 167 females (27.93%).

Table 2: WhatsApp Usage

Items	Frequency	Percentage
Yes	174	87.0
No	26	13.0
Total	200	100.0

As shown in Table 2, a significant majority of respondents (174, 87%) utilise WhatsApp, with only 26 (13%) reporting non-use. This confirms widespread WhatsApp adoption at the Federal College of Freshwater Fisheries Technology, New Bussa. This finding is consistent with Liu's (2024) analysis, which identified students as a major user group, accounting for 67.43% of WhatsApp usage across diverse professional backgrounds.

Table 3: Awareness of the usage of WhatsApp technology in FCFFT library

Items	Frequency	Percentage
Yes	27	13.5
No	173	86.5
Total	200	100.0

Table 3 indicates that only 13.5% (27) of respondents were aware that the FCFFT library uses WhatsApp for service delivery, while 86.5% (173) were unaware. This suggests a significant lack of awareness regarding the library's WhatsApp services, despite the high general adoption of WhatsApp among students (Table 2). This highlights a potential gap in exploring diverse applications of WhatsApp, which, as noted by Ansari and Sharma and Bimal (2025), offers varied usability tailored to individual needs, ranging from simple communication to scholarly content sharing.

Table 4: Awareness and usage of Library WhatsApp group services

Items	Frequency	Percentage
Yes	93	46.5
No	107	53.5
Total	200	100.0

When asked about their use of open WhatsApp groups for requesting books (Table 4), 53.5% (107) of respondents reported being unaware or not using the service, compared to 46.5% (93) who had. This suggests a significant underutilization of WhatsApp library services within open group settings. This finding aligns with Naghdipour and Stefania (2022), who found that a majority of students (76%) felt WhatsApp negatively affected their studies due to time spent on social chatting, which may explain the low adoption rate of WhatsApp-based library resources.

Table 5: Reason for using WhatsApp

Items	Frequency	Percentage
Yes	187	93.5
No	13	6.5
Total	200	100.0

As shown in Table 5, a significant majority of respondents (187, 93.5%) acknowledge WhatsApp as a suitable platform for receiving current information, with a minority (13, 6.5%) disagreeing. This finding confirms the widespread acceptance of WhatsApp for information delivery. This aligns with Nasution & Munandar (2023) findings, which highlight WhatsApp's potential to improve access to reading materials, enhance interactive teaching and learning and promote participatory educational discussions.

Table 6: Most preferred social media handle (WhatsApp, Facebook, 2go for receiving information in Document, Picture, Audio, Video, and PDF format

Items	Frequency	Percentage
Agree	160	80.0
Disagree	40	20.0
Total	200	100.0

Respondents in Table 6 overwhelmingly favoured WhatsApp (80%, 160) for receiving information across formats, with only 20% (40) disagreeing. This preference aligns with Christopher and Christian (2026), who reported that WhatsApp was the most widely used platform (49%) for information sharing, significantly exceeding Facebook (21%), Instagram (15%) and other platforms.

Table 7: Why they selected WhatsApp as their most preferred social media handle for receiving Documents, Pictures, audio, video and PDF files

1. Easy to use

Items	Frequency	Percentage
Agree	147	73.5
Disagree	53	26.5
Total	200	100.0

2. Does not require as much data as other social media handles

Items	Frequency	Percentage
Agree	108	54.0
Disagree	92	46.0
Total	200	100.0

Table 7 reveals that 73.5% (147) of students prefer it, while 26.5% (53) disagree. It simplifies the receipt of documents, pictures, audio, videos, and PDFs. This confirms the importance of ease of use, as supported by Ahmed (2023), who noted the prevalence of file sharing on WhatsApp and Widodo (2019), who found that 54.8% of respondents cited ease of use as a key factor.

Additionally, in identifying more reasons respondents preferred WhatsApp over other social media platforms, 54% (108) of respondents indicated that WhatsApp consumes less data, suggesting cost-effectiveness as another significant advantage. This finding is consistent with Qiqieh, Hussein and Abou (2025), who reported that 63% of respondents favoured WhatsApp for its cost-effectiveness.

Table 8: Factors that affect the use of WhatsApp

1. Cost of phones

Items	Frequency	Percentage
Agree	105	52.5
Disagree	95	47.5
Total	200	100.0

2. Mobile data

Items	Frequency	Percentage
Agree	121	60.5
Disagree	79	39.5
Total	200	100.0

Table 8 shows that 52.5% (105) of respondents believe the high cost of phones hinders WhatsApp usage, while 47.5% (95) do not. This highlights the importance of smartphone affordability for accessing WhatsApp, a point supported by Gaztañaga, Idoiaga-Mondragon, Legorburu Fernandez and Eiguren Munitis (2025), who emphasised the role of smartphones in facilitating mobile computing and WhatsApp use.

Furthermore, 60.5% (121) of respondents identified data costs as a factor affecting WhatsApp usage, while 39.5% (79) disagreed. However, despite these concerns, Table 2 indicates widespread adoption of WhatsApp. This aligns with Kannen, Sindermann and Montag (2024), who found that cost-effectiveness is not the primary reason for WhatsApp usage and that users are willing to pay for the service.

CONCLUSION

WhatsApp has become an indispensable mobile app, enabling free communication over data networks. In today's information-driven world, it stands as a leading social networking tool, available 24/7 to users both on and off campus. Its robust, versatile nature makes it an ideal platform for integrating digital library services, thereby enhancing user access to high-quality information. Library professionals should capitalise on this technology to expand mobile access to personalised information, meeting users' demands anytime, anywhere. As Abdelhay, Abudraz, Tharwat, and Attiea (2024) suggest, implementing WhatsApp for information delivery can significantly improve user satisfaction.

WhatsApp's ease of use, coupled with features such as video and audio calls, encrypted text, voice notes and file sharing, has revolutionised communication. Libraries, known for disseminating information, can leverage WhatsApp to expand their reach and raise awareness of their services. In educational settings, WhatsApp facilitates remote learning and communication, as demonstrated by Deep, Chen, Ghosh and Rahaman (2025), who highlighted its role in maintaining student-teacher interaction during the pandemic. This ability to foster interaction allows librarians to engage with users, address their requests, and provide information resources effectively.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations are made:

**“Whatsapp Technology and its Impact on Library Services: A Study of Federal College of Freshwater Fisheries
Technology, New-Bussa, Niger State, Nigeria.”**

1. Libraries should proactively promote their WhatsApp-based services to ensure users are fully aware of the available resources.
2. Educational institutions should incorporate WhatsApp into academic activities, such as online classes and lecture reviews, to demonstrate its potential as a learning tool.
3. Create WhatsApp groups for students to facilitate seamless information dissemination and communication.
4. Encourage students to invest in affordable smartphones, emphasising the long-term benefits and addressing concerns about potential theft.
5. Libraries should actively integrate WhatsApp into their service delivery strategies to improve accessibility and user engagement.

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