



# Social Media and Personalized Mobile Application: The Future of Reference Services in Academic Libraries

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**Abstract:** This study was undertaken to evaluate the need for a library mobile application dedicated to reference services in academic libraries. The paper proposed the design and use of a mobile application in academic libraries. The study purposively sampled all the 43 university librarians that made up the population in Federal Universities, Nigeria. An unstructured questionnaire was utilized to seek the opinion of the respondents. Out of the 43 questionnaires distributed, 32 were correctly filled and returned indicating a 74.4% return rate. The structure of the proposed mobile library application was outlined. The data were collated and analysed using frequencies and percentages, and content analysis. The findings showed that the respondents used social media for rendering defined reference services. It was observed that there was no policy for the utilization of social media in rendering library services and that librarians welcome the idea of a mobile library application. It was concluded that library will benefit more if mobile library application is adopted rendering library services. It was recommended that academic libraries should adopt a mobile library application and design a policy to guide the use of the application.

**Keywords:** Reference Services, Library, Technology, Mobile Application, Librarians, Social Media

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## 1. Introduction

Libraries are repositories of information resources and knowledge. The core mandate of any library has always been the provision of information resources and services to support the educational, recreational, cultural, economic and technological activities of the society. Afolabi and Abidoye viewed the library as media for disseminating information and enhancing literature search and as tool for the development of intellectual compatibilities and promotion of cultural and social integration [1]. However, the constantly increasing amount of information being generated and published, the expanding formats of information storage and retrieval, and ever-changing information needs of contemporary information users (brought about by technological advancement) make it difficult for any library to effectively serve the information needs of their patrons.

Information explosion occasioned by advancement in communication technologies is intriguing. However, availability of information does not necessarily imply relevance of needed information. Hence, the role of the library

in this age of information technology is of far more significance than ever before. In fact, the technologies of communication have transformed the library and information services, such that the information business in the context of the library has witnessed a rebirth in philosophy and processes. Perhaps, the role of technologies in the information arena occasioned information science renaissance era. Libraries, in this era, therefore, is expected to curate adequate, sufficient, credible, and verified information in line with technological disposition of the users.

Suffice to assert that Information Communication Technology (ICT) brought positive transformation for libraries and librarians. It also brought challenges capable of crippling library services. This, however, could be attributed to the evolving information-seeking behaviour of users. From the onset of technological revolution, librarians advocated for application and adaptation of communication media especially social media for library services – to mediate between information available in the web and information users, a situation Kwanya, Stiwell, and Underwood referred to as ‘apo-mediation’ [8]. One of the novel characteristics of

social media is that they support two-way communication such that every user is a content creator (author/originator) and user (patron) at the same time enabling libraries to reach their patrons far and wide. Libraries now have social media accounts/pages, among the popular ones are WhatsApp, Facebook, and Instagram. The implication of this is that they can reach their patrons and receive feedback with ease. However, the concept of feedback has evolved and mostly misused on these social media platforms. Users barely maintain the sacrosanct of such media belongingness as they share irrelevant and trivial contents ranging from religious, health, political propaganda, jokes, comedy clips, and dating tips on these platforms. This makes it difficult for individuals to keep track of the needed information. It is, also, time consuming to create groups for different professionals to serve their information needs. This engenders avoidable waste of time and stress on the system librarians managing these platforms. Hence, hampering and defeating the purpose for which library social media accounts were created. Perhaps, the situation requires a philosophical change. It is worth considering the developmental stages of communication technologies, opportunities, and uses, in order to re-strategize and re-plan social media application in libraries. This study was designed to ascertain the degree to which social media are utilized in rendering reference services and to determine how mobile library application can improve reference services.

## 2. Literature Review

The core mandate of academic library is to support the parent institution through the provision of information resources and services for learning, teaching, research, entrepreneurship, and community engagement. Federal Republic of Nigeria Policy on Education identified the library as one of the most important aspects of educational support services [6]. However, the constantly expanding frontiers of information storage and retrieval, and the ever-changing educational and research needs of library users in the 21<sup>st</sup> century suggest that it is a pipe dream for any library to boast of self-sufficiency in the provision of resources and services to meet patrons' information needs.

Academic libraries, as stores of knowledge, indispensable to the success of any functional educational system are in constant progression in searching for effective means of improving on library services to meet the needs of users. Technology has provided an unparalleled opportunity for librarians to achieve this. Efforts are, therefore, made to acquire, process, preserve and make available the resources to the users. Hence, libraries have continued to adopt technological gadgets in order to achieve excellence in information service delivery. Technologies, according to Afolabi and Abidoye "are used as media for disseminating information and enhancing literature search and as tool for the development of intellectual compatibilities and promotion of cultural and social integration [1]." For Mohammed, Garba, and Umar, the World Wide Web has transformed

libraries from curators of print-based resources to resource houses with web-enabled ability to access, store, process, communicate, and deliver information services remotely to their clients [10]. Nok asserted that automation project in academic libraries came along with the introduction of library websites [11]. Thus, technologies are adopted in libraries to improve traditional library services contrary to the belief that technologies are eroding the roles of librarians.

Information Communication Technology (ICT) is a term used to describe the various technologies that are used in the processing of information including coding, creation, storage, retrieval, manipulation, dissemination and transmission [17]. Some of the simple technologies may include radio, television, videotapes, DVD, printers, telephone, and the more sophisticated ones include software, computers, internet, media applications, and other communication technologies such as email, video conferencing, blogs, social networking among others. These are used in everyday life activities, especially in the library for the provision of information resources and services. Kawatra opined that the vast amount of information present in the world can only be handled electronically by an information management system [7].

The evolution of ICT brought a paradigm shift from manual approach to digital approach for improved access to information. This is because media associated with technology offer more efficient method for information handling activities (creating, selecting, acquiring, retrieving, communicating and sharing of information). Some of such media are the social media. Social media are at the core of human communication, possessing characteristics of participation, openness, conversation, community, and connectedness [16]. Baruah explained that social media refer to the use of web-based and mobile technologies to transform communication into an interactive dialogue [3]. According to Marken, social media allow private individuals to become sources of information online sharing opinions, insights, experiences and perspectives with others [9]. Veil reported that 92% of communication practitioners surveyed confirmed that social media influenced mainstream news handling [16].

Chakrabarti asserted that the library and social media share a symbiotic relationship by adopting the use of social media in the library platform to offer services to remote users who are using social media [4]. Anwar and Zhiwei opined that, not only are librarians using social media to interact with their users at remote locations and marketing their products, librarians are also using social media for professional development in their areas of respective specialization [2]. In other words, social media have made the access, creation, and dissemination of information easy, and librarians are harnessing this opportunity to redefine their professional position in the information business. Wikipedia further observed that there are a number of social media that have been launched, and some are still being developed, and these are becoming popular by the day [18]. This is forcing professionals to redefine their collective thinking and mindset regarding communication in its entirety. In view of

this, Anwar and Zhiwei concluded that “social media play an important part in changing the role and responsibilities of the librarians [2]”

Prabhakar and Manjula-Rani assessed the influence of social networking sites on library and information centres, and concluded that social media aid libraries to deliver “a blend of user services, news and updates, content/collection promotion, dissemination of the institutions’ research output, provision of educational tools and resources and for building relationships both within and outside of the institution [14].” However, the authors, while listing lack of privacy and identity theft as issues related with the use of social media in the library, explained that defined goals and plans, and an alignment of the needs and expectations of the library users would lead to the successful deployment of social media in library services.

Okuonghae reported a significant relationship existing between librarians’ awareness of social media and informal scientific communication, meaning that librarians are sufficiently aware of social media usage for scientific communication [12]. However, on the utilization of social media platforms for promoting library services and resources, Omini and Osulale explained that, despite the knowledge of librarians about the positive impacts of social media in library services, there is still need to advocate for their inclusion into the mainstream of library services as librarians are merely utilizing them for socialization processes [13].

Preliminary investigation reveals that social media are used in the library through:

- a. Individual messaging – this is an end-to-end user platform that allows two individuals to share information and media files. It is a private communication channel. Both users have the access to manage the content shared individually from their different ends.
- b. Group messaging – this is a platform that allows more than one person to communicate and share information and media files. It is often created to accommodate people with shared interests or goals existing in one common group. The creator referred to as the administrator (admin) reserves the right to add or remove participants, and can also choose whether communication is by all participants or just the admin. A group may have more than one administrator, and messages on the group platform are accessed by all the participants.
- c. Status update – this is the virtual billboard of social media in which users share information and media to all who are on their contact. Comments and messages can be tied to such messages, and there is the option to restrict some contacts or the general public from having access to the content of a status.

Social media present such opportunities as connectedness, accessibility, remote learning, global visibility, enhanced engagement in social activities, and marketability among others. Dalomba examined the cons of social media and stated that, “like most times, using social media has its

positives (the good), its cautionary tales (the bad), and dangers (ugly) that lurk and impact the lives of many [5]” This is supported by Prabhakar and Manjula-Rani who asserted that lack of privacy and identity theft are issues related with the use of social media in the library [14]. The application of social media in rendering library services is fraught with some challenges. For instance, using the private channel of communication may lead to waste of time and energy. This is because library patrons are many and may require the librarians attending to them individually, regardless of the similarities among them. The group forum will incur a lot of noise and distractions since members barely maintain the sacrosanct of such media belongingness as they share unrelated information on these platforms. It would be time consuming to create platforms for different professionals, in order to serve their information needs. Also, restricting what users post will defeat the democracy of communication of the modern era. The ‘status update’ avenue still faces the same issues as the group platform. It is in this regard that Starr opined that the solution to the common technological problems facing the library have their answer in having a ‘the librarian in the cloud’ [15]. Adoption of Library Mobile Application will contribute immensely in solving these technological problems.

#### Proposed Library Mobile Application

Technology has presented man with countless opportunities. It is in view of the envisaged challenges of social media that this paper proposes Library Mobile Application (Figure 1) in tandem with web 3.0. The application is structured into four segments namely the database, the facilitators, the engine (app), and the gate (graphic user interface (GUI)). The first three segments will work in the background as back end to support the fourth part, which is the front end.

The database – this is the content base of the proposed application. Where the resources for the application are sourced from information resources. This includes local contents such as institutional repository, OPAC, and other educational resources or other services. These can be from external sources as well.

The facilitators – these are the handlers of the services. Librarians who are in charge of faculties, branch libraries, special libraries, and reference librarians, acquisition librarians who ensure the selection and acquisition of materials for the different users of the library. At the center is the system administrator who receives advice from other facilitators to administer the services of the application.

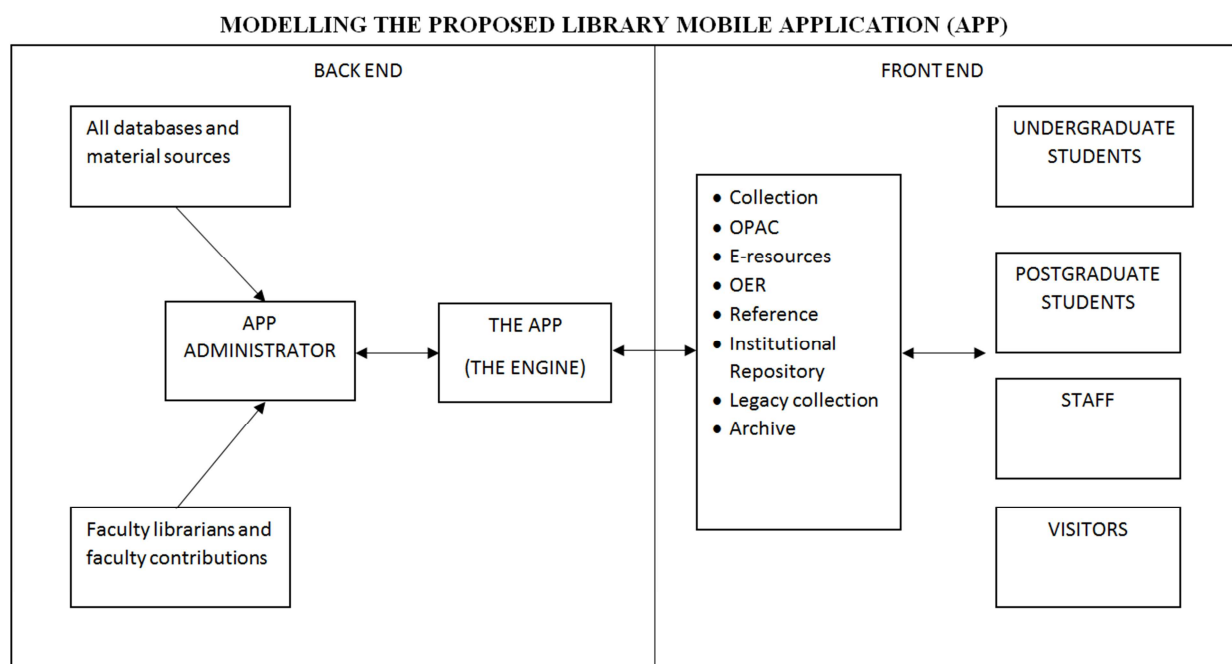
The engine (app) – this is the module carefully designed to monitor use statistics. This is important for the different materials and the right of use as well as conveying the user details for subscribed databases that are ordinarily internet protocol (IP)-restricted. This will control downloads and requests according to individual login.

The gate (graphic user interface (GUI)) – this is the interface for users of the application which is the first contact point of the app. Users are expected to download and install the application, register with their institutional mail (to

ensure that they are bonafide students of a particular institution), and obtain unique username and password. This would enable them gain access to the services. The services are accessed remotely, at any time, any where, and any day.

The purpose of the mobile application is to enable libraries render remote information services. The world has gone digital is an understatement as the Web 3.0 has made semantic grouping of related media enabling mobile functions. In line with this, the mobile application would surely be used for online services such as reference, borrowing, library guide, OPAC, login access to electronic databases, book reservation, and selective dissemination of information among others. The Application will serve as a mobile library for library patrons to access limited library information services remotely. Users can download the

application, register with their student identity securing a personal login detail such that use statistics could be traced to any particular user. The rational for the application is that the 21<sup>st</sup> century is information era and everybody needs information for informed decision-making. Patrons are at the forefront of emerging technology and are getting used to remote accessibility with the campaign of open access in the present era. It is, therefore, a means of marketing library product and making the library relevant in the scheme of events. Librarians are encouraged to reposition their professional roles and mode of operation or be relegated to the background in the business of information provision/handling activities. The deployment of the library mobile application would enhance the relevancy of librarians especially in this competitive information arena.



**Figure 1.** Library Mobile Application.

### 3. Methodology

This study was undertaken to evaluate the need for a library mobile application dedicated to reference services in academic libraries. The population comprised all University Librarians in the 43 Federal Universities in Nigeria. Purposive sampling technique was adopted for selecting the 43 university librarians in the Federal Universities in Nigeria. An unstructured 12-item questionnaire was designed for gathering data for the study. Forty-three questionnaires were distributed and 32 were correctly filled and returned indicating a 74.4% return rate. The data were collated and analysed using frequency and percentages, and content analysis.

### 4. Results and Discussion

The percentage responses of the university librarians to the

questionnaire are presented in Table 1 and discussed below.

Questions:

1. Does your library utilize social media to render reference services?
2. If yes, which social media application (e.g., WhatsApp, Facebook, Instagram etc.) and platforms (e.g., Blogs, websites etc.) do you use?

The responses to question one showed that, out of the 32 respondents sampled, 93.7% (30) of the respondents agreed that their libraries utilize social media in rendering reference services while the remaining 6.3% (2) do not. This shows that social media are being utilized for reference services in most Nigerian Federal Universities. Prabhakar and Manjula-Rani explained that social media aid libraries to deliver “a blend of user service, news and updates, content/collection promotion, dissemination of the institutions’ research output, provision of educational tools and resources and for building relationships both within and outside the institution [14].”

On the second question regarding which of the social media applications and platforms are being utilized for reference services in the libraries, the responses from the respondents showed that WhatsApp usage was 87.5% (28), Facebook was 59.4% (19), Instagram was 6.3% (2), while the use of other social media such as Telegram and Blogs was 6.3% (2). Also, the findings showed that while 93.8% (30) of the respondents agreed with using website as a platform for reference services, none agreed with using blogs. This proved that aside WhatsApp (social media), academic libraries mostly use website (web platform) for web-related services.

From the result, WhatsApp proved to be the highly used social media followed by Facebook. This might be because WhatsApp has such features that include instant messaging and texts, web-based messaging, voice and video calls, photos and videos sharing, voice messaging, documents sharing, and end-to-end encryption. Also, WhatsApp requires mobile numbers only to sign up. Apparently, these features have made WhatsApp the most popular social media in promoting library services and has proved the best approach for reaching users in remote areas.

Question 3: Specify the reference services (e.g., referral, inquiries, Frequently Asked Questions, selective dissemination of information, provision of information resources etc.) rendered in your library using social media?

The percentage responses in question 3 to various reference services listed showed that inquiry garnered 66.7%, Selective Dissemination of Information, 66.7%, Frequently Asked Questions, 41.7%, Referral, 33.3%, and Current Awareness Services, 25%. This indicates that librarians have fully embraced social media as a tool for the provision of library services. In support, Veil reported that 92% of communication practitioners surveyed confirmed that social media influence mainstream news handling [16]. Also, technology (social media) according to Afolabi and Abidoye serves as media for disseminating information and enhancing literature search and as tool for the development of intellectual compatibilities and promotion of cultural and social integration [1]. This aptly explains the functions of academic libraries in support of teaching, learning, and research activities of the host institutions.

Question 4: Do you have a policy guiding the application of social media in rendering reference services?

On the availability of a policy for utilizing social media for reference services, 33.3% (11) of the respondents acknowledged having a policy for applying social media in reference services, meaning that 65.6% (21) do not have such a policy. Any programme or activity without a policy may not achieve efficient and effective outcome. Prabhakar and Manjula-Rani explained that defined goals and plans, and alignment of the needs and expectations of the library users lead to the successful deployment of social media for library services [14]. The absence of a social media use policy in most Federal Universities libraries may lead to improper utilization of social media in rendering library services in Nigeria.

Question 5: Does your library have a personalised library application (app) (e.g., mobile banking app, flight-booking app, dictionary app etc.) for rendering reference services?

A 100% negative response was recorded for this question. The universities in Nigeria do not utilize mobile application for library services. Most libraries rely on their website for remote services before the advent of social media. The mobile app is yet another tool offered by technology for advanced mode of operations which the library could harness.

Question 6a: With your experience on the use of other mobile apps (e.g., mobile banking app, flight-booking app, dictionary app etc.), how would you recommend personalised library app in rendering reference services?

Question 6b: Why?

The responses to question 6a above indicate that, 59.4% (19) of the respondents highly recommended the app, 34.4% (11) just recommended, 6.3% (2) would rarely recommend, and none of the respondents chose the option of not recommending the app. This shows that the respondents understand the benefits that could accrue from utilizing mobile application for library services. Kawatra opined that the vast amount of information present in the world can only be handled electronically by an information management system [7]. This finding indicates that librarians are ever ready to improve on the mode of rendering library services.

The responses to question 6b were grouped according to similarities as follows.

- a. A beautiful innovation and added advantage to library reference services.
- b. Effective.
- c. It will be good if applicable.
- d. It will be wonderful to use mobile app in the library.
- e. It will be fantastic and very reliable.
- f. mobile app will be better as it can be customized to suit the objectives of a given library.
- g. It will be a great idea to have mobile app for library services.
- h. The two (social media and mobile app) can be used together for effective information dissemination.
- i. It is really needed.

The grouped responses above shows that librarians have the conviction that mobile library application will be beneficial to library services. In this technology era, to be operationally effective, organizations must embrace technology to keep abreast of new developments. The library as a growing organism must key into technological innovations for excellence in information service delivery to satisfy ever evolving information needs of patrons.

Technology has provided an excellent opportunity for librarians to achieve their core mandate, which entails support for effective learning, teaching, and research through the provision of enhanced access to information services and resources. The respondents showed readiness and acceptance for a mobile app for improved library services.

Table 1. Representation of responses.

| SN | ITEM   | YES       | NO            |
|----|--|-----------|---------------|
| 1  | Does your library utilize social media to render reference services? | 30 (93.7) | 2 (6.3)       |
| 2  | If yes, which social media application                               | AVAILABLE | NOT AVAILABLE |
| a  | WhatsApp   | 28 (87.5) | 4 (12.5)      |
| b  | Facebook   | 19 (59.4) | 13 (40.6)     |
| c  | Instagram  | 2 (6.3)   | 30 (93.7)     |

| Other Platforms |  | YES       | NO            |
|-----------------|--|-----------|---------------|
| a               | Website  | 30 (93.7) | 2 (6.3)       |
| b               | Others (Telegram and Blogs)  | 2 (6.3)   | 30 (93.8)     |
| 3               | Specify the reference services   | AVAILABLE | NOT AVAILABLE |
| a               | Inquires   | 21 (66.7) | 11 (34.4)     |
| b               | Selective Dissemination of Information   | 21 (66.7) | 11 (34.4)     |
| c               | Frequently Asked Questions   | 13 (41.7) | 19 (59.4)     |
| d               | Referral   | 11 (33.3) | 21 (65.6)     |
| e               | Current Awareness Services   | 8 (25)    | 24 (75)       |
| 4               | ITEM   | YES       | NO            |
|                 | Do you have a policy for the application of social media in rendering reference services | 11 (33.3) | 21 (65.6)     |
| 5               | Recommendation for Mobile Application  | FREQUENCY | PERCENTAGE    |
| a               | Highly recommended   | 19        | 59.4%         |
| b               | Recommended  | 11        | 34.4%         |
| c               | Rarely recommended   | 2         | 6.3%          |
| d               | Not recommended  | 0         | -             |
|                 | Total  | 32        | 100           |

## 5. Conclusion

The library is the entry point of emerging technology, and librarians are constantly in search of ways to improve on information services delivery especially in this information communication technology era. This study proposed the use of mobile library application as a succour to the challenges librarians face in using social media in the discharge of library services. The application was conceptualized and explained. The opinion of the respondents showed that they welcomed the idea of library mobile application. The study identified three major benefits of application in the library which include revitalization of the reference services such that patrons with intent to use the library services would utilize the application without noise or interference, project such library to the world and increase patronage. This is because the registration of patrons limited by geographical locations can be made possible enabling the library to boast of home and foreign patrons, and can utilize such opportunity to showcase their local content from the institutional repository to an array of foreign patrons. This would result in refined apo-mediating role of librarians between information and users. It is, therefore, recommended that academic libraries should adopt a mobile library application, and design a policy guiding the services and usage of such application.

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