

**Big Data and Collection Management Practices as determinants of Quality Service
Delivery among Librarians in Higher Institutions, Ekiti State, Nigeria**

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of Communication & Information Sciences, Lead City University Ibadan, Oyo State,
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Certification

This is to certify that this thesis was carried out by **Folashade Precious OJO** with Matriculation Number **LCU/PG/004054**, a student in the Department of Information Management under my supervision in the Faculty of Communication and Information Sciences, Lead City University, Ibadan, Nigeria and that the work has not been previously submitted.

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Dedication

This thesis is dedicated to Almighty God, my parents and siblings.

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Even though the above-mentioned institutions and persons have assisted in this research work, I alone stand responsible for the error(s), if any is found in the work.

Abstract

Librarians in institution libraries are expected to display a level of high quality services to their users, hence, this study examines the influence of big data and collection management practices on quality service delivery among librarians in higher institution libraries in Ekiti State. The study adopted a descriptive survey research design. The study population consists of 84 librarians in institution libraries in Ekiti State. Cronbach's alpha reliability test was performed on the data to confirm the items' internal consistency, and the result was 0.75. The data collected in this study was analysed using descriptive statistics such as simple percentages, mean, and standard deviations to analyse the research questions and demographic data. In addition, the study hypotheses was tested at a 0.05 level of significance using inferential statistics. The result of the study revealed that the level of quality of library service delivery in higher institutions in Ekiti State was high. The finding of this study also revealed that volume was the most the prevalent big data practices in libraries in higher institutions in Ekiti State; followed by velocity, while varieties was the least. The finding further revealed that acquisition was the most prevalent collection management practices existing in libraries in higher institutions in Ekiti State; followed by selection and collection development policy, while weeding was the least.

The hypothesis test also revealed that big data and collection management practice significantly influence the quality service delivery of librarians in higher institutions in Ekiti state. In addition, both big data and collection management practices have a significant combined influence on quality service delivery. The study concluded that despite existing measures promoting quality service delivery, there is considerable room for improvement. Therefore, it was recommended that favourable environment as well as capacity building training for librarians should be put in place to ensure that librarians deliver a high level of quality service in Ekiti State.

Keywords: Big Data, Collection Management Practices, Library, Quality Service Delivery, Institution Libraries

Word Count: 288

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List of Acronyms

ABUAD	Afe Babalola University University
CDP	Collection Development Policy
QSD	Quality Service Delivery
SPSS	Statistical Package for Social Science

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Chapter one

Introduction

1.1 Background to the study

The goal of libraries is to create and preserve a collection that is sufficient and pertinent to meet the information needs of patrons in order to advance their research endeavours, advance their professional careers, and stay abreast of industry advancements. Libraries are designed to give patrons access to books and other information resources that are available to members of their parent institution in order to facilitate learning and research. Libraries are valuable resources that provide access to information, social areas, and educational possibilities¹. The difference between the customer's expectations and their impressions of the service they received is another way to define the quality of service delivery.

The notion of service delivery excellence holds significance as it enables businesses to get a competitive advantage over all other rival businesses in their sector². Prior research has demonstrated that providing high-quality services improves customer satisfaction, increases the likelihood that customers will speak favourably of the service provider, increases cash flow and shareholder value, lowers customer attrition, and increases customer loyalty³. The standard of library services, which are mostly rendered by library staff and administrators, is a major determinant of a university's quality. It has been discovered that having user-friendly library catalogues, comprehensive collection guides, and well-organised volumes can help library patrons advance their technological, cultural, and intellectual growth. Therefore, library administration must have skilled employees who can be inspired to provide high-quality services to students, researchers, lecturers, and others in order to satisfy user needs and complete the university's objective⁴.

Through their many services, libraries support research, teaching, learning, and other activities that are important to their parent organisation. They serve as the hubs for scholarly endeavours. Without the assistance of a quality library, no academic institution can claim to be able to sufficiently meet the information needs of its scholars. This results from the reality that every educational institution needs a good library service to succeed, and that a library's value is based on how its patrons view and use its materials and services⁵.

Libraries offer a wide range of resources, services, and amenities, including conference spaces, computer laboratories, cosy seating places, and access to print and digital publications. Many have also increased the scope of their offerings in recent years to include e-books, audio-visuals, and online databases⁸. Assessing the quality of a service is more challenging than assessing the quality of items. It is possible to quantify goods, but not services. Therefore, quality, being an intangible concept, is assessed based on how the service is perceived by the provider or the user. Service quality is thus a business concept used by consumers to adjudge a product/service as either good or bad because it has fulfilled the need or beyond the needs of the user. Businesses have learnt that in order to thrive in a fiercely competitive and dynamic market, they must exist for their consumers and provide them with the services they need in order to consistently turn a profit and stay in business⁶. By extension libraries exist and serve its users appropriately by meeting their information needs. The quality of the services provided can be adjudged appropriate or inappropriate by users when it meets, exceeds or does not meet their information quest

Quality service delivery will be measured with affect of service, information control and library as a place. Service affect talks about librarian's competency and helpfulness in delivering a good and quality library service, librarians are expected to be competent, knowledgeable, and be ready to serve users and meet their information needs always. information control explains the library's collection adequacy for self-reliance service i.e how

adequate and rich the collections of the library is and how easy it is for users to navigate and make use of the library. The last is Library as Place which talks about the physical facilities and environment of the library. The environment of the library is supposed to be welcoming, conducive and encouraging for users to use. The use of websites and library management systems, which have contributed to the expansion of data and information and made big data a vital tool for improving service delivery and decision-making, are just two examples of the many developments that libraries are facing in the digital age.

Big data is a term that encompasses a variety of different concepts, including the collection and consolidation of massive amounts of data, as well as the application of modern digital tools to discover patterns connected to human activity⁷. Given the exponential growth of digital information and the emergence of technology that facilitate its collecting, storage, and analysis, the landscape of library services has changed dramatically. Libraries are no longer restricted to physical collections; they have extended to include digital repositories, internet databases, and collaborative platforms. The advancement of the digital age, marked by widespread adoption of information communication, the internet of things, and cloud computing, has resulted in a significant increase in data across various aspects of life within the digital environment, as such libraries go beyond curating and organising information. From this perspective, the challenges and opportunities occur owing to the explosion of information and the extensive utilisation and expansion of data, leading to the need to manage this huge.

This scenario emphasises the importance of evaluating these elements, as the large accumulation of data on such a scale is usually referred to as "Big Data." Today, big data has become a serious issue in various domains and has attracted great attention in both research and application in Nigeria⁸. Big Data is certainly a new area of academic research; thus, it is essential to explore the aspects that impact libraries and the new challenges it presents. The

field of networks and digital technologies is undoubtedly dynamic and rapidly developing and in turn this has led to the continuously increasing volumes of information. Within the Big Data context, the traditional library service concept has changed, as effective library collection development requires the effective analysis of the needs of library patrons. In addition, with the implementation of Big Data technologies, new knowledge can be gained and new services may be provided, Big Data is unquestionably a new area of academic research; therefore, it is critical to investigate the features that affect libraries and the new issues it poses. The world of networks and digital technologies is surely dynamic and rapidly evolving, which has resulted in an ever-increasing number of information. Within the Big Data context, the classic library service notion has evolved, as efficient library collection growth necessitates an effective study of library patron needs. Furthermore, the application of Big Data technology allows for the acquisition of new knowledge and the provision of new services, hence adding value to existing ones. Furthermore, librarians can use big data analytics to analyse and improve library services, resulting in more high-quality, focused services. Furthermore, librarians can use big data analytics to analyse and improve library services, providing more high-quality, targeted services characterised by a self-adaptive personalised information system and a knowledge information service for auxiliary decision-making.

Researchers highlighted volume, velocity, and variety as key characteristics of big data. Volume refers to the vast amount of data collected and presented in the library on a daily basis. Some of this data includes user registration, clock in and out data, and borrower registration data. Velocity refers to the speed at which data is created in real time. Recently, data has been generated in the library at a rapid pace, ranging from those captured physically to those generated online. Varieties refer to data that is available in several forms. There is organised, unstructured, and semi-structured data collected from various sources. Data is

being generated in the library in form of physical data generated through daily library routines as well as digital format from the library's website and social media pages⁹.

Looking at big data attributes in relation to the library, big data volumes are relative and vary, and can be influenced by factors such as time and data type. Velocity characteristics of big data could be discovered in the library as files on servers. The library's accumulated data sets (over time) are considered big data. These data sets, if evaluated, should provide valuable insight into the library's decision-making process. This could include information about who uses the library, how they use it, and which resources are most commonly used. In other words, the analysis of library big data can help the library establish and sustain an effective library service⁹.

Every library's aim is to meet its users' information needs by providing a variety of information resources on which they can base their decisions. As a result, information resources are incredibly significant because without them, no library can work optimally. Thus, the accumulation of information resources in any library necessitates careful design¹⁰.

Collection management practices is the systematic planning of a library collections which Collection management procedures refer to the systematic planning of library collections, which includes operations such as selection, acquisition, appraisal, ordering, and weeding. It is the systematic creation of a library collection based on meaningful data rather than subjective preferences. This implies that collection development cannot be done based on the librarian's whims and caprices, but rather with due respect for the library's mission as drawn from the aims of its parent institution. In the course of selecting, assessing, acquiring, weeding, or planning any activity that will determine the status of the library's collections, the library's mission must always serve as the blueprint that guides all selection activities. Information resources selected and acquired by library should be able to reflect the nature of the information needs of users and generally, the overall mission of the library¹¹.

While the phrase "collection management" does not appear to be new to Librarians, as most of them frequently use it as a synonym for the terms "selection and acquisition," the practice remains one of the most complex and imaginative procedures of the library profession¹².

Collection management processes comprise a series of complex actions that are interconnected to achieve the goal of effective collection building in libraries. In this context, collection management techniques in academic libraries involve the following activities or components: collection development policy (CDP), user needs assessment, selection, acquisition, collection evaluation, weeding, and collection preservation. Collection development policies provide a chance to organise, plan, regulate, lead, and apply standards for library collection building tasks. The Collection Development Policy helps to preserve collection standards by guiding to avoid duplication of copies of books or any resources throughout the selection process. Furthermore, a thorough Collection Development Policy should be capable of performing the following: provide practical guidance in day-to-day selection of reading material free of personal bias, helps in determining the best method of acquisition, supports and assists in justifying the selection of a collection, and finally, acts as a rational guide for budget allocation and also helps in long-term budget planning by stating priorities and outlining growth and development goals.¹³.

Another important aspect of collection development technique is assessing the needs of users. In fact, it has long been established that the primary purpose of higher institution libraries is to meet the information demands of its users. Because of the tremendous importance of users in libraries, librarians have realised over time that an effective collection must be established with a firm understanding of its users' information needs. As a result, the collection development practice's selection and acquisition phases are guided by a proper assessment of user needs. As the first and most important step in the acquisition process, selection is useful in guiding staff in selecting and de-selecting print and electronic resources with minimal

personal bias, identifying gaps in collection building responsibilities, ensuring continuity and consistency in selection and revision, clarifying the purpose and scope of collections, evaluating selection decisions, and providing a training tool for new staff. It allows individual selection decisions to be justified on a consistent basis.¹⁴ Another important process in collection development practice is weeding and preservation.

Weeding and preservation are two more notable collection development strategies used in tertiary institution libraries. These two tasks are linked because they complement one other in producing a vivid collection. Weeding, which is primarily motivated by space constraints, aims to eliminate old and irrelevant materials, as well as duplicate copies. The activity also tries to discover materials in poor physical condition for removal. Library resources decay in phases, either because they are heavily utilized or because they are laying idle on the shelf, thereby gathering dust or becoming moldy. In either instance, the materials are removed off the shelf and stored or disposed of. As a result, weeding or preservation is required for severely used items submitted to the bindery for repair or reformatting. Weeding and preservation therefore combine to provide the library a pleasing appearance while also improving collection utilization because things are easily accessible on the shelves. In this method, user pleasure is guaranteed. Finally, to complete the cycle of collection development practice, evaluation of collection procedures, both internally and externally, is critical in achieving user expectations. Despite the significance of collection management practice in academic libraries in tertiary institutions, there appear to be an increasing number of problems preventing the correct practice of collection development in tertiary universities. Limited financial support, high user demand, rapid technological change, a lack of collection development policy, a lack of equipment and facilities, and insufficient library space are all issues impeding collection development practice in Africa. In most cases, it is documented that these difficulties are addressed, yet the problem persists in the majority of African

tertiary institutions, particularly in Nigeria. As a result, these issues appear to have a significant impact on the quality of service delivery in academic libraries at higher institutions¹⁵.

While several studies have been conducted on quality library service delivery, its effect on utilization of library resources & patronage in academic libraries, However, little or no study has been done, specifically on big data, collection management practices and quality library service delivery among librarians in higher institutions in Ekiti state Nigeria.

1.2 Statement of Problem

Providing high-quality library services is a key task for many libraries and information centres across the world. Effective library service delivery is critical for addressing patrons' different requirements, facilitating educational and research activities, and encouraging lifelong learning. However, a number of critical issues frequently impede libraries' ability to provide optimal services. When collection management practices are not followed properly, the library's collections become imbalanced. This might lead to an oversupply of information resources in some fields while neglecting others. It may also result in the acquisition of outdated, irrelevant, and low-quality information resources. When this occurs, users may become dissatisfied with the quality of library services.

Different data sets are generated in the library on a regular basis, which must be evaluated in order to provide important insight into the library's decision-making process. This could include information about who uses the library, how they use it, and which resources are most commonly used. Libraries' relevance is determined by the quality of their service delivery, hence scholars have attempted to explore aspects influencing library service delivery. Factors such as collection quality, user satisfaction, availability and accessibility of information resources amongst others have been used to measure library service delivery in

libraries. However, little attention has been paid to factors such as big data and collection management practices. It is in the light of the above, that this study is embarked upon to empirically investigate big data and collection management practices as determinants of quality library service delivery among librarians in higher institutions in Ekiti State Nigeria.

1.3 Aims and Objectives of the Study

The study investigated the influence of big data and collection management practices on quality library service delivery among librarians in higher institutions in Ekiti State Nigeria.

The objectives are to:

- i. identify the level of quality of service delivery among librarians in higher institutions in Ekiti State Nigeria
- ii. assess the prevalent big data practices within libraries in higher institutions in Ekiti State
- iii. identify the prevalent collection management practices existing among librarians in higher institutions in Ekiti State
- iv. ascertain the influence of big data practices on quality service delivery among librarians in higher institutions in Ekiti State
- v. determine the influence of collection management practices on quality service delivery among librarians in higher institutions in Ekiti State
- vi. determine the combined influence of big data and collection management practices on quality library service delivery among librarians in higher institution in Ekiti state

1.4 Research Questions

This study is guided by the following research questions:

1. What is the level of quality service delivery among librarians in higher institutions in Ekiti State?

2. What are the prevalent big data practices in libraries in higher institutions in Ekiti State?
3. What are the prevalent collection management practices existing in libraries in higher institutions in Ekiti state?

1.5 Research Hypotheses

HO₁ There is no significant influence of big data practices on quality service delivery among librarians in higher institution in Ekiti State

HO₂ There is no significant influence of collection management practices on quality service delivery among librarians in higher institutions in Ekiti State

HO₃ There is no significant combined influence of big data and collection management practices on quality service delivery among librarians in higher institutions in Ekiti State

1.6 Significance of the Study

The study findings are expected to be of use to Librarians, library users, library management, researchers and the existing body of knowledge as a whole.

Librarians will benefit from the study as it will help them to work with greater consistency towards delivering quality and efficient library services by using collection development policy in developing and managing robust collection that cater for the diverse needs of users.

Librarians will also ensure that the materials that will be acquired in the library are ones that will serve the users appropriately and it will also help them to constantly evaluate the library's collection in order to see if there are some that needs to be weeded out. Librarians will also be more aware about big data and the different data sets in the library and how they can be analyzed for the purpose of making decisions about improving the services of the library which will in turn help increase the quality of their service delivery. The study will

also benefit library users such as students, lecturers, and staff of the institution as it helps them to become aware about big data and collection management practices. Also they will also in turn enjoy quality services from the librarians to help with their research, teaching and learning.

Library management will benefit from the study as they can examine their knowledge of the present reality of quality service delivery, especially relating to collection management practices and big data. Also, it will help to know if the services offered meet targeted users' needs. It will help library management adjust their collection management practices as well as utilize the different data sets in the library in order to maintain relevance in the academic environment. The study will benefit the institution because when the university library offers services that develop the people (students and lecturers) automatically, it promotes the output of the university.

The study will be relevant to researchers understudying big data, collection management practices or quality service delivery. Thus, it contributes to existing knowledge. Lastly, this research endeavour will add to the growing body of knowledge in the literature of library and information science, as well as give tools for students and researchers to conduct their research as it relates to big data, collection management and quality library service delivery. This work will also be of significance to library users as it will enable them enjoy a quality and efficient library service through a robust and detailed library collections which will help satisfy their information needs and help in their teaching, learning and research. When completed, the work will contribute to the existing literature in libraries on quality library service delivery in general, particularly in areas where this type of research exists, and will serve as a starting point for future research.

1.7 Scope of the study

The scope of the study is to investigate the influence of big data and collection management practices in achieving a quality library service delivery in higher institution libraries in Ekiti state. There are two independent variables which are big data and collection management practices and one dependent variable: quality service delivery. The measures for big data will be Volume, Velocity and Varieties. In contrast, the measure for collection management practices will be collection development policy (CDP), Acquisition, Selection, and weeding of collection in higher institution libraries in Ekiti state. Affect of service, information control and library as a place will be used to measure quality library service delivery. The targeted population of the study will be higher institutions in Ekiti State. The respondents of the study are library personnel (professionals & para professionals) in tertiary institutions in Ekiti state such as Afe Babalola University Ekiti, Ekiti State University, Federal University, Oye Ekiti, Federal Polytechnic, Ado Ekiti, Crown Polytechnic Odo, Ekiti State Polytechnic Isan, Bamidele Olomilua University, Ikere all in Ekiti State Nigeria.

1.8 Limitation of the Study

The major limitation encountered during the course of this research is getting respondents to fill the questionnaire as most of the librarians were on leave when the research was ongoing, but the researcher made sure to reach out to them often to ensure that they fill the questionnaires appropriately.

1.8 Operational Definition of Terms

Quality Service Delivery: Quality Service Delivery refers to the level of satisfaction and fulfilment of users' needs and expectations in a library setting, it is a method of investigating the quality of the services provided by librarians in higher institutions in Ekiti State.

Affect of service: This is the ability and attitude of librarians in higher institutions in Ekiti State in serving their users in the library.

Information control: This is the availability and quality of library materials and collections in libraries in higher institutions in Ekiti State.

Library as a place: This has to do with the physical facilities and environment of the libraries in higher institutions in Ekiti State.

Collection Management Practices: Collection management practices is the systematic planning and management of the collections in higher institution libraries in Ekiti State which includes activities such as collection development policy, selection, acquisition, evaluation, ordering, and weeding of the library's collections.

Collection Development Policy: Refers to a set of guideline and rules expected to be followed in the process of developing collection by librarians in higher institutions in Ekiti State

Selection: This practice is done by librarians in higher institutions in Ekiti State to pick among available information resources to be included in the library collection based on certain criteria.

Acquisition: It is the process through which librarians in higher institutions in Ekiti State add to the library collection through various means such as; purchase, gift, donation, etc.

Weeding: This is the process of periodically removing obsolete, worn out and irrelevant information resources from the library collection by librarians in higher institutions in Ekiti State.

Big data: These are data sets in the libraries in higher institutions in Ekiti State that may be analysed in order to reveal patterns, trends, and associations which can be used to know who is using the library, why they are using it and how they can be served better.

Volume: This is the hugeness or largeness of data in in higher institution libraries in Ekiti State that is generated and presented daily from sources such as social medial platforms, library routines as well as the library management software

Velocity: This implies the speed at which data is being created and acquired in higher institution libraries in Ekiti State.

Varieties: This means data available in different forms in higher institution libraries in Ekiti State such as the manual and digital form. Manual forms such as data generated from library routines and the digital forms such as data generated on the library's websites, social media pages and the library management software

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Chapter Two

Literature Review

This chapter presents the review of various literature related to the study. The literature is reviewed systematically to provide a clear analysis of the key concepts in the study as well as to show the views of global, continental and local scholars on the subject of discourse. The chapter is organized under the following subheadings:

2.1 Conceptual Review

2.1.1 Quality Library Service Delivery in Higher Institutions

2.1.2 Collection Management Practices in the library

2.1.3 Big Data Practices in the library

2.2 Theoretical Framework

2.2.1 LIPQUAL model

2.2.2 Doug Lanel (2001) Big data theory

2.2.3 Evans (1995) Collection Management model

2.3 Review of Empirical Studies

2.3.1 Collection management Practices and Quality service delivery

2.3.2 Big Data and Quality service delivery

2.3.3 Big Data, Collection Management Practices and Quality Service Delivery

2.4 Conceptual Model

2.5 Summary of Literature Reviewed

2.1 Quality Service Delivery

Library services are services that encourage the reading habit of society, especially those in the academic setting¹. There is a basic need of information resources for faculty, staff and student of higher education, hence the library is set out to provide articles and books containing information needed by the user.² With the presence of the library in a community, individuals will be provided with information material under appropriate equitable policies. It provides index and abstract services covering the professional periodicals received in the library, providing computer services and suitable hours of service, displaying newly arrived books in an acceptable location, and organising book exhibitions. The library environment provides information and resources for learning and research in the academic environment.³

A university library's primary goal is to serve members of its parent institution by providing information resources and services that assist learning, teaching, and research. The philosophy of librarianship is built on giving effective library services and providing relevant materials to patrons⁴. University libraries are typically rated based on their considerable contribution to the success of the parent institutions.⁵ As integral aspects of their host institutions, university libraries have over the years increased their variety of services to complement institutional goals and objectives, and have recently attempted to communicate their values to the respective user populations⁶. Because of its unique position in the broader system, the library's services are used to assess a university's excellence⁷.

Libraries, since ages, have stored materials that enable ideas, knowledge and experiences to be passed on from generation to generation. Libraries build collections tailored to the needs and goals of the organizations they serve. For example, academic libraries, build collections for students, teachers and researchers. This collection is systematically organized by the library for use by the users. The library collection serves as an important resource in

education, work, and recreation of millions of people. Earlier libraries were considered merely storehouses of knowledge, and the librarian a custodian of the collection. Users were expected to use the libraries on their own. Librarians concentrated more on the collection development and maintenance of the library rather than promoting its use. Present day libraries are different. These are considered as educational and service institutions. Here librarians not only organize the collection, but provide assistance to library users in various ways, to support learning, interest and other vocation related activities. The assistance and services provided by the librarians can be broadly grouped as reference and information services. These services promote the use of library material, connect the users with the library resources and meet the information needs of the users.

Service quality is something intangible that is supplied in a way that meets the needs of the customer, resulting in customer pleasure. Because services are intangible, assessing their quality is a complicated domain⁸. A study clearly demonstrates the complexity of service by seeking to extract many meanings. Service is not performed but is a performance; service is not dispensed but enacted; service between the provider and the recipient is an intricate process in which the nature of the service may change due to eternal or external factors, as well as the recipient's behaviour has changed and may continue to change⁹. All of these variables have made the conceptualisation and measurement of service quality extremely tricky¹⁰. Assessing the quality of services, particularly library services, has thus been a key subject of interest throughout the years, leading to a lot of study in numerous industries and gaining substantial pace¹¹.

Library service includes all packages of activities that the library provides to its users in order to promote and realise the aims of the parent institution¹². The nature and efficiency of services supplied varies amongst libraries. In Nigerian university libraries, research on the provision of library services is no longer a novel study¹³. Assistance in the use of library

collection and library tools such as catalogue including OPAC (Online Public Access Catalogue), reference books, etc. is provided to the users, who are not familiar with the library. This information is sought by the user, who visits the library for the first time. Such readers need directional guidance in the use of the library. They need to know the general layout of the library, location of the newspapers and magazines display racks, location of the textbooks and reference books, availability of card catalogue or computer terminal for searching the library collection, etc. Welcoming such users, personal assistance is provided in a number of ways. In an attempt to categorise the services of libraries and information centres, they were divided into technical services (such as collection development, cataloguing, classification, etc.) and readers' services, which are those services that have a direct impact on the users' satisfaction of their information needs¹⁴. Looking at library services in general, it was noted that the services often offered in academic libraries involve lending services, reference services, reprographic services, referral services, Current Awareness Services, Selective Dissemination of Information, indexing and abstracting services, document delivery, electronic mail services, bibliographic services, user education/orientation services, and online searching, among others¹⁵. Similarly, a study identified the following available services in libraries: lending services, bibliography instruction, library orientation, general and specific information provision, literature search, readers' advisory service, selective dissemination of information (SDI), bibliographies compilation, indexing and abstracting services, reprographic services, and translation service, among others as services that a university library provides.¹⁶ Another researcher identified the following services for library registered users: loan services, reference services (both digital and print), interlibrary cooperation services, photocopy services, bibliographical services, binding and lamination services, printing services, internet services, CD-ROM search, and readers' advisory services, among others. Various scholars have conducted studies on library services provided in

university libraries.¹⁷ Some researchers investigated faculty members' expectations of university library services in three universities in Ogun State, Nigeria, and discovered that electronic information resources services, internet services, and circulation services were fully provided and utilised by the respondents, whereas CD ROM services, online public access catalogue (OPAC), user education, selective dissemination of information (SDI), and current awareness were moderately provided. Another dimension revealed that reprographic, abstracting and indexing, and literary search services were the least available. A study examined university library services at Babcock University in Nigeria and found that reference, circulation, binding, and photocopy were more effectively available, while interlibrary loan services, indexing, and compilation of bibliographies were not effectively available, as attested by respondent, reprographic service, abstracting and indexing, and literature search services were the least provided in another dimension¹⁸. Similarly, another study focused on Imo State University library services in Nigeria and discovered that the most essential services majorly provided were circulation, cataloguing, abstracting, reference, and indexing services, while interlibrary and information services are moderately available¹⁹.

To meet information needs of the users, libraries provide a range of services, which are broadly known as Reference and Information Services. Reference services are concerned with direct personal assistance to the user seeking information. It covers direct services such as assistance to the user in the use of the library and its tools, assistance in searching and locating documents, ready reference and long range reference service, literature search and compilation of bibliography, helping in research etc. and indirect services such as selection, organization and maintenance of library material for reference service, and other tasks of reference section such as keeping a record of reference queries, preparation of publicity material, evaluation of reference section etc. Information services are provided in anticipation of various needs of the users of libraries. Current awareness services, indexing and

abstracting service, etc. fall under information services. At times, these services are provided on demands from the users. Many definitions of service quality exist from various perspectives.

Reference service is a personalized service which is provided in response to the request from the user. Request may be for locating an answer to the fact finding question; for literature search for solving research problem; for compiling a bibliography; or for general help. Reference service as “Personal service to each reader in helping him to find documents, answering his interests most pin-pointedly, exhaustively and expeditiously.” It is also he says, “To provide the right book to the right reader, in the right personal way.” To provide the service the librarian may utilize the resources available in the library as well as those available outside the library. Depending upon the user’s requirement, librarian may give information itself or the documents containing the information. Overall, service quality is determined by the recognition and meeting of user needs. This demonstrates how important it is to meet users' expectations. This is why service quality is an important consideration. Service quality refers to users' comparison of service expectations with the organization's performance²⁰.

Service quality is described as the level of perfection in the resources and services supplied to users, allowing them to achieve maximum pleasure and delight. In a word, service quality refers to services that meet users' expectations and views²¹. Service quality refers to meeting users' expectations on a regular basis. Quality services are resources and services that meet user expectations and views²³. Library service quality is concerned with achieving, to some extent, the level required to satisfy users' information demands. Service quality is a key aspect of effective services since it supports the construction of a favourable image and referrals while increasing satisfaction²⁴. Service quality enables libraries to perform better in terms of the value they provide to their consumers. Libraries must provide quality services to

retain their patrons and increase their role²⁵. A good quality library services attract and retain academic high fliers, as well as contribute to an institution's status²⁶.

Quality refers to characteristics or products that meet the needs of end users. Due to the difficulty of defining the term quality, there has been much dispute about how to define quality in service organisations, i.e. service quality. This is because service is intangible and hence more complicated.²⁸ This complexity is caused by the fact that service quality begins with design and is present throughout the entire process of delivery and performance, with assessment during the delivery process.²⁹

The concept of service delivery in libraries entails the act of providing library users with the necessary professional assistance required to meet their information needs. This assistance is fragmented into different direct and indirect services which constantly need to be improved upon to catch up with the ever-changing information needs of the 21st century library users. In a collaboration of the aforementioned. Enhancing library services for the users aims to provide them with a quality service. Service quality in libraries at its most basic level connotes library users' comparison of their service expectation and perception of the actual service received. Quality of service has become the top priority to service-oriented institutions like libraries, and its assessment has become imperative. It is, therefore, pertinent to have a glimpse at the importance of improving service delivery in libraries. A substantial amount of effort in scholarship has been placed on unravelling how an improved, enhanced or quality service delivery in libraries significantly influences their outcome. Service quality has been revealed to influence library users' satisfaction increase use of library resources boost users' loyalty towards the library and is extremely beneficial to both the library and the user community. Thus, libraries are taking measures to improve their service delivery to achieve and sustain quality. In improving quality of service delivery in libraries. Not much exists in

literature on explicitly improving the quality of service delivery in libraries through the management of knowledge which is the core and operational resource of every library.

Service quality helps different organization service delivery process from that of their competitors.³⁰ Library service quality is defined as the difference between users' expectations and impressions of the actual service received.³¹ The dominance of service quality in business and marketing strategy has indeed facilitated the success of competition globally.³² Hence, for provision of quality library service by the universities, the individual users' expectation is used as a means of competition in the market place because service quality has gone beyond the walls of theoretical expressions.³⁰ In the research carried out by different scholars, traditionally library services have been measured via information collection, number of visitors, issuance and returning statistics, budget and employee size. Users of library resources have different expectations of library services which will result to difference in opinion about their perceived library services.³¹

Similarly, after considering several definitions, we determined that service quality refers to when an intangible item is delivered in such a way that the consumer is satisfied. Based on the numerous definitions, it can be claimed that service quality is primarily concerned with guaranteeing customer satisfaction.³³ Although service quality is a challenging topic to define, there appears to be widespread agreement that service quality should be determined by the client. This suggests that the customer's impression of the service determines and measures service quality³⁴ This is the most widely accepted definition of service quality since a service should meet the needs of the customer for whom it is intended, and it is only natural for the intended customer to signal whether or not those needs have been satisfied. Because a

service's expectation might influence how it is viewed, service quality can be defined as the difference between the user's expectations and perceptions.³⁵

The ever-increasing expectations of users, user information habits, and the complexity involved in providing information are just a few of the reasons that libraries must evaluate whether the services they provide fulfil the needs of their users. Furthermore, rapid technological innovation and rising information costs have raised the expectations of the parent organisation, as well as those of its consumers. As a result, libraries are expected to reassess the old methods of evaluating their services in order to meet customer requirements while also demonstrating relevance, transparency, and accountability.³⁶ The usual procedures that libraries have employed for many years are no longer suitable. Describing the quality of library service based on collection size or opening hours "no longer fulfils the goals for successfully meeting the users' demands for information" and is thus regarded inadequate. In light of the many definitions of quality, it is crucial to remember that the critical issue mentioned is the requirement to meet the needs of the users, resulting in customer satisfaction. As a result, service quality is heavily influenced by customer satisfaction. Other significant characteristics that are also portrayed in the definitions of service quality are "satisfaction", "expectation", and "perception".

The library is an organisation that provides reference and information services to its consumers. Library service is a combination of service method and delivery. In a library, the services provided by the acquisition, technical, and maintenance sections are the processes that are carried out and then distributed to users. Quality should begin with the acquisition part and continue equally to the circulation section. A user who had a negative experience with the library will tell many individuals, but a positive experience will be shared to very few. As a result, it is critical for librarians to understand their users, what they want, how they want, and when they want documents and information.³⁶

Library services consist of arrays of activities and facilities targeted at providing information in various formats so as to satisfy the broad and varying information needs of library patrons within a community or society. Information services are library services that are aimed towards providing users with the right information needed to answer their queries and to help them accomplish the task of for decision making or reduction of the level of uncertainty. Information services are of various types ranging from reference and information service, document delivery services, online reservation of books, current awareness service, Selective Dissemination of Information (SDI) services, inter library loan service, online database services, resource sharing, information repackaging, email alerts, instant messaging, etc.

All over the world libraries are dedicated to providing free and equitable access to information for all, be it in written, electronic or audiovisual form. They play a key role in creating literate environments and promoting literacy by offering relevant and attractive reading material for all ages and all literacy levels and by offering adult and family literacy classes. They embrace the social responsibility to offer services that bridge social, political and economic barriers, and traditionally make a special effort to extend their services to marginalized people. Libraries assist in finding, using and interpreting appropriate information that opens up opportunities for lifelong learning, literacy enhancement, informed citizenship, recreation, creative imagination, individual research, critical thinking, and ultimately, empowerment in an increasingly complex world. Service quality should be established primarily by examining the criteria that a consumer would use to assess quality. In an attempt to define service excellence. Some authors contended that within each variable, the user's expectations and perception of the service should be met. A quality issue arises when there is a mismatch between the user's expectations and perceptions. According to considerable study in numerous service industries, customers use the same characteristics to judge whether a service is of quality or not. The study found that consumers employ the same

criteria regardless of the type of service. Their research discovered service quality characteristics, which are "dimensions that consumers use in forming expectations about and perceptions of services". The study also identified "determinants of perceived service quality". These elements are significant in the conceptualisation of the service quality construct and have led to the creation of methods that can be used to measure the construct.³⁷

A strong service climate leads to higher service quality, and three components are required to develop a healthy climate and deliver services. They are service strategy (choice on service parameters, develop and design service value and platform), service performance (training, rewards, and empowerment of staff for high service delivery), and user results (measuring results through user feedback)³⁸. Some criteria or benchmarks that can be used to measure library service quality include the currency and relevance of the information resources, the usefulness of catalogues and finding tools in providing access to its collections, the ability and cooperation of library staff to use the facilities to bring information resources and services to the attention of the users, and the attitude of staff³⁹. The overall perception of the library's ability to give access to materials when and when needed can be used to assess the quality of the resources needed⁴⁰. A study divided service quality in academic libraries into three categories: information resources, atmosphere for service delivery, and services offered by staff⁴¹. According to the results of the LIBQUAL survey conducted in 2008, the services did not match the required standards of users, so the library prepared an action plan to remedy the issue. To address this issue, the library reorganised its information resources and trained its staff in service delivery⁴². Evaluating library service quality and relevance will allow libraries to improve their present systems and remain appealing to users. The technological advancement in this digital era has continued to enhance an improved quality information services delivery for libraries. It has helped libraries and librarians to device ways of offering services to users that are in distance location. Thus, libraries combine both

technology and information resources with internet connection to deliver information services such as online reference services, online catalogue, online chat, online document delivery, full text databases, email services, institutional repositories, etc. furthermore, the social media tools are deployed to ensure timely delivery of information and to interact with patrons to know their views and opinions

Libraries can now operate round the clock providing services. Publishers presently provide a wide range of e-resources that are accessible online through mobile technology. In the quest to meet up with the needs of library users, libraries can use various information dissemination techniques such as personalized collections, SMS/text notifications, online reference services, social networks, websites, mailing lists and OPACs. Librarians should serve as catalysts for the effective dissemination of information to promote true knowledge. They should disseminate information via existing digital media platforms to educate users. In an ever-increasing digital environment, libraries should establish working relationships with health agencies and communication organizations with the objective of cooperative developments of collections, referrals and information sharing for the satisfaction people information needs.

Library service quality is a continual activity that should be assessed on a regular basis to provide feedback. For example, SMU libraries organise a large survey in which their library users are given the opportunity to evaluate different services and use the outcome to enhance existing services⁴³. Libraries require a method for regular interaction with users. Furthermore, establishing contact channels and engaging in frequent communication with people is critical for understanding their expectations. This implies that librarians' participation of users in the assessment of their service will improve their usage of library services, as they are essential assets and stakeholders⁴⁴. The assessment of library service quality assists staff in understanding and acting on users' opinions about the quality of library services⁴⁵.

Effective delivery of information services that meet the needs and aspirations of citizens, decision-makers and life-long learners is a long standing goal of the information profession. The role of librarians is to support, enrich and provide superb services – in person and online. Librarians are information specialist with expertise in acquisition, processing, preservation and dissemination of information sources, for authenticity, objectivity, authority and currency.

Librarians can be found working in any sector of a nation be it health, education, agriculture, banking, technology etc. they are mostly in institution of higher learning, schools, government and private organizations and their role in the organization and management of libraries and information resources are fundamental to the success of their parent organization and for national development. The role of librarians in a traditional library setting focuses on the acquisition, processing, storage/preservation and dissemination of information to a target audience in a particular place and at a particular time. However, the integration of ICTs in information service delivery has transformed the method in which librarians render their services. Librarians are now facilitators of round the clock access to information resources within and outside the walls of the library. Hence, librarians are at the fore front of providing information services to respective communities in order to support their teaching, learning and research needs. Effective delivery of information services that meet the needs and aspirations of citizens, decision-makers and lifelong learners is a long standing goal of the library and information profession.

2.1.2 Collection Management Practices

The basic goal of any type of library is to provide information materials that are both reliable and relevant to the individual user. The level of satisfaction experienced by library clientele is a function of the richness, relevance and usefulness of the collection on offer in the library. In libraries, this can only be accomplished with living and growing collections. Library

collections refer to the carefully selected, acquired, organized and disseminated information materials. The collection of a contemporary library is usually made up of types of documents which can be broadly categorized as print and electronic resources. Print resources include books, magazines and serials, government publications, theses and dissertations, research reports, yearly reviews, conference proceedings, pamphlets, standards and specifications, patents, trade literature, maps, atlases, and globes, among other things. These are augmented by electronic information resources⁴⁸.

Introduction of diverse information resources on which users can base their decisions. As a result, information resources are incredibly significant because without them, no library can work optimally. Thus, the gathering of knowledge resources in every library necessitates careful planning. Collection management is the systematic planning of a library's collections, which includes tasks like selection, acquisition, appraisal, ordering, and weeding of information resources. It is the systematic creation of a library collection based on meaningful data rather than subjective preferences. This implies that collection management cannot be done just on the librarian's whims and caprices, but rather with full respect for the library's mission as drawn from the aims of its parent institution. In the course of selecting and reviewing collections, the library's mission must always serve as the blueprint for all selection activities. The nature of information resources selected and acquired by the library should be able to mirror the nature of the users' information demands and generally the overall mission of the library⁴⁹

Collection management is defined as the process through which a library's information resources are expanded and upgraded on both a qualitative and quantitative level⁵⁰. It is a term that is frequently used in libraries to denote the process by which a library accumulates a variety of relevant information resources essential to meet user demands. This area of activity is responsible for the selection and procurement of information materials that enable

librarians and information specialists to carry out their numerous responsibilities to users efficiently. Thus, collection management practices comprise completing community analysis, formulating an acquisition policy, acquiring, weeding, and reviewing the collection⁵¹.

To meet the demands of the user community, a collection management system must follow a number of stages and rules that are typically in accordance with the services provided by a library and the aims of the parent institution. Typically, the acquisition process attempts to improve the quality of library collections and is carried out by library professionals to meet the diverse information demands of users. Collection administration includes all library tasks such as selection, ordering, payment, resource sharing, and weeding. It is the methodical creation of a library collection affected by useful data. It is a procedure that comprises examining the strengths and flaws of a plan in order to remedy its weaknesses and increase its strengths.⁴⁹ Collection management is the process of selecting, acquiring, and processing library content in various formats while considering users' current and future information demands. Collection development also includes the selection and deselection of current and retroactive resources, the formulation of coherent strategies for ongoing acquisition, and the evaluation of collections to determine the extent to which they can satisfy the information needs of users.⁵²

Collection management is a critical activity that requires careful planning and a well-defined strategy; it is a necessary step in the creation and maintenance of the library collection. The process is present in all sorts of libraries, regardless of size.⁵³ It is thought that the goal of collection development is to ensure that the library's mission is met, to create a repository or gateway to information for scholars today, and to capture the intellectual heritage of the current culture in order to meet the future information needs of learners and thinkers. Collection management in libraries, therefore, entails a healthy and rich offering of

information resources that would not only suit the demands of present users but would go a long way in serving the needs of future users.

Academic libraries acquire information resources through donations, direct purchases, legal deposits, bequests, and exchanges. Selection and acquisition of library materials rely on the type of library, because each library is interested in servicing primarily its users, who could be homogeneous or heterogeneous.⁵⁵ Researchers identified six options for acquiring library resources, including purchase, trade, gift, donation, bequest, and legal deposit. The collection development policy guarantees that items are obtained, thereby improving the availability and utilisation of information resources by users.⁵⁶ Acquisition of library resources is a highly significant component of librarianship because the quality and strength of the library collection only depends on the materials obtained in light of the existing collection growth policy⁵⁷.

These processes cannot be handled casually; it must be meticulously planned, reviewed, and continuously monitored. This is because of the key role the collection plays in helping the library achieve its mission and objectives. Additionally, it is vital to develop a high-quality collection because it has been established that in order for an academic institution to attract and retain outstanding academics and researchers, they must have confidence in the institution's ability to support their research activities. The library is the only institution that can provide much of this assurance. Indeed, there are instances where parents of prospective students visit the school to check out the library and other facilities in order to make decision about whether to send their wards to a particular academic institution⁵⁸. All of these have made collection management practice something not to trifle with. Rather, it a systematic and well-thought-out sequence of activities that starts with identifying a community to be served, acquiring and making available relevant resources and replacing the resources, after

evaluation, through weeding and acquisition of even more recent and relevant resources. At the heart of the collection development process is a collection development policy.

A collection development policy is a written statement of the principles that guide a library operations and, when correctly expressed, can serve as a day-to-day working tool that offers the necessary guidelines to carry out collection development activities⁵⁹. To do this, a collection development policy is required to ensure consistency in a system's collection development. It provides as a standard for selecting, purchasing, reviewing, and weeding the information resources that make up a library collection. Collection development policy is thus useful for: creating a collection and goals when planning the collection, serving as an evaluation tool for measuring the collection, serving as a guideline to staff when engaging in collection development activities, and providing valuable information to those wishing to learn more about a library's collection development structure. In essence, the collection development policy is an instrument designed to define standards for library collections⁶⁰.

Libraries acquire a variety of information resources to assist the parent institution's academic operations (learning, teaching, and research), which are aimed at meeting users' information demands. The collection development policy is intended to guide the processes that determine what kind of library resources libraries will acquire. The state of the library collection is thus determined by the collection development policy. This is because the amount to which users use information resources found in most libraries can be a good indicator of the effectiveness of the collection development policy and, as a result, how well users' information needs are addressed. In this regard, the degree to which users find the holdings of libraries relevant or the extent to which the library users would utilize the collections in the library, is largely dependent on the collection development policy and its application. It is imperative, therefore, to understand how well a' development policy is influences the utilization of information resources⁶¹.

Developing an effective Collection development policy is in itself, a meticulous task. It requires a vast knowledge of how to develop and manage library collections. The professional in charge of selecting and acquiring information resources has to put a lot of things into consideration. Some of the important factors to be considered include the library's goals and plans, users' needs and information seeking behavior, the scope, strength, and weakness of different subject fields in the collection, the library's human and material resources, and cooperative arrangements for sharing resources⁶². These considerations determine the content of the collection development policy. The average collection development policy has provisions for standards, and guidelines for various activities such as; community analysis, collection planning, collection development policies formulation, selection and the tools used for selection, issues surrounding publishing, intellectual property, and censorship, as well as collection weeding and evaluation⁶³.

Having a collection development policy is highly advantageous for academic libraries. It protects the library from being stampeded or led by emotions to acquire irrelevant information resources. Additionally, it can assist in introducing change into a library without encountering significant pushback, as guidelines are clearly laid forth in such a policy. Collection development policies are also effective instruments for internal and external communication. They can be used internally to communicate to the parent organization that certain types of information resources are relevant to the need of specific category of users or some information resources that may be considered as irrelevant are being purchased as per the instruction in the collection development policy.

The collection development policy can also serve as a defense mechanism against any challenge from lecturers and students as to why certain materials are housed in the library and not others as part of a coherent, consistent, and publicly announced plan. They can also be

used externally as policy documents when communicating with a network or a consortium). Most importantly, by establishing a strong framework within which to make decisions, such a document safeguards the library and information professionals from being accused of bias. In case any library acquisition is questioned, the challenger can be shown the collection development policy as an explanation of why the judgment was taken⁶⁴. The first task in the collection development practice is users' need assessment. This is because putting together a collection that does not meet the information needs of the target users is pointless. Thus, it is critical to regularly assess such needs and to predict future user requirements. Experts are unanimous that the initial step in collection development is user analysis. It was also pointed out that user's analysis must focus on both stated and normative needs, particularly in heterogeneous settings such as academic institutions. These demands must then be balanced against an awareness of what resources would be required to meet both types of information needs⁶⁵.

It is critical to keep in mind that library users are interested in collections on a micro level – not on a macro level, which is the major concern of the information professional. The user is looking for a specific book, article, photograph, or piece of information and is not concerned with the collection as a whole. This is why access to information sources not controlled by the library must be maximized. As users increase their reliance on online bibliographic and full text databases and on Internet searches, they develop into more sophisticated information consumers. This result in an ever-widening gap between what people believe is available and what the library actually owns. To build a winning library collection therefore, it is highly imperative to analyses the target users of the collection so as to be sure that researchers and academics would find such collection relevant to their needs. It is also important to determine the right quantity of information resources to acquire so as to conserve scarce resources⁶⁶.

Selection is the process of choosing from a wide range of options, some of the information resources that can be added to the library collection. The selection process is important due to various factors. The library is aware that there are always certain users who require each material; there are some information resources that may be contentious, uneconomical or simply out of sync with the library objectives. Selection decisions are therefore made without regard for predicted approval or disapproval, but rather on the merits of the title in terms of extending the collection and satisfying user interests. Selection is the process of selecting the appropriate library content to meet a user's requirements. Selection is also the process of selecting from a vast pool of information resources those contents that best meet the client's information needs. The process of selecting information resources entails choosing articles to acquire from a library's list of publications⁶⁷. There should be a well-defined policy for material selection that specifies the type and range of items to be selected and obtained. The resources chosen should reflect the parent institution's objectives and the needs of the intended users.

Following the dictates of the collection development policy, information resources are chosen based mainly on how they will benefit a specific audience. This is due to the fact that the amount of satisfaction a reader receives from a library is closely related to the library's collection of books and other items. Thus, the selection process is based on the goal of acquiring as many desirable titles as possible from an ever-expanding catalog of new books. For effective library selection, librarians often follow a set of criteria to choose from the pool of available information resources.

Acquisition can be defined as the process of adding to the library contents, information resources which include both books and non-book resources. One of the laws of librarianship is that 'library is a growing organism'. Therefore, any library or information center's

fundamental goal is to develop and transform its collection. As a result, it is a dynamic and on-going process. The library and information centers' managers must work closely with the representatives of various user groups in order to establish a balanced, user-oriented, and active collection. Instead of spending time and resources on collecting data that is useless, out-of-date, and passive, a system like this would allow acquisition of information resources to be based on actual need. Experts believe that the quality of materials collected rather than the quantity of volumes and titles should be taken into consideration while building a library's collection in order to improve information delivery and the use of such acquired resources to improve level of satisfaction for the user.

As a result of this, collection management relies heavily on acquisitions. To acquire materials for a library or archival collection by purchase, exchange, or gift, acquisition includes budgeting and negotiating with outside agencies, such as publishers and dealers, to obtain resources to meet the needs of the institution's clients in the most cost-effective and expeditious manner possible. The acquisition process encompasses various activities such as budget preparation, ordering, receiving, and processing of acquired information materials. As outlined by experts, the typical acquisition procedure begins with a stock check and concludes with the receipt and certification by the acquisition personnel of the ordered items⁶⁸. Information resources are acquired through various means. Information resources can be acquired into the library through various means. Some of the means identified in literature include the following;

Specific Orders involves the practice of ordering specific titles or items from vendors. Users are regularly demanding for specific information resources so the library can place an order through its vendors to supply the specific material whenever it is available. Librarians can place orders for any book or information resource that falls into a specific group or topic. As

an example, these are typically developed for serials. The librarian who has the knowledge of relevant serials needed by library users can place order with vendors to supply any title or journal related to a particular whenever they are available. This method of placing an order has the advantage of being fully automated. This way, the library is guaranteed of keeping its resources current and updated. The challenge with this mode, especially for libraries in developing countries is lack of funding which means that the library may not always have the money to pay vendors on a short notice⁶⁹.

Blankets Orders is a hybrid of a formal order and a process for getting consensus. In order to place a blanket order, the library must commit to purchasing all of its materials at once. It is common for libraries to sign an agreement with one particular publisher or vendor and purchase all of their offerings on a given topic.⁷⁰ It is advantageous to academic or specialist libraries because of the automatic purchase of materials in a certain field. Subscriptions is a term commonly used to describe periodicals, such as journals or newspapers that a library plans to purchase especially subscription databases. A library just needs to sign a contract once with a vendor or publisher, and the goods are automatically distributed when they are printed. If your subscription has expired, you'll have to sign up for another one. Libraries may occasionally allow patrons or outside parties to donate items as a form of charitable giving. When a gift comes in, it is up to the acquisitions department to decide whether or not they will be accepted. A large academic institution is more likely to adopt this strategy and the donors are likely to be alumni of the university. However, many prominent members of the society and reputable organization have been known to donate information resources and other equipment to academic libraries simply out of charity or as a way to discharge corporate social responsibilities⁷¹. Library collection development policies can indicate whether or not a particular library will take in donated materials. This is important to avoid dumping of irrelevant information resources into the library. Library information resources exchange

comes in several forms. Libraries can exchange materials for which they have excess for others they lack. They can also exchange unwanted gifts for needed ones. Some libraries also exchange new materials.⁷² Again, larger academic or research libraries are more likely to have a procedure in place for this type of acquisition. Vendor assistance is required by the librarian in order to obtain the essential information resources.⁷³

The mission, goals, and policies of the library's strategic plan will serve as the foundation for all of library collection management practices, as will procedures for selecting and discarding materials, accepting gifts, and other related topics, as well as a method for actually acquiring the materials that have been selected, all of which are based on the library's mission, goals, and policies.⁷⁴ The creation of a collection relies heavily on collection analysis. The library's collection can be evaluated on the basis of its overall quality. There are many ways to quantify quality, and one of those methods is through statistics. A large collection does not necessarily mean it is a high-quality collection; currency, turn-over rates, and other statistical data might give clues as to how valuable a collection is, as well, though. Analyzing a collection revolves around a fundamental principle: collections are designed to satisfy the requirements of the specific group of users they are intended to serve. Thus, it is important to conduct a collection evaluation that includes an assessment of how effectively the materials currently fulfill demands and how likely the materials are to continue meeting those needs for both current and future library clients⁷⁴. Apart from the need to satisfy users' needs, library evaluation is carried for various other purposes. In the context of libraries, weeding is the systematic removal of resources that do not meet a set of predetermined standards. Material selection and de-selection often entail a deliberate procedure. Keeping an active collection up-to-date, relevant, and in good condition requires regular weeding. It is observed that non-adherence to the principles of weeding and lack of guidelines for effective weeding procedure has turned many academic libraries into haven for cluttered, unattractive, obsolete and

irrelevant information resources. The worst part is that the few relevance and current information resources are often lost amidst a sea of unwanted and unused resources⁷⁵.

Weeding becomes necessary due to the fact that academic programs are often phased out when the curriculum changes and new ones are introduced. In addition, as the school year progresses, so, too, will the library's collection. However, many librarians are often at a loss in deciding what to get rid of from their beloved collection. Indeed, librarians are often regarded as hoarders who are typically reluctant to let go of any information resource. Generally, librarians unanimous that is necessary to periodically remove items from a collection is but that does not make the process any less difficult⁷⁷. When it comes to weeding, collection development policy is often disregarded. It is however a necessary procedure as access to appropriate library resources is made easier when obsolete or out of use materials are weeded from the collection. There is only so much room in a library that can be dedicated to storing its resources⁷⁸.

Collection management is the process of gathering and managing information items in a library to meet the information demands and service needs of library users⁷⁹. It is believed that collection management is not a haphazard endeavor by a well-planned undertaking involved careful decision-making. It is also a systematic process that encompasses a variety of actions such as assessing user needs, developing policies, selecting processes, acquiring, reviewing current collections, weeding out and storing portions of the collections, and planning resource sharing. In general, collection management presents itself through rules and written conventions that control resource selection and acquisition. As a result, selection and acquisition are considered procedural elements of the larger collection-building process⁷⁹.

2.1.3 Big Data Practices

Big data refers to data collections that are so large and complex that traditional data processing programs cannot handle analysis, collecting, storage, data curation, sharing, or transmission. To put it another way, big data can be defined as a vast volume, high velocity, and diverse set of information assets that require cost-effective and novel methods of information processing for increased insight and decision making. Big data refers to massive data sets that rapidly expand in many file formats, which may complicate data handling approaches and accelerate the development of technical solutions.⁸⁰ Another way to describe big data is as the frontier of a company's ability to store, process, and access all of the data required to function effectively, make choices and serve consumers.

Big data is described as data sets that are so massive and complicated that typical data processing applications cannot handle analysis, capture, storage, data curation, sharing, transport, and so on. Big data can be defined as large volume, high velocity, and high variety of information assets, necessitating cost-effective creative ways of information processing for improved insight and decision making⁸¹. Big data is a data asset with great volume, velocity, and diversity that must be converted into value using modern technology and analytical methodologies. In addition to the four big data principles, researchers introduced the idea of veracity. They emphasised that veracity is a vital feature of big data that determines the validity of the study⁸².

Big data is the evolution and usage of technologies that deliver the right user at the right time with the correct information from a mass of data that has been expanding exponentially in society for quite some time⁸³. A researcher contributed to the definitions of big data, describing it as a term for data sets that are so massive or complicated that typical data processing application was found unsuitable to deal with⁸⁴. Similarly, a study examined big data as a high volume, velocity, and variety of information assets that require cost-effective,

creative forms of information processing for increased understanding and decision-making⁸⁵.

So, big data is an extensive data sets, primarily in terms of volume, velocity, and/or diversity, which demand a scalable architecture for effective storage, manipulation, and analysis⁸⁶.

Big data is a phenomena resulting from the rapid flow of information. The topic of big data in libraries has recently gained traction. However, its application in the public or government sector appears to be restricted. Big data necessitates that libraries update their organisational structures as well as their internal data, which includes both electronic and paper collections. One of the significant concerns is the enhancement of librarians with unique skills.⁸⁷ Furthermore, any organisation, including libraries, that wishes to thrive in big data projects must have a clear understanding of their needs and work efficiently with large amounts of data. Some librarian jobs that have evolved from basic librarian work include data management consultant, data mining consultant, data research scientist, librarian data services, librarian data design, digital archivist, digital collections, strategist and architecture librarian, digital humanities design consultant, digital records archivist manager, data management services, librarian data research, research data management coordinator, scientific data curation Changes in the competency of librarians in the digital age demand them to upgrade their knowledge and abilities in order to keep up with the changes that occur.⁸⁸

Big data is the "next frontier for innovation" and has become a hot topic in the corporate world. Over the last decade, it has gained significant attention and is profoundly changing worldwide operations.⁸⁹ While there is no globally acknowledged definition, different sectors and industries view big data and its utility in different ways. Nonetheless, there is a universal understanding that big data has the ability to cause positive changes within organisations and contribute to tackling global concerns.⁹⁰ Big Data definition has received a great deal of attention and progress. Big data consists of large datasets distinguished by volume, variety,

velocity, and/or variability, necessitating scalable architecture for effective storage, analysis, and manipulation. According to Laney's concept, big data cannot be described without referring to the three Vs: volume, velocity, and variety. Big data refers to information with high velocity, variety, and volume, which can be costly to handle but has the potential for innovation, enhanced insights, and improved decision-making processes. To put it another way, big data can be characterised as a significant number of information assets that demonstrate high velocity and diversity, requiring cost-effective and novel techniques to processing in order to improve insight and decision-making capabilities⁸¹.

Big Data is defined as data that exceeds the processing capability of typical database systems; it can be too vast, dynamic, or incompatible with existing database architecture. To extract value from Big Data, many processing approaches are required. In larger terms, Big Data refers to data that is generated continuously, automatically, and quickly, posing a more complex challenge than sheer amount. Similarly, big data is the growth and usage of technologies that offer the proper user with suitable information from a mass of data that has been rising exponentially over time in society⁸³.

Taking into account the defining features of big data in terms of the Vs, one can wonder whether data collected in academic libraries, particularly in developing countries like Nigeria, where some material is still kept in analogue form, qualifies as big data. According to research, just a few studies have been conducted on the relationship between libraries and big data. This raises the issue, "Do libraries have big data at all?" because Big Data varies by field; Big Data in libraries differs from Big Data in other disciplines such as health, commerce, and government. Big data is relatively new, but it has permeated the commercial, government, health, and educational sectors⁹¹. Libraries appear to have evolved from the old configuration in which only data generated by the Library Management System and resources were scrupulously categorised using a limited set of metadata. Libraries increasingly collect

data from a range of sources, both organised and unstructured, rather than focussing just on books, journals, and catalogue data⁹². Academic libraries have typically collected data, analysed the results, and generated library statistics to assess their resources and performance. The introduction of Big Data has eased many data collection procedures, allowing libraries to do more complex data analysis. Big data technologies can be used to extract, organise, and analyse reader behaviour data from structured and semi-structured sources in order to improve library services and resources. Big data technologies provide insights into search trends inside library catalogues, allowing for advances in library resources, user experience, and services. Big data can be used in academic libraries in three ways: data sourcing, data analysis (also known as library analytics), and data visualisation. These big data applications by librarians have the potential to improve overall library services by offering a deeper insight into the needs of users and their information-seeking behaviours⁹². Designing services based on this knowledge should improve library operational efficiency, resilience to cyber attacks, and search capabilities. In this model, the library functions as a hub for the utilisation, storage, and organisation of data, particularly big data⁹³.

Researchers have highlighted volume, velocity, and variety as key properties or characteristics of big data. Volume refers to the vast amount of data generated and presented on a daily basis from sources such as social media platforms, library operations and processes, machines, networks, and human interactions, among others. Similarly, volume alludes to the unimaginable amount of information produced every second by social media, smart phones, cars, credit cards, photos, videos, and others. Velocity refers to the speed at which data is created in real time. It includes the degree of change, the connecting of incoming data sets at different rates, and activity bursts. Every minute, Google receives 3.8 million searches. Email users send 156 million messages, while Facebook users post 243,000 photographs. As a result, data scientists must now investigate new methods for collecting, processing, and utilising

massive amounts of data as they arrive. Varieties refer to data that is available in several forms. There is organised, unstructured, and semi-structured data collected from various sources. Structured data can be organised within a database's columns. It is easy to enter, store, query and analyse. Unstructured data, on the other hand, is difficult to sort and extract value from, whereas semi-structured data incorporates some aspects of structured data but lacks a clear framework. Similarly, it does not adhere to the formal structure of data models, such as the relational database management system. Previously, data could only be obtained from spreadsheets and databases; now, we have data in the form of images, videos, audios, emails, PDFs, social media posts, Word-processing documents, Web sites, and others⁹⁴. Looking at big data attributes in relation to the library, big data volumes are relative and vary, and can be influenced by factors such as time and data type. Velocity characteristics of big data could be discovered in the library as files on servers. The library's accumulated data sets (over time) are considered big data. These data sets, if evaluated, should provide valuable insight into the library's decision-making process. This could include information about who uses the library, how they use it, and which resources are most commonly used. In other words, the analysis of library big data can help the library establish and sustain an effective and efficient library services⁹⁵.

Nowadays, libraries offer online materials and services. Libraries also use social media platforms like Facebook and Instagram to promote their services and programs. Librarians may collect more online data and analyse it to add value to their services by utilising developing technologies and tools such as analytics software. Thus, libraries can use big data to make better decisions about collection development, upgrading public spaces, and tracking the use of library materials⁹⁶. Libraries must compete with other departments in their companies or institutions for attention, recognition, staff resources, technology, collaboration, collaborations, opportunities, and so on. Librarians should take use of these opportunities to

better position themselves for improved and creative service delivery today and in the future. Libraries must compete with other departments in their companies or institutions for attention, recognition, staff resources, technology, collaboration, collaborations, opportunities, and so on. Librarians should take use of these characteristics to better position themselves for improved and innovative service delivery today and in the future⁹⁷.

Libraries have traditionally been in charge of managing information, which includes collecting, organising, and making collections accessible. The basic issue with traditional libraries is their inability to locate materials that have been removed or missing from shelves, efficiently maintain track of a vast number of book records, and deal with late delivery⁹⁸. As a result, traditional libraries can no longer provide their usual services since they are overburdened with day-to-day operations. Recent technological breakthroughs in the twenty-first century have compelled libraries and librarians to integrate ICT applications into their daily operations in order to effectively and efficiently provide relevant services to their consumers. With the introduction of 5 Information and Communication Technology (ICT), the information industry became extremely competitive, to the point where information has become a commercial commodity, with various actors outside of libraries (e.g., mega-bookstores, online book dealers, publishers and aggregators, and even the internet) competing for patrons' attention. Their job is to supply customers with a private channel of information (both physical and intangible information items), at the request of people or organisations.⁷³

Big data has been utilised to make better corporate decisions, predict future healthcare trends, and assess customer service satisfaction. This has made Big Data a prospective area for future economic and societal value gains, as well as a long-term source of competitive advantage for institutions/organizations. As a result, librarians must be fully aware of Big Data and the need of developing data-related activities in libraries as one of the key technological accomplishments. With the rise of big data, libraries and librarians must now learn how to

make massive datasets more useable, visible, and accessible by creating taxonomies, metadata systems, and retrieval tools. This has forced librarians, regardless of library type, to begin learning a fundamental understanding of big data and its impact.⁹⁹ Big data is about more than just growing the volume of data; it's also about improving the tools for storing, collecting, merging, and analysing it. As a result, corporate librarians are now required to understand how businesses store vast amounts of data, how data mining gives them a competitive advantage, and how they may help users overcome challenges in accessing and utilising massive data sets in their work. It is the sole responsibility of library administration to investigate the types of big data sets their library could be gathering and analysing using big data technologies, while library professionals continuously engage in the conversation on new techniques of data analytics utilising big data tools. Libraries and librarians can use big data to create library collections, track how people use library resources, and so on. It can also be used for library administration, user satisfaction, and information retrieval in the least time. Nowadays, library work includes both unstructured and structured data and data kinds, such as texts, metadata, images, audio files, videos, research data, 3D digital copies, and software. Referencing, indexing, and presenting these contents, libraries will only succeed in keeping up with the times if cutting-edge indexing techniques from the field of big data are used instead of 19th-century library practices.

Libraries are not immune to the draw of big data and all that it can provide: it can have a wide range of benefits for libraries. One area where it could be useful is the previously mentioned usage of data to assess the customer's needs. In the library context, this could imply looking into what patrons have borrowed from the library to assist predict future needs. If a system could identify common themes, subjects, or authors that a patron has read, this may help forecast what the patron might wish to read in the future. The system may place that future item on hold for that individual user once it becomes available in the library. Furthermore,

assessing the needs of the library's patrons by examining books that have previously been checked out could help in collection growth by automatically preselecting things that match the patrons' specific big data interests¹⁰⁰.

Researchers did a literature review, focussing on the number of journal articles published on the issue of "big data in the library." Their investigation indicated that while research has been undertaken on the topic, significant gaps in the literature were identified, indicating the need for additional future research to assist fill those gaps. The majority of the study focused on the academic library and how to integrate big data in that environment, with relatively few studies focussing on the public library and big data. While the paucity of research in this area may be discouraging, it may also be thrilling to see the areas in which new study may be conducted and what has to be done. Big data analysis exposes patterns, correlations, and trends that can be used by a variety of businesses, libraries, and educational institutions. Big data encapsulates data sets that are larger than the ability of commonly used software tools to extract within a certain time period. Due to their widespread presence in current times, libraries must understand the foundations of big data and how it might effect academic research. The ideas of big data are not just limited to research but to the routine work of library professionals.

Libraries play an important role in the linkages between universities, research foundations, government, and the community since they handle and store digital information. The vast amount of information and statistical information in the library must be transformed into knowledge or data that can subsequently be used by investigators or academicians. Librarians may need to recognise how to renovate, investigate, and present material in order to assist with knowledge production.¹⁰¹.

Big Data refers to data that surpasses the processing capabilities of traditional database systems; it may be too large, dynamic, or incompatible with existing database structures. To

extract value from Big Data, alternative processing methods are necessary. In broader terms, Big Data entails data that is continuously, automatically, and swiftly generated, presenting a more intricate challenge than mere volume. Similarly, Big data is the evolution and the use of technologies that provide the right user at the right time with appropriate information from a mass of data that has been growing exponentially over time in society. Big Data refers to datasets characterized by a wider range of information, arriving in larger volumes and at a faster pace. Statistics from Statista indicate that approximately 64.2 zettabytes of data are generated, captured, duplicated, and consumed across the digital universe. Only few studies have been done relating libraries to big data. Which raises the question “Do libraries have big data at all?”, because Big Data is different from discipline to discipline, Big Data in the library is different from Big Data in other disciplines, such as health, business and government. Big Data is relatively new, but it has permeated business, government, health and educational spheres. Addressing this inquiry, the scale of the data hinges on the institution. Hence, data held by university libraries can indeed be categorized as big data, particularly in developing nations such as Nigeria. Such data may encompass metrics such as the volume of library visitors, lists for collection development, inventories of both addressed and unanswered reference inquiries, and circulation statistics.

Libraries are seen to have moved from the traditional setup where the only data generated by the Library Management System and resources were catalogued meticulously via a limited set of metadata. In recent times, libraries now collect data from a variety of sources both structured and unstructured data and no longer focus on books, journals and catalogue data only, information resources in libraries encompass a wide range of formats, and their significance in academic, research, and data-driven decision-making contexts is continuously expanding. They assert that modern research is increasingly reliant on Big Data as the foundation for generating insights and making informed decisions. Academic libraries have

traditionally collected data, analyzed the results, and compiled them into library statistics to evaluate their resources and performance. Big data research in libraries is an excellent opportunity for academics to expand libraries, particularly the demand for free access to information for the general public. There are still numerous research gaps that can be addressed. One of the benefits of using big data in a library is the ability to investigate user patterns while using the library in order to provide relevant library services¹⁰². The University of Wollongong uses the value cube to incorporate all library data. The era of big data poses new problems for libraries, particularly in delivering data and information for service development¹⁰³. Libraries can use big data to produce a variety of services, such as knowledge services, user failure analysis, value analysis, intelligent-aided decision making, and resource fault forecasting¹⁰⁴. However, information technology in libraries cannot handle vast amounts of data, both structured and unstructured.¹⁰⁶ Libraries can also employ big data analytics software to process data from social media, such as social network analysis, statistical analysis, and geographic coding, to measure the success of using social media in a library¹⁰⁷. In its implementation, the use of data for decision-making is also rarely used; there are still subjectivity aspects that govern the library's decision-making policies¹⁰⁸. Librarians play a crucial role in deploying big data in libraries, working alongside data analysts, data architects, and IT specialists to create library databases. The librarian's duty here is to determine metadata, establish a thesaurus, and create search criteria¹⁰⁸. Big data research has a direct relationship with digital libraries. Libraries are supposed to be able to mine data from sources outside the library¹⁰⁹. Many digital libraries now lack data storage capable of performing a digital preservation role¹¹⁰. Information processing in libraries will change in the era of big data, where everything may be done online, from virtual training, virtual classrooms, and virtual experimentation¹¹¹.

In academic libraries, a plethora of data exists, encompassing both structured and unstructured formats. This data spans the entire spectrum, ranging from structured metadata sets like Online Public Access Catalog (OPAC) data and various forms of electronic content to large volumes of unstructured data sourced from the internet. Academic libraries also augment their data repositories with a continually expanding array of information from diverse sources available online, both commercial and free. As a result, academic libraries are confronted with managing a diverse range of data resources, including traditional materials such as books, journals, and bibliographic data, as well as various other types of data like textual documents, metadata, images, audio and video files, research data, software, and 3D collections. This underscores the increasing involvement of libraries with big data. Therefore, accumulated data sets in the library over time are big data. There are three primary ways in which big data can be utilized in academic libraries: through data sourcing, data analysis (commonly known as library analysis), and data visualization. These applications of big data by librarians have the potential to enhance overall library services by providing a deeper insight into the needs of users and their information-seeking behaviors. Designing services based on this knowledge should result in improved efficiency of library operations, increased resilience against cyber threats, and enhanced search capabilities. In this paradigm, the library serves as a hub for the utilization, storage, and organization of data, including big data. The implementation of big data in libraries is still in its early stages, as evidenced by the small number of publications in the library literature as of 2018. Many libraries do not use big data to enhance innovation and services due to a lack of capabilities. Librarians can improve their skills and expertise by receiving training in big data analytics or research data management. The information technology infrastructure must also be improved; as big data requires a lot of IT capability. Finally, a big data management policy should be developed to assure the implementation and sustainability¹¹².

Big data has been used to improve business decision making, anticipate future healthcare trends, and analyse customer service satisfaction. This has made Big Data a promising area for future improvements in economic and societal value, as well as a potential source of competitive advantage for institutions and organizations over time. Hence, librarians must be fully aware of Big Data and the need of expanding data-related activities in libraries as one of the essential technical breakthroughs. With the advent of big data, libraries and librarians must now understand how to make large datasets more usable, visible, and accessible by developing taxonomies, devising metadata systems, and systematizing retrieval techniques. This has compelled librarians, regardless of library type, to begin acquiring basic understanding of big data, its impact on the nature of their profession, and how big data may be used efficiently for various objectives. Libraries can access Big Data in various ways, such as leveraging in-house expertise or acquiring commercially available datasets. Academic libraries are increasingly subscribing to Big Data resources or collaborating with other institutions to gain access to comprehensive datasets. This trend reflects a growing recognition of the value of Big Data for enhancing research capabilities and library services.

Managing Big Data requires substantial technical infrastructure, including high-performance computing capabilities and large-scale storage solutions. Libraries are collaborating with IT departments and external partners to build the necessary infrastructure

2.2 Theoretical Framework

This section reviews various theories relevant to the current study. The theoretical framework serves as the "roadmap" for the research work as a whole. Applying a relevant theory to research ensures that the researcher is properly guided in developing and supporting the study, as well as a structure for defining how they will approach the research project as a whole philosophically, epistemologically, methodologically, and analytically¹¹³. The importance of a

theoretical framework cannot be overstated in a research. Every piece of knowledge in a research study comes from the theoretical framework. The rationale for the study, the problem statement, the purpose, the significance, and the research questions are all supported by this section. Literature reviews, methods, and analysis all have their foundations in the theoretical framework, which serves as an anchor for everything else. The theories on which the current study is based include Libqual Model, Big data framework and Collection development model.

2.2.1 Libqual Model

LibQUAL is a survey that libraries use to collect, track, understand, and act on users' perceptions of service quality. The Association of Research Libraries offers several services to the library community. The program's focal point is a rigorously validated web-based survey that helps libraries analyse and enhance library services, change organisational culture, and market the library. The survey instrument measures library users' minimum, perceived, and desired levels of service quality across three dimensions: Affect of Service, Information Control, and Library as Place.

The LibQUAL survey grew out of a conceptual model based on the SERVQUAL instrument, a prominent method for evaluating service quality in the commercial sector. For numerous years, Texas A&M University Libraries and other libraries used modified SERVQUAL instruments; these applications demonstrated the necessity for an adapted tool to meet the unique needs of libraries. ARL, which represents the major research libraries in North America, collaborated with Texas A&M University Libraries to create, test, and improve LibQUAL.

Affect of Service measures the empathy, assurance, and responsiveness of library staff. It includes items related to staff competence, willingness to help, and the user's overall impression of the library staff. Information control measures the user's ability to find

information independently. It includes items related to the library's collection, access to information, and the user's perceived control over their research process while Library as a place measures the physical library environment and facilities. It includes items related to the library as a comfortable and inviting space for study, research, and collaboration.

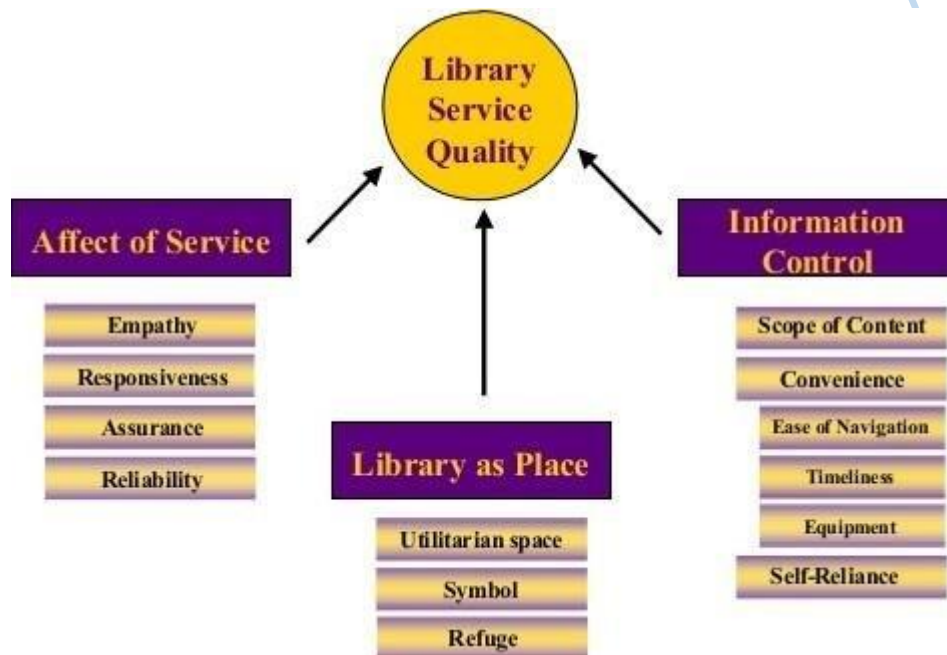


Figure 2.2.1: Libqual Model (Courtesy: Association of Research Libraries)¹¹⁶

2.2.2 Doug Laney (2001) Big data theory

Gartner analyst Doug Laney presented the three V's idea in 2001, which addressed big data from three separate perspectives.

Volume has to do with the magnitude of a data collection. The data may be so big that it cannot be assessed on a single system, just as computer software can handle gigabytes of data. This is the total quantity of data generated by the library at any one moment. Velocity refers to data in motion, specifically the rate at which data is generated, processed, and assessed. Data is being generated in the library every day and at a speed therefore there is a need for it

to be evaluated and processed for the purpose of decision making while Variety is concerned with handling the complexity and heterogeneity of multiple datasets, including structured, semi-structured, and unstructured data. Data types include textual data (e.g., blogs and text messages) and non-textual data (e.g., videos, photos, and audio recordings). This has to do with the different type of data that is being acquired in the library. Ranging from library routines data to data in digital form.

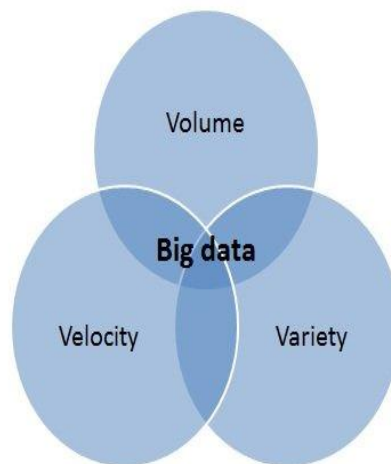


Fig 2.2.2: Doug Laney (2001) Big data framework¹¹⁴

2.2.3 Collection development model

Library Collection Management Process model was developed by Evans in 1995 and it can be defined as the systematic approach to fulfilling the informational requirements of the library's service population in a timely and cost-effective manner, utilizing both locally available resources and those obtained from external organizations. These process encompasses six essential components which is displayed in the diagram below;

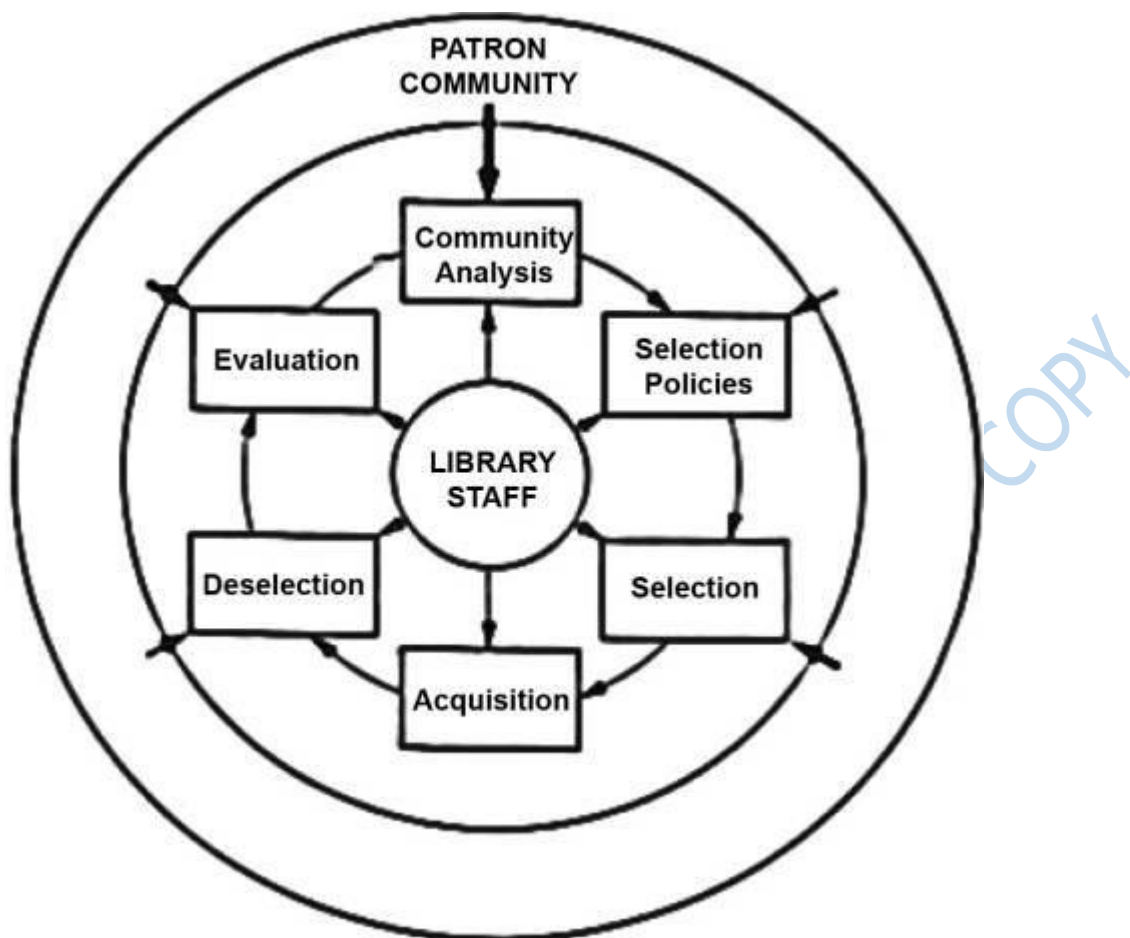


Figure 2.3: The collection development process. (Courtesy: Evans 2004)¹¹⁵.

At the heart of a collection development process is a collection development policy, the library formulates a policy, a set of guidelines and criteria that steer the process of acquiring new materials. This policy acts as a roadmap, ensuring the library’s collection aligns with its mission and objectives. It may address factors such as collection scope, budget allocation, material formats, and preferences for local content versus external source. Building on the selection policy, librarians engage in the critical task of material selection. This involves identifying specific resources, such as books, periodicals, e-books, audio-visual materials,

and databases, that match the criteria set in the selection policy. Librarians carefully evaluate potential additions to the collection based on factors like authoritativeness, relevance, accuracy, and anticipated user interest. Once materials are selected, the library must acquire them through various means, including purchasing from vendors, subscribing to periodicals, collaborating with other institutions for resource sharing, or accepting donations. The next stage is evaluation; this process involves continuous assessment of the collection's performance in meeting users' needs. This evaluation may include user feedback, circulation statistics, and usage analytics. By analysing these metrics, librarians can identify areas for improvement, potential gaps in the collection, and emerging trends that may warrant new acquisitions or adjustments to the selection policy. As the collection evolves, it becomes essential to maintain its quality and relevance. Weeding out programs involves periodic evaluations of existing materials to identify items that have become outdated, inaccurate, or seldom used. Removing such materials from the collection ensures that space and resources are optimized for more current and valuable resources.

2.3 Review of Empirical Studies

This section examines various empirical studies that has been carried out on the subject of the current study. Literature reviewed

2.3.1 Collection Management Practices and Service Delivery

Researchers in Ghana studied the collection development practices in academic libraries of the country by focusing on the importance attached to collection development policies in many private university libraries in Ghana. The study population which was qualitative in

nature includes librarians from Maranatha University College and Ghana Christian University College. To gather information from the staff of the two libraries, a self-designed interview schedule was used. Two (2) head of libraries who are all professionals and four (4) paraprofessional librarians participated in the study. The face-to-face interview approach was utilized to collect data for this study, and the data were analyzed using content analysis. The interviews were audio-recorded and then transcribed using the primary topics as a guide. While both GCUC and MUC have CDPs, the policies have not been reviewed since their introduction. Additionally, findings indicated that, while collection development policies are present in these libraries, they do not play a significant role in acquisition. Both MUC and GCUC were encouraged to make a concerted effort to apply the policy to steer acquisitions. This lack of collection development policy is a major shortcoming, as it has been reported that the existence of collection development policy in academic libraries is the anchor that guides and directs collection development activities by assisting in the selection and acquisition processes of resources into the library¹¹⁷.

A group of researchers conducted a study to determine the collection developments in Nigerian private universities. The study adopted a qualitative research methodology which necessitated the use of Key Informant Interview to collect data from a population of librarian across thirty-one (31) private University libraries in the country. The focus of the study was university librarians and acquisition librarians in the libraries. The data collected from the key information was analyzed using content analysis. The result showed that all of the libraries (100%) take requests and suggestions from users into consideration in determining what to acquire. In addition to this, the librarians also carry out community analysis by sampling opinions of the users (52%), and sending memos to various departments (48%). This shows that they do go to great extent to involve users in selection of material. Their mode of acquisition is also diverse.

The study reported that all of the universities (100%) acquire majority of their information resources through direct purchases. These purchases are conducted through book vendors (100%); direct purchases from publishers and authors (71%). Some of the libraries also acquire information materials through donation and gifts (50%) and information resources sourced from various lecturers (12%). Another key collection development practice is collection development policy. The study reported that 74% of the libraries have a written collection development policy while the remaining (26%) do not have a documented collection development policy. The study also investigated the practice of weeding obsolete resources.

The responses showed that most of the libraries (71%) are not so concerned about collection weeding as they are still building their collections. However, some of them (29%) reported that their libraries often weed materials considered as obsolete or redundant to make way for relevant resources. What can be seen from the findings of this study is that collection development practices in private university libraries can be regarded as highly professional and methodical. The involvement of users, in the collection process, the formulation of written collection development policy in the libraries show a high level of professionalism¹¹⁸.

A study on the impact of collection development policies on users' satisfaction in academic libraries in South-South Nigeria indicates that, while a large proportion of librarians (54%) view a formal collection development policy as a significant factor in achieving users' satisfaction, those who did not see it that way (46%) are still significant. In addition to this, majority of the librarians (57%) believe that collection development policy is directly linked to the growth and development of the library while 43% of them think this is not the case. The large majority who are skeptical about the role of collection development policy in effective collection management should be a cause of concern¹¹⁹. The reason is that when

these people are charged with collection development policies, they may not follow proper protocol.

The Aga Khan University (AKU) of Kenya is located in Nairobi, Kenya's capital city. It is a private, non-profit teaching institution dedicated to providing the best possible option for disease diagnosis and team management of patient care, backed up by the region's highest doctor/patient and nurse/patient ratios and support services (Aga Khan Development Network, 2007). It contains two faculties: nursing and medicine. The Faculty of Nursing offers an undergraduate degree in nursing (BScN), while the Faculty of Medicine provides postgraduate medical education. In an effort to evaluate service quality, the Aga Khan Library has continued to conduct irregular surveys based on user numbers as well as the prescribed CUE requirements. Borrowing data, the number of visitors to the library, and the number of users who use online resources are among the figures gathered over the years. For example, a survey conducted in 2011 revealed that 69% of respondents were not accessing online resources because they were unaware of them, while 31% cited bad connectivity as a reason for not using online resources (Aga Khan University Library, 2011: 10). This strategy has been paired with periodic user score cards, in which users are asked to grade various service areas on a scale from terrible to great. However, these statistics are not understood meaningfully. For example, would a library with 30,000 books be considered as having higher service quality than one with 10,000? If 200 people visit the library, where is the evidence that their needs and/or expectations were met? These questions highlight the complexities of evaluating library service quality, as well as the need for libraries to use user-based assessment systems. Like any other academic library in Kenya, the Aga Khan University (AKU) library faces the problem of providing quality services to the various user groups. The difficulty is the consequence of a variety of reasons, including high inflation, which puts the library under pressure to react to the rising cost of providing library services.

Other causes include technological advancements and user demands for more complex service delivery. The AKU library has also had lower finances throughout the years, but is expected to continue to provide all basic services. Furthermore, the expense of providing library services has increased at an alarming rate. Libraries have continued to gather various service count information, such as the number of books borrowed or the number of reference queries answered, in order to evaluate library services. These statistics are insufficient since they do not provide meaningful results for systematic service improvement. This traditional approach is also criticised because it is based on the impression of the library when describing the occurrence of services and so is not an objective approach. An effective evaluation of service quality ensures that the user's perspective is considered. Quality is the ability to meet a specified need. argue that quality is pointless if customer happiness is not met¹²⁰.

Researchers investigated the challenges associated with collecting and developing electronic resources in university libraries in South East Nigeria. The study was conducted using a descriptive survey approach, using 86 participants. The data collection tools were a questionnaire and an interview. Simple statistics were employed to evaluate the data collected through the questionnaire (mean). The study highlighted twelve challenges for electronic resource collection development in university libraries in South East Nigeria. The problems include the high cost of database subscriptions (3.05), a lack of perpetual access to e-resources (2.95), the necessity to hire technical people (mean = 2.56), and so on. The study recommended that university libraries in South East Nigeria revise their budgets upward to cover the cost of electronic resources and train staff on new skills for electronic collection development on a regular basis; they should also take drastic measures to acquire electronic resources through consortiums to maximise profit and discount; and the libraries under study should improve their internet bandwidth for improved accessibility.

Every library's aim is to meet its users' information needs by providing a variety of information resources on which they can base their decisions. As a result, information resources are incredibly significant because without them, no library can work optimally. Thus, the accumulation of information resources in any library necessitates careful design. Collection development refers to the meticulous planning of information resources in libraries¹²¹.

A user survey was undertaken at the Main Library of the University of Peradeniya to investigate how students use an academic library. It demonstrated that undergraduates are generally satisfied with the existing library resources, services, and facilities; yet, it was discovered that library resources and services are not fully utilised by undergraduates. A study was carried out to assess the library's performance by measuring user satisfaction with library services, infrastructure/place/space, and collection/information given by an academic library. The findings revealed that on average, the respondents were only quite satisfied with the library services, infrastructure/place/space, and collection/information of the library in general.¹²²

According to some researchers on user perception and satisfaction with reference services in University Libraries of Punjab, participants were satisfied with the reference collection, staff, facilities, and services provided, but they were not highly satisfied with any type of reference service.¹²³ Another study on users' satisfaction with library information resources, facilities, and services in Edo State Central Library, Benin-City reported that users were not satisfied with the information resources, but they were satisfied with three services provided in the library: hours of service and labelling services¹²⁴.

Some researchers did a study on collection development techniques at the Valley View University (VVU) Library in Ghana. The combined population of library staff and faculty personnel was used. The study's sample size was 302, which included 210 students, 74

faculty members, and 18 library workers. Data for the study was gathered via questionnaires. The interview with the university librarian and library personnel revealed the existence of a collection development policy that helps them during content selection and acquisition. The policy applies to both print and electronic resources. The analysis also indicated that the policy has not been revised since its adoption. An interview with the university librarian and library personnel showed that resources are purchased directly with internally produced funds from benefactors, businesses, and individuals who also support the library through gifts and donations. Both the staff and the librarian indicated that they obtain recommended texts and titles from the various stakeholders as well as input from students before making final purchases. In assessing how the Collection Development Practices are executed at the VVU library, it was revealed that the selection of materials in the library was done by the university librarian and selection committee members consisting of representatives from various departments in accordance with the collection development policy, and they also receive input from students. The findings on the challenges in collection development procedures revealed that getting the exact titles and authors, high exchange rates, order delays in book delivery, and high costs of foreign materials from donors are some of the challenges that the university library faces¹²⁵.

A study on the impact of collection development policies on user satisfaction in academic libraries in South-South Nigeria found that, while a large proportion of librarians (54%) consider a formal collection development policy to be a significant factor in achieving user satisfaction, those who do not (46%) remain significant. Furthermore, the majority of librarians (57%) believe that collection development policy is directly related to the library's growth and development, while 43% disagree. The fact that the vast majority of people are sceptical of the function of collection development policy in efficient collection management

should raise concerns. This is because when these individuals are in control of collection growth policies, they may not follow proper protocol¹²⁶.

A study on factor impacting excellent service delivery at Kwara State University Library Malete. Four research objectives were developed to help guide the investigation. These include determining the extent of quality service delivery in an academic library; determining whether the availability of good collections influences quality service delivery; determining whether a collection development policy exists in the Kwara State University Library; and identifying the challenges that collection development policies face in the Kwara State University, Malete library. The study used a descriptive survey design. The study population consisted of 12 professional librarians, 15 paraprofessionals, 11 nonprofessionals, and three (3) supporting staff. Data were obtained via questionnaires. The data collected were evaluated using Spearman Rank Correlation. The study found that collection development policy is available in Kwara State University Library Malete; the types of collection development policy available are both written and unwritten; and the inability to review collection development policy on a regular basis, a lack of managerial support, and insufficient funding are the major factors working against collection development policy in Kwara State University Library Malete. Based on the findings, the study recommended that Malete's collection development policy be updated periodically to respond to the current situation of the library and the institution; the types of collection development policy should include both written and unwritten collection development policies and be updated on a regular basis.. This will influence quality service delivery in the library¹²⁷.

Researchers looked on the relationship between information management methods and service delivery in special libraries in Rivers state. This study used a correlational survey research approach. The survey included 75 staff members from 18 organisations in Rivers State. Given the manageable population of 75 library personnel, the census enumerative

sampling technique was used in the study. Data were collected using two structured questionnaires titled "Information Management Practices Questionnaire and Service Delivery Questionnaire.". The study's findings, among other things, reveal that there is a substantial relationship between organisation, storage, retrieval, information distribution, knowledge exchange, staff skill, and service delivery in Rivers State's special libraries. Based on the study's findings, it was suggested that special libraries prioritise the implementation of solid organisational systems such as logical resource categorisation, the use of standardised metadata, and the use of professional cataloguing procedures. Maintenance and upgrades to organisational structures should be implemented to ensure quick access to information¹²⁸.

Another study evaluated collection development procedures in Tanzanian university libraries. The purpose of this study was to evaluate collection development processes in academic libraries in Tanzania. The study focused specifically on collection development procedures and the factors that govern them. The study included four university libraries and used both qualitative and quantitative methodologies for data collecting and analysis. Primary data were acquired using informant interviews, observations, and questionnaires. The study included 44 library personnel who filled out self-administered questionnaires. The study reveals that collection development procedures, notably review and weeding or deselection, are infrequently used in these academic libraries. The findings also show that collection development methods in Tanzanian academic libraries are limited by insufficient financing, a lack of skills for hybrid collection management, and a lack of collection development policy that addresses both print and electronic information resources. Based on the findings, the study advises that university libraries adopt a comprehensive collection development policy and provide professional development programs for library staff to efficiently manage hybrid collections¹²⁹.

A Nigerian researcher did a study on Collection Development Policy and Utilisation of Information Resources in Academic Libraries in Rivers State, Nigeria. The report used a descriptive survey research method to evaluate collection development policies and information resource utilisation in university libraries in Rivers State, Nigeria. The study's population includes 42 professional librarians from three university libraries: The University of Port Harcourt, Rivers State University, and Ignatius Ajuru University. The census sampling technique was employed to sample all 42 librarians. The study concluded that libraries without a collection development policy or a poorly defined collection policy will squander funds, provide poor library services, and have little patronage or use of information resources by users. Among other things, the study recommended that continuous training of library staff concerned with the activity of collection development; academic libraries should explore various ways of generating funds independently, such as offering photocopy services to users; and academic libraries should learn to patronise local but quality information resources¹³⁰.

2.3.2 Big Data and Quality Service Delivery

Libraries have a long history of gathering data, reporting on their findings, and putting them into library statistics to analyse their resources and effectiveness. Recently, the rise of Big Data has made various data collection chores easier and faster, while also engaging libraries in complicated data processing. Researchers highlighted the characteristics of Big Data and its influence on the university library context. They used Big Data technology to mine, identify, organise, and analyse the implied reader behaviour in structured and semi-structured data information to improve library services and resources to achieve the optimal configuration. Big Data technologies can be used to learn about searching trends in library catalogues and thus improve library resources. They referred to the impact of Big Data on the

traditional service pattern of academic libraries, highlighting the fact that library services can be reformed and upgraded¹³¹.

A study found that libraries are not immune to the appeal of big data and all that it can provide: it can really have a number of good effects on libraries. One area where it could be useful is the previously mentioned usage of data to assess the customer's needs. In the library context, this could mean looking into what patrons have borrowed from the library to assist predict future needs. If a system could identify common themes, subjects, or authors that a patron has read, this may help forecast what the patron might wish to read in the future. The system may place that future item on hold for that individual user once it becomes available in the library. Furthermore, assessing the needs of the library's patrons by examining books that have previously been checked out could help in collection growth by automatically preselecting things that match the patrons' specific big data interests patrons¹³².

Another study indicated that, while integrating big data could be beneficial, doing it with greater resources could be even more advantageous. Although data acquired by a library's integrated library system (ILS) or vendor reports may already be used for specific purposes, the concept of a smart library takes personalised patron assistance to the next level. Thus Libraries may use big data to make better judgements about collection development, public space updates, and tracking the use of library book materials, all of which will promote library usage. Libraries' resources vary; they contain not just academic resources but also financial resources, budget, staff details, the library's social media accounts, and any other information about the library. Furthermore, academic content and a library's catalogue are regarded data resources and create a large data store that must be appropriately managed and studied to assist users or decision makers in obtaining the necessary information. The data collected and processed should provide librarians with a clear understanding of the needs of the library' customers; additionally, it can aid in better strategic planning for the following

stage. The data obtained may also provide insights on the problems that clients have, their comments and requirements, which can help address many major issues and please the patrons, so improving the library's services to its consumers¹³³.

This study investigates the level of awareness among librarians in Northern Nigerian universities on the big data technologies. Survey research method using descriptive research design was adopted for this study. The population of the study comprised of 107 professional librarians working in university libraries within Northern Nigeria. The researchers adopted convenient sampling technique in selecting the sample size of the study. Data was collected using designed questionnaire on Google form and distributed the instrument link to different available social media platforms. A total number of 107 questionnaires were filled by the respondents, returned and found useful. Collected data were analysed using frequency counts and percentages, mean and standard deviation. Findings of the study revealed that, librarians are highly aware of the concept of big data technologies and it's potential to transform library services. It also revealed that the primary sources of getting information about big data technologies are through social media, professional events, online courses, and webinars. It equally revealed that librarians in university libraries have a good understanding of two core characteristics (volume and variety) of big data technologies and lacking in other areas. Findings also revealed that librarians recognize the potential of big data for optimizing resource management and accessibility, improving resource collection and management, and improving overall service delivery. Findings revealed that, biggest challenges librarians anticipate for integrating big data technologies in libraries could be lack the technical skills required to utilize big data tools effectively, limited funding for big data infrastructure and librarian training, and compatibility issues between existing library systems and big data technologies. Recommendations were made in line with the research findings such as need for more enlightenment programs focused on applying big data technological tools in

university libraries and also there is need for university libraries to pay more attention to the interactive, social learning, and self-directed learning options besides fostering collaboration and investing in internal training¹³⁴.

In their study, a group of researchers discovered several arguments for using big data in libraries. Effective Information Management: Huge amounts of data are being generated in every sector of the economy, including genetic engineering, health care, market research surveys, and industries. Academics are seeking to use the collections to accurately assess data and organise information. As a result, many libraries have been working in the big data industry for some time, albeit unintentionally. Because of their digitised holdings, extensive libraries, in particular, contain an almost insurmountable amount of data¹³⁵.

According to the researchers' findings, university libraries generate significant amounts of data that are preserved in hard copy (paper document) format. However, this paper record can be digitally. Big data analysis can help library administration make educated decisions and streamline the research process. Big data analytics influences service delivery in university libraries by providing value-added information services and access to a wide range of digital content. Another study found that the rise of big data makes data collection easier and faster. Furthermore, it enables libraries to transcend beyond simple counting to accumulating statistical measurements and engaging in complicated data analysis such as learning analytics and research performance evaluation. It might be argued that the added value of big data comes from both identifying and interpreting meaningful data. Analysing this data transforms it into meaningful information that will help with service delivery in several areas of the library, including circulation, cataloguing, special collections, and reference. This demonstrates that big data is valuable in universities, particularly in libraries, where it may be used in all areas of library services¹³⁶.

Researchers studied and presented drivers inhibiting the use of big data analytics in Nigeria and other developing countries at African institutions. The primary goal was to improve the quality of service delivery in Nigerian universities using Big Data Analytics. The methodology included random sampling, with a sample size of 130 faculty and students from chosen universities in southeast Nigeria. The acquired data were subjected to analysis, and findings were obtained and analysed, demonstrating that Big Data Analytics is associated with innovation and efficiency. It allows universities to successfully adjust to changes, understand new realities or facts, and identify patterns that can and will improve service delivery and efficiency in Nigerian universities. Finally, the report claimed that Big Data Analytics has enormous prospects, and Nigerian universities should integrate big data analytics in their day-to-day tasks and seek to solve the problems connected with it¹³⁶.

A study highlighted the various application areas of big data in libraries for better library service delivery. For Libraries to Effectively Analyse their Extensive Data Holdings/Services: Libraries are directly affected by big data because they can use big data techniques to evaluate their enormous data holdings, such as better understanding their patrons and thus delivering new or enhanced services.

For Increase in Reliability and Access to Big Data for Research: Academics at universities will increasingly rely on big data for creative and ground-breaking research, which has direct and indirect impact on the society and libraries as centre of knowledge. Economic Reasons: Big data can also enhance cost savings, automation, and faster and better decision making by individuals and organizations¹³⁷.

Some researchers in Nigeria conducted a study on Relevance of big data Analytics in Nigerian Academic Libraries: University of Ilorin Library Experience, a descriptive design was employed and thematic analysis was done on the information obtained through key informant interviews. The population of this study consisted of the two systems librarians

who work in the electronic library (E-library) unit of the university library. The characteristics of big data, based on the V characteristics, were examined, as well as the various types of data sets found in academic libraries. The findings of the study further revealed that The University of Ilorin Library faces a number of challenges when it comes to managing big data, including inadequate funding, infrastructure, and software tools for management. Despite the fact that big data sets exist in libraries in Nigeria, no big data software was available in the library under investigation. The study's findings revealed that many large data sets are available in Nigerian university libraries. These data sets exist in both digital and analogue formats and are derived from library membership registration, faculty research data, institutional repositories, library book renewals, circulation clearance data, collection development data, and library catalogue transactions, some of which are available at the University of Ilorin. Other examples include reference and serial data, special collections, door counts, and clock-in data. These are the results of normal routine activities that occur in all libraries. The University of Ilorin web also includes patron data from staff and students, both postgraduate and undergraduate. Library registration and renewal data can be analysed to provide predictive information relating to enrolment trends within and across the academy, while collection development data can be analysed to help the library make decisions about weeding, the introduction of new services, and collection development.¹³⁸

Libraries now offer online materials and services. Libraries are increasingly marketing their services and activities through social media channels like Facebook and Instagram. Librarians may collect and analyse more internet data to add value to their services using emerging technology and tools such as analytics software. As a result, libraries may use big data to make more informed decisions about collection development, public space updates, and asset usage tracking¹³⁹. The perceived benefits of integrating big data in libraries include improved collection development strategies, personalized user experiences, and data-driven decision-

making capabilities. Librarians recognize these opportunities as potential game-changers in adapting to the evolving information landscape and meeting the diverse needs of library patrons. Despite its potential, the adoption of big data in libraries faces significant challenges. These include data privacy issues, the need for specialized technical skills, infrastructure requirements, and financial constraints. Librarians' concerns about these challenges can influence their attitudes towards embracing big data initiatives and the pace of adoption within their institutions¹⁴⁰.

2.3.3 Big data, Collection Management Practices & Quality Service Delivery

A study looked at the elements that determine excellent service delivery in Kenyan public libraries, namely the Garissa Provincial Library. The study used a descriptive survey design. The sample consisted of 4 librarians, 3 camel riders, and 120 libraries. Data were acquired through the use of questionnaires. Data were examined using both qualitative and quantitative methods. The results showed that the availability of reading materials affects the quality of library service delivery. The library lacks the necessary information for all types of users. The study also found that technological adaptation had an impact on the quality of library service delivery. For example, all of the library patrons, librarians, and camel riders reported that the library was not linked to the internet. The findings demonstrate that the librarians stated that there were telephones and computers in the library, but they were insufficient. Audio-visual devices were not available in the library, as stated by library workers. There was no television or audio-visual equipment in the library, so we were unable to watch instructional films. The findings also showed that infrastructure has an impact on quality service delivery. For example, tables, chairs, shelves, computer tables, and officers were available but insufficient; the same number of staffs said that there were reading halls, lighting, fans, and electricity were not available. The study also discovered that tables, seats, shelves, computer tables, officers, and restrooms were provided yet insufficient. They also stated that no reading hall,

illumination, fans, or electricity were accessible. Based on the data, the study found that the availability of reading materials has an impact on quality library service delivery. The library lacks the necessary information for all types of users. The study concluded that technological adaptation has an impact on the quality of library service delivery. The library was not connected to the internet and lacked amenities such as audio-visual devices, which impacted the quality of service delivery. Based on the findings, the study advised that the government supply reading materials to improve quality service delivery at libraries. The government should improve technology adaptation in libraries to facilitate quality service delivery. The government should give the required infrastructure to improve the quality service delivery at the library¹⁴¹.

A study used SERVQUAL to assess library service delivery quality and predict intention to return to Delta State Polytechnic Library, Ogwashi-Uku. This study uses SERVQUAL to analyse the quality of service delivery and predict library users' intentions to return to Delta State Polytechnic Library in Ogwashi-Uku, Nigeria. Finally, the survey contributes to the quality of library services by informing the conception and implementation of initiatives that address the issues raised by the polytechnic community. The working population of the study comprised 4545 library users at Delta State Polytechnic, Ogwashi-uku. The sample size of 354 was determined using Wimmer and Dominick's sample size calculator. The major data collecting approach was direct data collection utilising a questionnaire obtained from Delta State Polytechnic Libraries in Delta State, Nigeria. The assessment found that DSPG library service quality has a considerable impact on library customers' inclinations to return. Perceived reliability as a service quality has a beneficial effect on library customers' inclinations to return, whereas assurance and empathy had just a minor positive impact. The study revealed that library users who are confident and see library service as reliable,

responsive, empathic, and tangible are more likely to return to the Library. Therefore, working recommendations were made¹⁴².

Some researchers conducted a study on the assessment of library service quality at Lagos State Polytechnic Library in South-Western Nigeria, using an adapted LibQual model. The survey was based on students' perceptions of their poor library utilisation. The study's precise aims were to identify the sorts of information resources, services, and facilities that are available; assess user perceptions and expectations; and calculate gap scores, among other things. The LibQual Model was adapted for this investigation. The study's findings indicated gap scores. For example, students expect the library to be dependable in dealing with customer service concerns. The library staff instils trust in users by providing enough, current, and relevant information resources in various formats. The library is also a comfortable and appealing setting, with adequate lighting and reading tables and seats. As a result, the library under consideration has an adequacy gap. The study concluded that the quality of information resources, services, facilities, and library staff conduct all contributed to the quality of service at the Lagos State Polytechnic Library. The study, therefore, proposes, among other things, the provision of internet facilities with sufficient speed, adequate training and retraining of library staff attention¹⁴³.

A study investigated collection development policies as a factor impacting excellent service delivery at Kwara State University Library Malete. To guide the study, four research objectives were developed: to determine the extent of quality service delivery in an academic library; to find out if the availability of good collections influences quality service delivery; to find out if there exists a collection development policy in Kwara State University Library; and to find out the challenges facing collection development policies in the library at Kwara State University, Malete. Based on the findings, the study recommended that Malete's collection development policy be updated on a regular basis to reflect the current state of the

library and institution; the types of collection development policy should include both written and unwritten collection development policies that are updated on a regular basis. This will affect the quality of service provided in the library¹²⁴.

A study looked at collection development variables and the use of library materials in academic libraries in Nigeria's South-South Geopolitical Zone. This study looked into the "relationship between collection development variables and use of library materials in academic libraries in South-South, Nigeria." To meet the study's aim, three research questions were posed, and three hypotheses were developed to guide the investigation." Literatures relating to the variables under study were evaluated; thus, the design for this study was ex-post facto, with a total population of 16620 students and a total sample size of 800 for the study. This was accomplished through the use of stratified and purposeful random sampling approaches. The data was collected using a questionnaire titled Collection Development Variables and Use of Library Materials in Academic Libraries Questionnaire (CDVULMALQ). Two measurement and evaluation specialists validated the instrument. The instrument's dependability was proven using the spilt-half approach. A trial test yielded reliability estimates of 0.69 to 0.86, and the hypotheses were assessed at a 0.05 level of significance with Pearson's Product Moment Correlation Analysis. The analysis found a substantial association between library collection acquisition, weeding, and preservation, as well as library material use. Based on the findings, it was proposed, among others, that the government should pay more attention to funding and procurement of library materials in academic libraries¹⁴⁴.

A study was done to determine the relevance of big data analytics in Nigerian academic libraries: the University of Ilorin Library Experience. This research examined the concept of big data with application to the University of Ilorin in North-Central Nigeria. In the study that inspired this paper, a descriptive design was used, and theme analysis was performed on the

information gained from key informant interviews. This study's population comprised of two systems librarians who work in the electronic library unit of the university library. The properties of large data, based on the V characteristics, were investigated, as were the numerous forms of data sets found in academic libraries. The study's findings found that, while big data sets exist in Nigerian libraries, no big data software was available in the library under examination. The findings indicated the numerous strategies utilised by the University of Ilorin Library to generate big data. In addition, the key issues confronting big data management at the University of Ilorin Library are insufficient money, infrastructure, and software tools for managing big data. It was proposed that library practitioners be re-skilled in this new technology in order to overcome obstacles in service delivery in university libraries¹⁴⁵.

Researchers studied the use of big data analytics for service delivery as a perception evaluation approach Douglas. The paper investigated and presented drivers hindering the use of big data analytics in Nigerian and other developing-country institutions in Africa. The primary goal was to improve the quality of service delivery in Nigerian universities using Big Data Analytics. The study used random sampling technique with a sample size of 130 respondents made up of faculty and students from chosen universities in southeast Nigeria. The acquired data were analysed, and the results were obtained and interpreted, demonstrating that Big Data Analytics is associated with innovation and efficiency. It allows universities to successfully adjust to changes, understand new realities or facts, and identify patterns that can and will improve service delivery and efficiency in Nigerian universities. Finally, the report claimed that Big Data Analytics has enormous prospects, and Nigerian universities should integrate big data analytics in their day-to-day tasks and seek to solve the problems connected with it¹⁴⁶

2.4 Conceptual Model

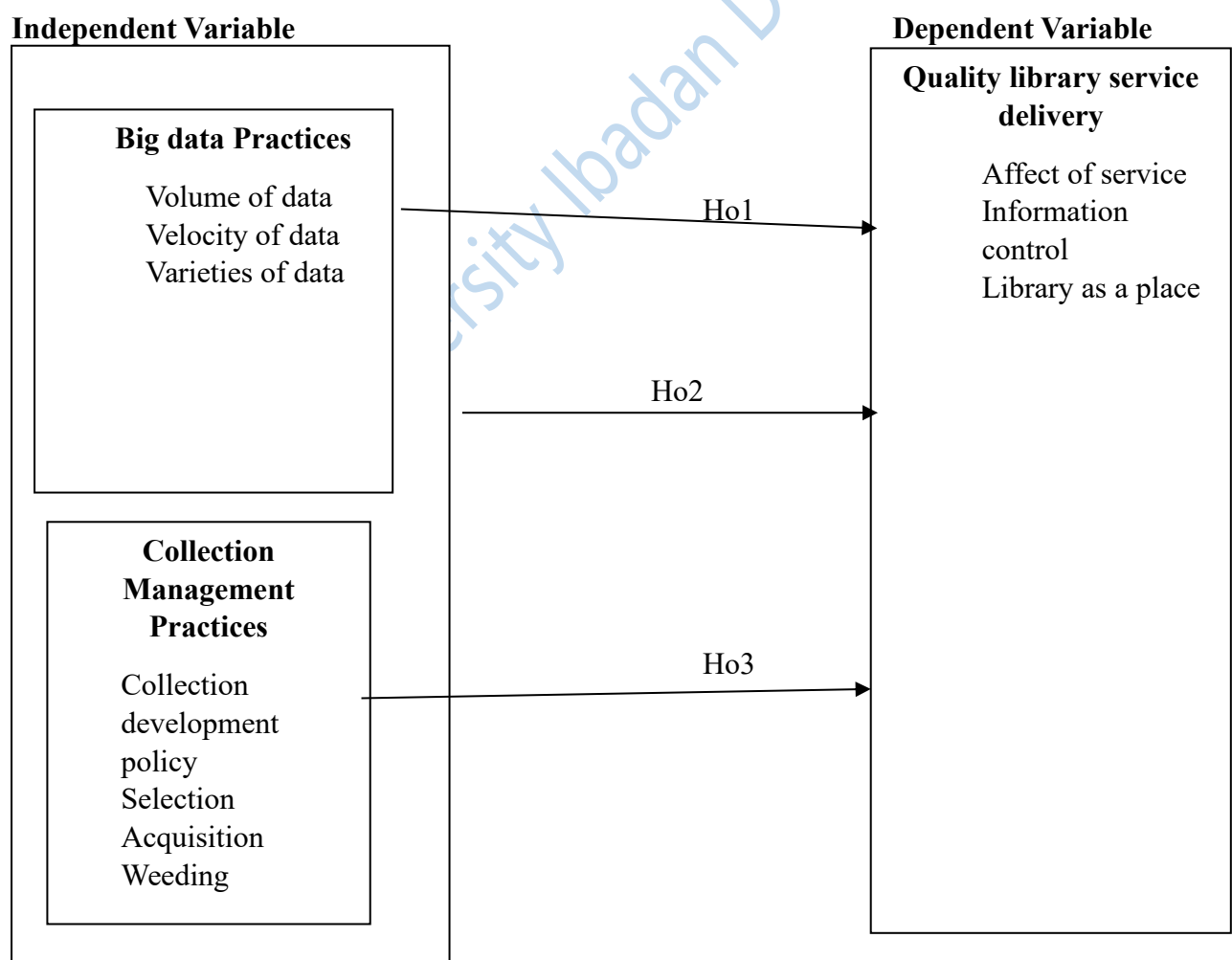


Figure 2.4: Conceptual Model of Big data and Collection Management Practices and Quality library service delivery. Source: Researcher, 2024

The conceptual model provides a graphical illustration of the relationships between the variables in the study. The dependent variable is Quality library service delivery which is measured by affect of service, information control and library as a place. The first independent variable is Big data which is measured by volume, velocity and variety. The second independent variable is collection development practices and it is measured by metrics such as collection development policy, selection, acquisition and weeding. The model shows the relationship between the first independent variable; Big data and the dependent variable; quality library service delivery. As shown in the model, big data are measured by volume, velocity and variety. Quality library service delivery is measured by affect of service, information control and library as a place. The assumption is that the proper utilization of big data in the library will lead to a more quality library service delivery in the library.

The study also examines how the second independent variable; collection development practices influences quality library service delivery. Collection development practices is measured by constructs adapted from the collection development model. The constructs include; collection development policy, selection, acquisition, weeding. All of these are expected to influence an increased quality library service delivery. The assumption here is that an effective collection management practices would lead to an increased quality library service delivery.

Finally, the study examines the combined effects of both big data and collection management practices on quality library service delivery. It means that the study considers that in a situation where big data is utilized with an effective collection practices, what would the effect be on the quality of library service delivery.

2.5 Summary of Literature reviewed

This chapter has reviewed literature from a wide perspective on the subject of this research. The literatures have established the importance of quality library service delivery to all type of libraries especially academic libraries. It is obvious that the relevance of academic libraries lies in the quality of the library services rendered to their clientele. It is therefore expected that all libraries will dedicate a good deal of their attention to delivering quality services to their users. Libraries are established to serve the society through the provision of access to a large collection of different kinds of information resources to facilitate learning, and research. The mission of libraries is to build and maintain a collection that is relevant and adequate to support users' information needs. However, the efficiency of a library is determined by the quality of the service it offers. The library's wealth is measured by the quality of its collection of library resources in various formats, as well as other facilities such as a pleasant environment, qualified staff, and high-quality services. The majority of the literature concluded that the quality of available services, information resources, and facilities are predictors of service quality, and that the relationship that exists between library employees and library patrons always has a positive impact on the attainment of service quality in the library. The quality of library service delivery can be measured through the LIBQUAL model using affect of service to measure the knowledge and attitude of library staff towards their service delivery. Information control to measure ease of access to information resources in the library and library as a place to measure the physical condition of the library. Different studies have found that innovative library service attributes predict consumers' inclination to return to the library. Library users who are assured and perceive quality library service are more likely to revisit the library.

Another takeaway from the literature reviewed is that collection management practices are the process of acquiring information resources into the library thereby involves community evaluation, careful selection of information resources, acquisition, evaluation, preservation

and weeding. All of these processes required librarians to make heavy decisions which may impact on the whole library operation. Deciding on what to select and what to acquire of often affected by personal knowledge, preferences, bias and other shortcomings common to human beings. The mechanism designed to guide this is the collection development policy. A written document which formally states the guidelines to follow in the process of acquisition. The collection development policy serves as a guide to guarantee that collection development activities adhere to standards. Libraries that lack a collection development policy or have a poorly designed collection policy will have financial waste, inadequate library services, and low patronage or use of information resources by users. When this happens, the library fails to serve the objective for which it was built. The various studies recommended that academic libraries engage in regular revision of the collection development policy, continuous training of library staff concerned with the activity of collection development, explore various ways of generating funds independently such as the offering of photocopy services to users, patronise local but quality information resources, examine the information needs and information seeking behaviour of their users on a regular basis in order to ensure that their collection development policy is not far from the information needs of the users.

The majority of the literature suggested that big data is a diverse and developing concept that has piqued global interest and has resulted in creative brainstorming, fast changing and reshaping the way we live, work and think. According to research, Big Data can create new positions for librarians and information specialists, making it a major opportunity for libraries. Most of the research also concluded that although libraries and librarians are fully aware of big data, they have not fully operationalized it. Also the various study emphasized that most libraries only acquire the manual data sets that are gotten from library routines but fail to acquire the digital data. Also the data sets are most times acquired and just dumped somewhere and analysing and operationalizing it into the library's operations. Many obstacles

were noted in the literature as impeding the use of big data in Nigerian libraries. Among these are insufficient finance, a lack of infrastructure, and a shortage of competent labour. Regardless of these issues, big data technology is here to stay and has a lot to offer in repositioning academic libraries for better service delivery in Nigeria. Nonetheless, the case study given here, as well as the literature evaluations conducted, indicate the great potential of big data for libraries. The primary goal is to be constantly aware of the changing characteristics of Big data and how it may be examined to improve library decision making. According to this assessment, big data technologies are already used in some types of libraries, such as academic and medical libraries, while others, such as public and research libraries, are still in the process of implementing them. As information professionals, it is our responsibility to keep up with society's rapid changes, to be well informed and prepared, to be properly trained, to collaborate closely with other groups, to establish synergies, and to address future challenges for the benefit of society.

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Chapter Three

Methodology

This chapter describes the method and instruments used in gathering and analyzing data for this study. It outlines the research design; which is the blueprint of the study, population of study; which helps the choice of the sample, sampling technique and the research instrument, method of data collection and procedure for analyzing data collected.

3.1 Research Design

The survey research design was used in this study. The survey is ideal for the study since it aims to obtain insight into a phenomenon while also giving fundamental information on the study's variable. The design employed the use of research instrument such as

questionnaire to obtain quantitative data from participants without interference or manipulation of the variables of the study which are quality library service delivery, big data and collection management practices

3.2 Population of the Study

The population of the study comprised of librarians in higher institutions in Ekiti state Nigeria. The breakdown of the study population is shown in Table 3.1

Table 3.1 Population of the Study

S/N	Names of Tertiary Institutions in Ekiti state	No. of Librarians
1	Afe Babalola University, Ado Ekiti	18
2	Bamidele Olomilua University of Education, Science and Technology, Ikere Ekiti	9
3	Ekiti State Polytechnic, Isan Ekiti	5
4	Ekiti State University, Ado Ekiti	16
	Federal Polytechnic, Ado Ekiti	14

5	Federal Univeristy, Oye Ekiti	15
6	Crown Polytechnic Odo Ekiti	7
	Total	84

Source: Field Observation, 2024

3.3 Sample size and Sampling technique

The sample size of this study is Eighty-four (84) which is the entire study population. Total enumeration sampling technique was used for this study. It is a procedure that involves the collection of information from all the numbers of a given population. This is often used when the study population is within a manageable range as it is the case in this study. Data collection instrument was administered to the eighty four (84) librarians as indicated in Table 3.1

3.4 Description of the Research Instrument

The instrument for this study is a questionnaire on Big data, Collection practices and Quality library service delivery in higher institutions in Ekiti State. The questionnaire was adapted from: Quality library service delivery scale, The application of collection development practice scale and the Big data application scale. The questionnaire is structured into four (4) sections; the sections dealt with the demographic information and the various variables of the study. The sections and their components are presented as follows:

Section A: The section included items about the respondents' demographic information. This section includes age, gender, marital status, highest educational qualification, respondents' job description, and work experience.

Section B: focused on quality library service delivery in higher institution libraries in Ekiti state. The quality service delivery will cover measures such as Affect of service, information control and the library as a place. The section is an adapted version of the Quality library service delivery scale from a related study². The 15 item scale was modified and used to measure and identify the level of the quality library service delivery among librarians in higher institution libraries in Ekiti state. Items contained in this section includes, I always give users undivided attention and I have adequate knowledge to answer user's questions. All items are answered using a four-point Likert scale, ranging from: strongly Disagree (1) Disagree (2) Agree (3) Strongly Agree (4).

Section C: addressed collection development practice in higher institution libraries in Ekiti State. The assessment of collection development practice scale was modified and used to measure the collection development practices. The construct includes collection development policy, collection selection, acquisition and weeding. The 12 item scale is found most suitable for adaptation from a related study³. The items in the section includes questions such as, I am guided always by a collection development policy draft when performing my collection development function, Acquisition librarians in my library often use various selection tools to select the latest information resources. All items will be answered using a 4-point Likert scale format ranging from Very Great Extent (VGE) = 4, Great Extent (GE)= 3, Low Extent (LE) = 2, Very Low Extent (VLE) = 1.

Section D: Big data features in higher institution libraries in Ekiti State. The items in the section was adapted from big data practices scale. The construct includes volume,

velocity and variety. The 15-item scale was found most suitable for adaptation from a related study⁴. Items in this section includes My library collects data in digital form and Data is being generated every day in my library through library routine. All items are rated using the four-point Likert scale ranging from Very Often (1) Often (2) Sometimes (3) Never (4).

3.5 Validity of the Research Instrument

The research instrument was tested for content and face validity by the research supervisor and other experts in the field. Suggestions and amendments was incorporated into the final version of the instrument.

3.6 Reliability of the Research Instrument

The reliability of the research instrument was measured through a pre-test. The researcher administered the research instrument on twenty (20) librarians from Obafemi Awolowo University, Osun State who are not part of the original study. Cronbach's alpha reliability test was performed on the data to confirm the items' internal consistency, and the result was 0.75.

3.7 Method of Data Collection

A letter introducing the researcher will be obtained from Lead City University Ibadan which was used to gain permission to conduct the research with approved ethical clearance from the higher institutions. The researcher administered the questionnaire and collected it after completion.

3.8 Method of Data Analysis

The acquired data was analysed using descriptive statistics such as frequency counts, percentages, means, and standard deviations, as well as inferential statistics. All the

analysis was carried out with the aid of IBM Statistic Package for the Social Sciences Statistics. Research questions was analyzed using descriptive while the hypotheses were analyzed using regression analysis. Hypotheses one and two was analyzed using simple linear regression while the third hypothesis was analyzed using multiple regression analysis.

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Chapter Four

Discussion of Findings

This chapter presents the discussion of the findings based on the studied data. The results and discussion of findings are offered based on demographic features of the respondents, study questions, and hypotheses, as follows;

4.1 Demographic Data Analysis

The following are the socio-demographic characteristics of the respondents.

Table 4.1: Demographic Characteristics of the Respondents (N=84)

Variable	Category	Frequency	Percent (%)
Gender	Male	36	42.9
	Female	48	57.1
Age	Less than 20 years	22	26.2
	20-29 years	34	40.5
	30-39 years	11	13.1
	40-49 years	17	20.2
Educational Qualification	HND/Bachelor's degree	60	71.4
	Master's degree	19	22.6
	PhD	5	6.0
Department / Section	Technical	30	35.7
	Circulation	51	60.7
	Acquisition	3	3.6
Years of Working Experience	Less than 5 years	33	39.3
	5-9 years	17	20.2
	10-14 years	34	40.5

Source: Field Survey, 2024

Table 4.1 reveals that most (57.1%) of the respondents were female, while male were below half (42.9%) of the sample size. As regards age, 26.2% of the respondents were less than 20 years, 40.05% were in the age range of 20-29 years, 13.1% were between 30-39 years, while 20.2% were in the age range of 40-49 years. This indicated that most of the respondents were in the age range of 20-29 years. Regarding the highest educational qualification, most (71.4%) of the respondents had HND/Bachelor's degree, many (22.6%) obtained Master's degree; while few (6.0%) had PhD. Concerning department / section, most (60.7%) of the respondents were in circulation, a considerable number of respondents (35.7%) were in technical section, while few (3.6%) respondents were in acquisition department / section. Also, less than half (40.5%) of the respondents had 10-14 years of working experience, a sizable (39.3%) respondents had less than 5 years of working experience, while a few (20.2%) respondents have gathered 5-9 years' experience.

4.2 Presentation of Data

4.2.1 Research Questions

The following research questions were answered:

Research Question One: What is the level of quality service delivery among librarians in higher institutions in Ekiti State?

Table 4.2: Descriptive Analysis of Responses on Quality Service Delivery

Question items	VH	H	L	VL	Mean	Std. Dev.
Affect of service						
I am very approachable and always ready to respond to users' enquiries.	39 (46.4%)	23 (27.4%)	22 (26.2%)	0 (0.0%)	3.20	0.83
I treat users in a polite way and show willingness to help users.	45 (53.4%)	17 (20.2%)	22 (26.2%)	0 (0.0%)	3.27	0.86
I always give users undivided attention.	51 (60.7%)	11 (13.1%)	22 (26.2%)	0 (0.0%)	3.35	0.87
I have adequate knowledge to answer users' questions	51 (60.7%)	11 (13.1%)	22 (26.2%)	0 (0.0%)	3.35	0.87
I always show willingness to help users	51 (60.7%)	11 (13.1%)	22 (26.2%)	0 (0.0%)	3.35	0.87
Weighted mean					3.30	
Information control						
My library provides users with remote access to electronic resources	3 (3.6%)	53 (63.1%)	28 (33.3%)	0 (0.0%)	2.70	0.53
Information resources in my library are in their proper places on the shelves.	8 (9.5%)	54 (64.3%)	22 (26.2%)	0 (0.0%)	2.83	0.58
My library provides user education programme that enable users make effective use of library materials and services	0 (0.0%)	54 (64.3%)	30 (35.7%)	0 (0.0%)	2.64	0.48
My library has modern equipment like computers that let users have easy access to their needed information	5 (6.0%)	18 (21.4%)	61 (72.6%)	0 (0.0%)	2.33	0.59
The library provides users with adequate, current and relevant information resources in both print and non-print format	5 (6.0%)	57 (67.9%)	22 (26.2%)	0 (0.0%)	2.80	0.53
Weighted mean					2.66	
Library as a place						
My library provides users with modern equipment (photocopiers, printers, scanners, CD-ROMs etc) that lets them easily access needed information	0 (0.0%)	18 (21.4%)	66 (78.6%)	0 (0.0%)	2.21	0.41

My library is a secured and peaceful place for study, learning and research	5 (6.0%)	54 (64.3%)	25 (29.8%)	0 (0.0%)	2.76	0.55
My library has a space for group learning and group study	5 (6.0%)	12 (14.3%)	55 (65.5%)	12 (14.3%)	2.12	0.71
My library is comforting, inviting and well lightened	5 (6.0%)	54 (64.3%)	25 (29.8%)	0 (0.0%)	2.76	0.55
My library has directional signs in the building for easy location of different area	5 (6.0%)	32 (38.1%)	47 (56.0%)	0 (0.0%)	2.50	0.61
Weighted mean						2.47
Grand mean						2.81

Decision rule: 1.00-1.49=Very low, 1.50-2.49=Low, 2.50–3.49=High, 3.50-4.00=Very high

Source: Field Survey, 2024

In Table 4.2, 46.4% of the respondents indicated very high on how they were very approachable and always ready to respond to users' enquiries, 27.4% mentioned high, while 26.2% stated low. Furthermore, 53.4% of the respondents indicated very high on the fact that, they treat users in a polite way and show willingness to help users, 20.2% stated high, while 26.2% indicated low. Besides, 60.7% of the respondents indicated very high that they always give users undivided attention, 13.1% mentioned high, while 26.2% stated low. In addition, 60.7% of the respondents indicated very high that they have adequate knowledge to answer users' questions, 13.1% affirmed high, while 26.2% stated low. Also, 60.7% of the respondents indicated very high that they always show willingness to help users, 13.1% admitted high, while 26.2% indicated low. Table 4.2 further revealed on the average that, the respondents' responses on effect of service had a mean of 3.30; indicating that it was high.

Moreover, 3.6% of the respondents indicated very high on how their libraries provide users with remote access to electronic resources, 63.1% mentioned high, while 33.3% stated low. Additionally, 9.5% of the respondents indicated very high on how information resources in their libraries are in proper places on the shelves, 64.3% stated high, while 26.2% mentioned low. In addition, 64.3% of the respondents expressed high on how their libraries provide user

education programme that enable users make effective use of library materials and services, while 35.7% mentioned low. Equally, 6.0% of the respondents mentioned very high that their libraries have modern equipment like computers that let users have easy access to their needed information, 21.4% indicated high, while 72.6% stated low. Equally, 6.0% of the respondents indicated very high that their libraries provide users with adequate, current and relevant information resources in both print and non-print format, 67.9% indicated high, while 26.2% stated low. Table 4.2 further showed that on the average, the respondents' responses on information control had a mean of 2.66; indicating that it was high.

Similarly, 21.4% of the respondents indicated high on how their libraries provide users with modern equipment (photocopiers, printers, scanners, CD-ROMs and so on) that lets them easily access needed information, while 78.6% indicated low. Besides, 6.0% of the respondents indicated very high on the fact that their libraries are secured and peaceful place for study, learning and research, 64.3% mentioned high, while 29.8% stated low. In addition, 6.0% of the respondents indicated very high on the fact that their libraries have spaces for group learning and group study, 14.3% mentioned high, 65.5% stated low; while 14.3% indicated very low. In addition, 6.0% of the respondents indicated very high on the fact that their libraries are comforting, inviting and well lightened, 64.3% mentioned high, while 29.8% indicated very low. Lastly, 6.0% of the respondents indicated very high that their libraries have directional signs in the building for easy location of different area, 38.1% mentioned high, while 56.0% stated very low. It was further revealed that, on the average, the respondents' responses on library as a place had a mean of 2.47; indicating that it was low. The grand mean for quality library service delivery was 2.81; which indicated that the respondents rated it high on the statements regarding affect of service, information control and library as a place. This implies that the level of quality of library service delivery in higher institutions in Ekiti State was high.

Research Question Two: What are the prevalent big data practices in libraries in higher institutions in Ekiti State?

Table 4.3: Descriptive Analysis of Responses on Big Data Practices in Higher Institutions' Libraries

Question items	VO	O	S	N	Mean	Std. Dev.
Volume:						
How much data does your library collect.						
My library collects manual and digital data	44 (52.4%)	29 (34.5%)	11 (13.1%)	0 (0.0%)	3.39	0.71
My library keeps data of users that comes to the library everyday	77 (91.7%)	7 (8.3%)	0 (0.0%)	0 (0.0%)	3.92	0.28
Members registration data is being kept in my library	44 (52.4%)	40 (47.6%)	0 (0.0%)	0 (0.0%)	3.52	0.50
My library keeps data of every books and journals that it acquires	17 (20.2%)	62 (73.8%)	5 (6.0%)	0 (0.0%)	3.14	0.49
Weighted mean					3.49	
Varieties:						
Different types of data that the library collects.						
My library retrieves data from the library management software	0 (0.0%)	23 (27.4%)	6 (7.1%)	55 (65.5%)	1.62	0.89
My library generates data on the library's social media pages	5 (6.0%)	12 (14.3%)	22 (26.2%)	45 (53.6%)	1.73	0.92
My library generates data through its daily routines	44 (52.4%)	18 (21.4%)	22 (26.2%)	0 (0.0%)	3.26	0.85
My library keeps data of all its digital collections	22 (26.2%)	40 (47.6%)	22 (26.2%)	0 (0.0%)	3.00	0.73
Weighted mean					2.40	
Velocity:						
The rate at which the library acquires data.						
Data is being generated every day in my library through library routines	23 (27.4%)	45 (53.6%)	16 (19.0%)	0 (0.0%)	3.08	0.68
My library retrieves data every day from its software management system	5 (6.0%)	26 (31.06%)	3 (3.6%)	50 (59.5%)	1.83	1.06

Data on my library collections are regularly updated on the digital library system	14 (16.7%)	59 (70.2%)	5 (6.0%)	6 (7.1%)	2.96	0.72
My library analyses the data as soon as they are retrieved	0 (0.0%)	49 (58.3%)	35 (41.7%)	0 (0.0%)	2.58	0.50
Weighted mean					2.61	

Decision rule: 1.00-1.49=Very low, 1.50-2.49=Low, 2.50–3.49=High, 3.50-4.00=Very high
Key: Very Often (VO), Often (O) Sometimes(S), Never (N)
Source: Field Survey, 2024

As indicated in table 4.3, 52.4% of the respondents revealed that their libraries collect manual and digital data very often, 34.5% affirmed that they often collect them, while 13.1% sometimes involve in that. Moreover, 91.7% of the respondents revealed that their libraries keep data of users that comes to the library everyday very often, while 8.3% often keep data of such users. Likewise, 52.4% of the respondents revealed that members' registration data is being kept in their libraries very often, while 47.6% often keep data of such users. In addition, 20.2% of the respondents revealed that their libraries keep data of every books and journals that they acquire very often, 73.8% affirmed that they often collect them, while 6.0% sometimes involve in that. Table 4.2 further shows that a mean of 3.49 was obtained on the respondents' responses about volume of data the libraries collect; indicating that it was high based on the decision rule.

Similarly, 27.4% of the respondents acknowledged that their libraries often retrieve data from the library management software, 7.1% sometimes do that, while 65.5% never involve in that. Likewise, 6.0% of the respondents revealed that their libraries generate data on the library's social media pages very often, 14.3% often engage in that, 26.2% sometimes involve in it, while 53.6% never engaged in that. Additionally, 52.4% of the respondents affirmed that their libraries generate data through their daily routines very often, 21.4% often engage in that, while 26.2% sometimes involve in it. Also, 26.2% of the respondents affirmed that their libraries keep data of all their digital collections very often, 47.6% often engage in that, while

26.2% sometimes involve in it. Table 4.2 further shows that a mean of 2.40 was obtained on the respondents' responses about varieties of data that the libraries collect; indicating that it was low based on the decision rule.

Also, 27.4% of the respondents admitted that data are being generated every day in their libraries through library routines very often, 53.6% often involve in that, while 19.0% sometimes do that. Moreover, 6.0% of the respondents acknowledged that libraries retrieve data every day from the software management system very often, 31.06% often involve in that, 3.6% sometimes involve in that, while 59.5% never involve in that. Furthermore, 16.7% of the respondents acknowledged that data on their library collections are regularly updated on the digital library system very often involved in it, 70.2% often, 6.0% sometimes involve in that, while 7.1% never involve in that. Additionally, 58.3% of the respondents admitted that their libraries often analyses the data as soon as they are retrieved, while 41.7% sometimes involve in that. Table 4.2 further shows that a mean of 2.61 was obtained on the respondents' responses about the rate at which the library acquires data (velocity); indicating that it high based on the decision rule. The overall results regarding big data practices reveal that volume had the highest weighted mean of 3.49, varieties had 2.40, while velocity had 2.61. This means that volume was the most the prevalent big data practices in libraries in higher institutions in Ekiti State; followed by velocity, while varieties was the least.

Research Question Three: What are the prevalent collection management practices existing in libraries in higher institutions in Ekiti State?

Table 4.4: Descriptive Analysis of Responses on Collection Management Practices in Higher Institutions' Libraries

Question items	VGE	GE	LE	VLE	Mean	Std. Dev.
Collection development policy						
I am guided always by a collection development policy when performing my collection development function	23 (27.4%)	50 (59.5%)	11 (13.1%)	0 (0.0%)	3.14	0.62
The collection development policy of my library covers policy on collection evaluation	5 (6.0%)	23 (27.4%)	33 (39.3%)	23 (27.4%)	2.12	0.88

The collection development policy is reviewed periodically	5 (6.0%)	32 (38.1%)	47 (56.0%)	0 (0.0%)	2.50	0.61
Weighted mean					2.59	
Collection selection practice						
Acquisition librarians in my library often use various selection tools to select the latest information resources	3 (3.6%)	42 (50.0%)	39 (46.4%)	0 (0.0%)	2.57	0.56
Acquisition librarians in my library check various publishers' catalogues to select the relevant materials	3 (3.6%)	65 (77.4%)	16 (19.0%)	0 (0.0%)	2.85	0.45
Acquisition librarians in my library will not just buy from one vendor without consulting other vendors	26 (31.0%)	42 (50.0%)	16 (19.0%)	0 (0.0%)	3.12	0.70
Weighted mean					2.85	
Collection acquisition						
My library acquires information resources through direct purchase	50 (59.5%)	23 (27.4%)	11 (13.1%)	0 (0.0%)	3.46	0.72
My library acquires information resources through direct gifts and donations	50 (59.5%)	34 (40.5%)	0 (0.0%)	0 (0.0%)	3.60	0.49
My library acquires information resources through direct bequeath	23 (27.4%)	39 (46.4%)	11 (13.1%)	11 (13.1%)	2.88	0.96
Weighted mean					3.31	
Weeding						
Information resources that are no longer relevant can be weeded by any librarian.	57 (67.9%)	27 (32.1%)	0 (0.0%)	0 (0.0%)	2.36	0.94
There is a guideline to determine which information can be weeded from my library	5 (6.0%)	34 (40.5%)	22 (26.2%)	23 (27.4%)	2.25	0.93
The procedure for weeding of obsolete materials is clear and well documented	5 (6.0%)	39 (46.4%)	37 (44.0%)	3 (3.6%)	2.55	0.67
Weighted mean					2.39	

Decision rule: 1.00-1.49=Very low, 1.50-2.49=Low, 2.50–3.49=High, 3.50-4.00=Very high

Key: Very great extent (VGE), Great extent (GE), Low extent (LE), Very low extent (VLE)

Source: Field Survey, 2024

In Table 4.3, 27.4% of the respondents indicated very great extent on how they were guided always by a collection development policy when performing their collection development function, 59.5% mentioned great extent, while 13.1% stated low extent. Moreover, 6.0% of the respondents indicated very great extent on how the collection development policy of their libraries cover policy on collection evaluation, 27.4% mentioned great extent, 39.3% indicated low extent, while 27.4% mentioned very low extent. Additionally, 6.0% of the respondents indicated very great extent on how the collection development policy is reviewed periodically, 38.1% mentioned great extent, while 56.0% indicated low extent. Table 4.3

further shows that a mean of 2.59 was obtained on the respondents' responses about collection development policy; indicating that it was high.

In addition, 3.6% of the respondents indicated very great extent on the fact that acquisition librarians in their libraries often use various selection tools to select the latest information resources, 50.0% mentioned great extent, while 46.4% indicated low extent. Moreover, 3.6% of the respondents indicated very great extent on the fact that acquisition librarians in their libraries check various publishers' catalogues to select the relevant materials, 77.4% mentioned great extent, while 19.0% indicated low extent. Additionally, 31.0% of the respondents indicated very great extent on the fact that acquisition librarians in their libraries will not just buy from one vendor without consulting other vendors, 50.0% mentioned great extent, while 19.0% indicated low extent. Table 4.3 further shows that a mean of 2.85 was obtained on the respondents' responses about selection; indicating that it was high.

Similarly, 59.5% of the respondents indicated very great extent that their libraries acquire information resources through direct purchase, 27.4% mentioned great extent, while 13.1% indicated low extent. Likewise, 59.5% of the respondents indicated very great extent that their libraries acquire information resources through direct gifts and donations, while 40.5% mentioned great extent. In addition, 27.4% of the respondents indicated very great extent that their libraries acquire information resources through direct bequeath, 46.4% mentioned great extent, 13.1% stated low extent, while 13.1% mentioned very low extent. Table 4.3 further shows that a mean of 3.31 was obtained on the respondents' responses about acquisition; indicating that it was high.

Equally, 67.9% of the respondents indicated that to very great extent information resources that are no longer relevant can be weeded by any librarian, while 32.1% mentioned great extent. Moreover, 6.0% of the respondents indicated that to a very great extent there is a guideline to determine which information could be weeded from their libraries, 40.5%

mentioned great extent, 26.2% stated low extent, while 27.4% mentioned very low extent. Also, 6.0% of the respondents indicated that to a very great extent the procedure for weeding of obsolete materials is clear and well documented, 46.4% mentioned great extent, 44.0% stated low extent, while 3.6% mentioned very low extent. Table 4.3 further shows that a mean of 2.39 was obtained on the respondents' responses about weeding; indicating that it was low. The overall results regarding collection management practices reveal that acquisition had the highest weighted mean of 3.31, selection had 2.85, collection development policy had 2.59, while weeding had 2.39. This means that acquisition was the most prevalent collection management practices existing in libraries in higher institutions in Ekiti State; followed by selection and collection development policy, while weeding was the least.

4.3 Presentation of Hypotheses

The following hypotheses were tested at 0.05 level of significance:

H₀₁: There will be no significant influence of big data practices on quality library service delivery in higher institution libraries in Ekiti State.

Table 4.5: Summary of Regression Analysis of Influence of Big Data Practices on Quality Library Service Delivery

Model			F(df)	Anova Sig.	
R	0.968				
R Square	0.938		400.603 (3,80)	0.000	
Adjusted R Square	0.935				
Std. Error of the Estimate	1.93640				
Coefficients	Unstandardized		Standardized	t	Sig
	Coefficients		Coefficients		
	B	Std. Error	Beta		
Constant	13.664	2.508		5.449	0.000
Volume	2.045	0.149	0.400	13.721	0.000

Varieties	4.508	0.197	0.682	22.924	0.000
Velocity	-4.145	0.146	-0.847	-28.309	0.000

Source: Field Survey, 2024

As shown in Table 4.5, big data practices had high positive and statistically significant relationship with quality library service delivery in higher institution libraries in Ekiti State ($R=0.968$, $p<0.05$). The coefficient of determination (Adj. R^2) of 0.935 shows that big data practices predicts 93.5% of the changes in quality library service delivery in higher institution libraries in Ekiti State; while the remaining 6.5% changes in quality library service delivery in higher institution libraries is explained by other external factors other than those examined in this study.

Table 4.5 also shows the results of ANOVA (overall model significance) of regression test which revealed that big data practices had a significant influence on quality library service delivery in higher institution libraries in Ekiti State. This can be explained by the F-value (400.603) and low p-value (0.000) which is statistically significant at 95% confidence interval. Hence, the result revealed that big data being practiced in higher institution libraries in Ekiti State significantly influenced quality of library services delivered by the librarians in such institutions. Additionally, the results of regression coefficients revealed that a positive and statistically significant relative influence was reported for volume ($\beta=0.400$, $p=0.000$, $t=13.721$) and varieties ($\beta=0.682$, $p=0.000$, $t=22.924$); while velocity ($\beta=-0.847$, $p=0.000$, $t=-28.309$) had negative influence.

Based on the results of regression coefficients in table 4.5, which position that at 95% confidence level, a unit change in volume and varieties will lead to a 0.400 and 0.682 increase in the quality of library service delivery in higher institution libraries in Ekiti State respectively; given that all other factors are held constant. On the other, a unit change in velocity will lead to a -0.847 decrease in the in the quality of library service delivery in higher institution libraries in Ekiti State. Regarding all the big data practices sub-variables examined,

volume (beta=0.400), varieties (beta=0.682) and velocity (beta=-0.847) had relative significant influence at probability value less than 0.05. Considering this result (Adj. $R^2=0.935$, $F(3,80)=400.603$, $p=0.000$); it implies that there was a significant influence of big data practices on quality library service delivery in higher institution libraries in Ekiti State. The null hypothesis (H_01) was therefore rejected.

H₀₂: There will be no significant influence of collection management practices on quality library service delivery in higher institution libraries in Ekiti State

Table 4.6: Summary of Regression Analysis of Influence of Collection Management Practices on Quality Library Service Delivery

Model			F(df)	Anova Sig.	
R	0.875				
R Square	0.766		64.552 (4,79)	0.000	
Adjusted R Square	0.754				
Std. Error of the Estimate	3.77535				
Coefficients	Unstandardized Coefficients		Standardized t	Sig	
	B	Std. Error	Beta		
Constant	79.792	6.651	11.997	0.000	
Collection Development Policy	1.814	0.474	0.253	3.827	0.000
Selection	-4.260	0.374	-0.760	-11.385	0.000
Acquisition	0.716	0.390	0.137	1.836	0.070
Weeding	-3.138	0.309	-0.737	-10.148	0.000

Source: Field Survey, 2024

As indicated in Table 4.6, collection management practices had high positive and statistically significant relationship with quality library service delivery in higher institution libraries in Ekiti State ($R=0.875$, $p<0.05$). The coefficient of determination (Adj. R^2) of 0.754 shows that

collection management practices predicts 75.4% of the changes in quality library service delivery in higher institution libraries in Ekiti State; while the remaining 24.6% changes in quality library service delivery in higher institution libraries is explained by other external factors other than those examined in this study.

Table 4.6 also shows the results of ANOVA (overall model significance) of regression test which revealed that collection management practices had a significant influence on quality library service delivery in higher institution libraries in Ekiti State. This can be explained by the (Adj. $R^2 = 0.766$, F-value = 64.552, $P = 0.000$) which is statistically significant at 95% confidence interval. Hence, the result revealed that collection management practices in higher institution libraries in Ekiti State significantly influenced quality of library services delivered by the librarians in such institutions. Additionally, the results of regression coefficients revealed that a positive and statistically significant relative influence was reported for collection development policy ($\beta=0.253$, $p=0.000$, $t=3.827$); selection ($\beta=-0.760$, $p=0.000$, $t=-11.385$) and weeding ($\beta=-0.737$, $p=0.000$, $t=-10.148$) had negative influence, while acquisition ($\beta=0.137$, $p=0.070$, $t=1.836$) did not have significant relative influence.

Based on the results of regression coefficients in table 4.6, which position that at 95% confidence level, a unit change in collection development policy will lead to a 0.253 increase in the quality of library service delivery in higher institution libraries in Ekiti State; given that all other factors are held constant. On the other, a unit change in selection and weeding will lead to a -0.760 an -0.737 decrease in the quality of library service delivery in higher institution libraries in Ekiti State respectively. Regarding all the collection management practices sub-variables examined, collection development policy (beta=0.253), selection (beta=-0.760) and weeding (beta=-0.737) had relative significant influence at probability value less than 0.05; while acquisition (beta=0.137) did not. Considering this result (Adj. $R^2=0.754$, $F(4,79)=64.552$, $p=0.000$); it implies that there was a significant influence of collection

management practices on quality library service delivery in higher institution libraries in Ekiti State. The null hypothesis (H_0) was therefore rejected.

H₀₃: There will be no significant combined influence of big data and collection management practices on quality library service delivery in higher institution libraries in Ekiti State.

Table 4.7: Summary of Regression Analysis of Combined Influence of Big Data and Collection Management Practices on Quality Library Service Delivery

Model			F(df)	Anova	
				Sig.	
R	0.998				
R Square	0.996		26.698 (7,76)	0.000	
Adjusted R Square	0.995				
Std. Error of the Estimate	4.51355				
	Unstandardized Coefficients	Standardized Coefficients	t	Sig	
Coefficients	B	Std. Error	Beta		
Constant	40.481	2.596		15.595	0.000
Volume	0.862	0.214	0.169	4.024	0.000
Varieties	4.661	0.109	0.705	42.698	0.000
Velocity	-3.953	0.119	-0.808	-33.349	0.000
Collection Development Policy	0.647	0.140	0.090	4.627	0.000
Selection	0.132	0.097	0.024	1.356	0.179
Acquisition	-0.916	0.145	-0.175	-6.319	0.000
Weeding	-1.510	-0.144	-0.355	-10.462	0.000

Source: Field Survey, 2024

As shown in Table 4.7, big data practices and collection management practices jointly had high positive and statistically significant relationship with quality library service delivery in higher institution libraries in Ekiti State ($R=0.998$, $p<0.05$). The coefficient of determination (Adj. R^2) of 0.995 shows that big data practices and collection management practices jointly

predicts 99.5% of the changes in quality library service delivery in higher institution libraries in Ekiti State; while the remaining 0.5% changes in quality library service delivery in higher institution libraries is explained by other external factors other than those examined in this study.

Table 4.7 also shows the results of ANOVA (overall model significance) of regression test which revealed that big data practices and collection management practices jointly had a significant influence on quality library service delivery in higher institution libraries in Ekiti State. This can be explained by the F-value (26.698) and low p-value (0.000) which is statistically significant at 95% confidence interval. Hence, the result revealed that big data and collection management being practiced in higher institution libraries in Ekiti State significantly influenced quality of library services delivered by the librarians in such institutions. Furthermore, the results of regression coefficients revealed that a positive and statistically significant relative influence was reported for volume ($\beta=0.169$, $p=0.000$, $t=4.024$), varieties ($\beta=0.705$, $p=0.000$, $t=42.698$), collection development policy ($\beta=0.090$, $p=0.000$, $t=4.627$) and selection ($\beta=0.024$, $p=0.000$, $t=4.627$), velocity ($\beta=-0.808$, $p=0.000$, $t=-33.349$), acquisition ($\beta=-0.175$, $p=0.000$, $t=-6.319$) and weeding ($\beta=-0.355$, $p=0.000$, $t=-10.462$) had negative influence; while selection ($\beta=0.024$, $p=0.179$, $t=1.356$) did not have significant relative influence.

Based on the results of regression coefficients in table 4.7, which position that at 95% confidence level, a unit change in volume, varieties, collection development policy and selection will lead to a 0.169, 0.705, 0.090 and 0.024 increase in the quality of library service delivery in higher institution libraries in Ekiti State respectively; given that all other factors are held constant. On the other, a unit change in velocity, acquisition and weeding will lead to a -0.808, -0.175 and -0.355 decrease in the quality of library service delivery in higher institution libraries in Ekiti State respectively.

Regarding all the big data practices sub-variables examined, volume ($\beta=0.169$), varieties ($\beta=0.705$) and velocity ($\beta=-0.808$) had relative significant influence at probability value less than 0.05. As regards all the collection management practices sub-variables examined, collection development policy ($\beta=0.090$), acquisition ($\beta=-0.175$) and weeding ($\beta=-0.355$) had relative significant influence at probability value less than 0.05; while selection ($\beta=0.024$) did not. Considering this result ($\text{Adj. } R^2=0.995$, $F(7,76)=26.698$, $p=0.000$); it implies that there was a significant combined influence of big data and collection management practices on quality library service delivery in higher institution libraries in Ekiti State. The null hypothesis (H_03) was therefore rejected.

4.4 Discussion of Findings

The findings of this study on socio-demographic characteristics revealed that most of the respondents were female, while male were below half of the sample size. Moreover, it was established that most of the respondents were in the age range of 20-29 years. Regarding the highest educational qualification, most of the respondents had HND/Bachelor's degree, many obtained Master's degree; while few had PhD. Concerning department / section, most of the respondents were in circulation, a considerable number of respondents were in technical section, while few respondents were in acquisition department / section. Also, less than half of the respondents had 10-14 years of working experience, a sizable respondent had less than 5 years of working experience, while a few respondents have gathered 5-9 years' experience.

As regards research question one, the finding of this study revealed that the level of quality of library service delivery in higher institutions in Ekiti State was high. This was established through the grand mean for quality library service delivery; which showed that the respondents the statements regarding affect of service, information control and library as a place was high. It was further established through the responses of the respondents of which most of the respondents indicated very high on how they were very approachable and always

ready to respond to users' enquiries. Furthermore, majority of the respondents indicated very high on the fact that, they treat users in a polite way and show willingness to help users. Besides, most of the respondents indicated very high that they always give users undivided attention. In addition, majority of the respondents indicated very high that they have adequate knowledge to answer users' questions. Also, a substantial number of the respondents indicated very high that they always show willingness to help users.

Moreover, majority of the respondents indicated high on how their libraries provide users with remote access to electronic resources. Additionally, most of the respondents indicated high on how information resources in their libraries are in proper places on the shelves. In addition, most of the respondents expressed high on how their libraries provide user education programme that enable users make effective use of library materials and services. On the other hand, most of the respondents mentioned low that their libraries have modern equipment like computers that let users have easy access to their needed information. Equally, most of the respondents indicated high that their libraries provide users with adequate, current and relevant information resources in both print and non-print format.

Similarly, most of the respondents indicated high on the fact that their libraries are secured and peaceful place for study, learning and research. In addition, majority of the respondents indicated high on the fact that their libraries have spaces for group learning and group study. Furthermore, majority of the respondents indicated high on the fact that their libraries are comforting, inviting and well lightened. The finding of this study on high level of quality of library service delivery in higher institutions in Ekiti State is in contrast to the outcome of a previous finding which revealed that quality service delivery was affected¹. It implied that in the present study, it was established that the quality of library service delivery delivered at the higher institutions in Ekiti State was high, while the quality service delivery was affected in

the previous study. The contrast in the two studies is that the quality of service delivery of the present study was improved upon, while the previous study did not.

The finding of this study on research question two revealed that volume was the most the prevalent big data practices in libraries in higher institutions in Ekiti State; followed by velocity, while varieties was the least. This was established through the overall results regarding big data practices which revealed that volume had the highest weighted mean, followed by varieties velocity respectively. The low level of varieties of data that the libraries collect was established based on a mean of 2.40 that was obtained. It was further revealed that most of the respondents expressed that they sometimes retrieve data from the library management software. Likewise, most of the respondents revealed that their libraries never generate data on the library's social media pages. Additionally, some of the respondents affirmed that their libraries sometimes generate data through their daily routines. Also, majority of the respondents affirmed that their libraries sometimes keep data of all their digital collections.

On the contrary, volume of data the libraries collect was high. This was established through a mean of 3.49 that was obtained. It was further confirmed by the majority of the respondents that their libraries collect manual and digital data very often, while many affirmed that they often collect them. Moreover, majority of the respondents revealed that their libraries keep data of users that comes to the library everyday very often. Likewise, most of the respondents revealed that members' registration data is being kept in their libraries very often, while many often keep data of such users. In addition, most of the respondents revealed that their libraries often keep data of every books and journals that they acquire.

Equally, finding of this study revealed that velocity was established through a mean of 2.61 that was obtained on the respondents' responses about the rate at which the library acquires data. In line with this, most of the respondents admitted that data are often generated every

day in their libraries through library routines. Furthermore, most of the respondents acknowledged that libraries never retrieve data every day from the software management system. Likewise, most of the respondents acknowledged that data on their library collections are often updated on the digital library system. Additionally, most of the respondents admitted that their libraries often analyse the data as soon as they are retrieved. The finding of this study on volume and velocity as the most the prevalent big data practices in libraries in higher institutions in Ekiti State, contradicts the finding of a previous study which revealed that librarians recognize the potential of big data for optimizing resource management and accessibility, improving resource collection and management and improving overall service delivery². The contradiction indicated that volume and velocity as the most the prevalent big data practices in libraries in the study area; while the practices of the previous study emphasis on improvement in the overall service delivery in libraries. Similarly, the finding of this study present study is at variance with a previous study which revealed that analysing data makes it become useful information to facilitate service delivery in different sections of the library, such as circulation, cataloguing, special collections and reference³. On the other hand, it was reported in the same previous study that big data are useful in universities, especially in libraries where it could be utilized in all areas of library services³. This implies that to certain extent, big data usefulness in universities has influence on its volume in relation to its overall service delivery.

The finding of this study on research question three revealed that acquisition was the most prevalent collection management practices existing in libraries in higher institutions in Ekiti State; followed by selection and collection development policy, while weeding was the least. This was established through the overall results regarding collection management practices which revealed that acquisition had the highest weighted mean, followed by selection, collection development policy and weeding respectively. The respondents' responses on

collection development policy indicated that it was high. This was further established through responses of which they indicated great extent on how they were guided always by a collection development policy when performing their collection development function. Moreover, majority of the respondents indicated great extent on how the collection development policy of their libraries cover policy on collection evaluation. However, low extent was indicated on how the collection development policy is reviewed periodically.

Furthermore, the respondents' responses about selection was high based on obtained mean. It was further established that many of the respondents indicated great extent on the fact that acquisition librarians in their libraries often use various selection tools to select the latest information resources. Moreover, most of the respondents indicated great extent on the fact that acquisition librarians in their libraries check various publishers' catalogues to select the relevant materials. Additionally, many of the respondents indicated great extent on the fact that acquisition librarians in their libraries will not just buy from one vendor without consulting other vendors.

The respondents' responses about acquisition shows that it was high based on the obtained mean of 3.31. This was further revealed through the respondents responses of which most of the respondents indicated very great extent that their libraries acquire information resources through direct purchase. Likewise, most of the respondents indicated very great extent that their libraries acquire information resources through direct gifts and donations. In addition, many of the respondents indicated great extent on the fact that their libraries acquire information resources through direct bequeath. The respondents' responses about weeding shows that it was high based on the obtained mean of 2.39 that was obtained. Equally, most of the respondents indicated that to very great extent information resources that are no longer relevant can be weeded by any librarian. Moreover, some of the respondents indicated that to great extent there is a guideline to determine which information could be weeded from their

libraries. Also, some of the respondents indicated that to great extent on the procedure for weeding of obsolete materials is clear and well documented.

The finding of this study on collection management practices as well as selection and collection development policy as the most prevalent collection management practices existing in libraries in higher institutions in Ekiti State is in line with the finding of a previous study which revealed that collection development practices in private university libraries can be regarded as highly professional and methodical through collection development policy. It was further established in the previous study that involvement of users, in the collection process, the formulation of written collection development policy in the libraries show a high level of professionalism⁴. On the other hand, the finding is in contrast to a previous study which stated that the large majority who are skeptical about the role of collection development policy in effective collection management as a cause of concern⁵.

The finding on the first hypothesis revealed that there was a significant influence of big data practices on quality library service delivery in higher institution libraries in Ekiti State. It was further revealed in this outcome that big data practices had high positive and statistically significant relationship with quality library service delivery in higher institution libraries in Ekiti State. The coefficient of determination shows that big data practices predicted 93.5% of the changes in quality library service delivery in higher institution libraries in Ekiti State; while the remaining 6.5% changes in quality library service delivery in higher institution libraries is explained by other external factors other than those examined in this study.

The results of ANOVA (overall model significance) of regression test which further revealed that big data practices had a significant influence on quality library service delivery in higher institution libraries in Ekiti State. This was explained by the F-value (400.603) and low p-value (0.000) which was statistically significant at 95% confidence interval. This result therefore revealed that big data being practiced in higher institution libraries in Ekiti State

significantly influenced quality of library services delivered by the librarians in such institutions. Additionally, the results of regression coefficients revealed that a positive and statistically significant relative influence was reported for volume and varieties; while velocity had negative influence. Regarding the results of regression coefficients, which position that at 95% confidence level, a unit change in volume and varieties would lead to a 0.400 and 0.682 increase in the quality of library service delivery in higher institution libraries in Ekiti State respectively; given that all other factors are held constant. On the other, a unit change in velocity would lead to a -0.847 decrease in the in the quality of library service delivery in higher institution libraries in Ekiti State. Regarding all the big data practices sub-variables examined, volume, varieties and velocity had relative significant influence on quality library service delivery in higher institution libraries in Ekiti State.

The finding of this study on the significant influence of big data practices on quality library service delivery in higher institution libraries in Ekiti State was in line with a previous finding which established that Big Data impact on the traditional service pattern of academic libraries⁶. The outcome of the present study is in consonance with the finding of another previous study which established that librarians recognize the potential of big data for optimizing resource management and accessibility, improving resource collection and management as well as improving overall service delivery⁷.

The outcome of hypothesis two revealed that there was a significant influence of collection management practices on quality library service delivery in higher institution libraries in Ekiti State. The finding of this study further revealed that collection management practices had high positive and statistically significant relationship with quality library service delivery in higher institution libraries in Ekiti State. The coefficient of determination shows that collection management practices predicted 75.4% of the changes in quality library service delivery in higher institution libraries in Ekiti State; while the remaining 24.6% changes in

quality library service delivery in higher institution libraries is explained by other external factors other than those examined in this study.

The results of ANOVA (overall model significance) of regression test also revealed that collection management practices had a significant influence on quality library service delivery in higher institution libraries in Ekiti State. This could be explained by the F-value (64.552) and low p-value (0.000) which is statistically significant at 95% confidence interval. In line with this, the result revealed that collection management practices in higher institution libraries in Ekiti State significantly influenced quality of library services delivered by the librarians in such institutions. Furthermore, the results of regression coefficients revealed that a positive and statistically significant relative influence was reported for collection development policy; selection and weeding had negative influence, while acquisition did not have significant relative influence.

Regarding the results of regression coefficients in hypothesis two, which position that at 95% confidence level, a unit change in collection development policy will lead to a 0.253 increase in the quality of library service delivery in higher institution libraries in Ekiti State; given that all other factors are held constant. On the other, a unit change in selection and weeding will lead to a -0.760 and -0.737 decrease in the quality of library service delivery in higher institution libraries in Ekiti State respectively. Regarding all the collection management practices sub-variables examined, collection development policy, selection and weeding had relative significant influence on quality of library service delivery in higher institution libraries in Ekiti State; while acquisition did not. The finding of this study of influence of collection management practices on quality library service delivery in higher institution libraries in Ekiti State is in congruence with the finding of a previous study which revealed that collection development practices in private university libraries could be regarded as highly professional and methodical, which could influence library service delivery⁴.

The findings of hypothesis three revealed that there was a significant combined influence of big data and collection management practices on quality library service delivery in higher institution libraries in Ekiti State. It was further revealed that big data practices and collection management practices jointly had high positive and statistically significant relationship with quality library service delivery in higher institution libraries in Ekiti State. The coefficient of determination shows that big data practices and collection management practices jointly predicted 99.5% of the changes in quality library service delivery in higher institution libraries in Ekiti State; while the remaining 0.5% changes in quality library service delivery in higher institution libraries is explained by other external factors other than those examined in this study.

The finding further shows the results of ANOVA (overall model significance) of regression test which revealed that big data practices and collection management practices jointly had a significant influence on quality library service delivery in higher institution libraries in Ekiti State. Consequently, the result revealed that big data and collection management being practiced in higher institution libraries in Ekiti State significantly influenced quality of library services delivered by the librarians in such institutions. Furthermore, the results of regression coefficients revealed that a positive and statistically significant relative influence was reported for volume, varieties, collection development policy and selection, velocity, acquisition and weeding had negative influence; while selection did not have significant relative influence.

Concerning the results of regression coefficients which position that at 95% confidence level, a unit change in volume, varieties, collection development policy and selection will lead to a 0.169, 0.705, 0.090 and 0.024 increase in the quality of library service delivery in higher institution libraries in Ekiti State respectively; given that all other factors are held constant. On the other hand, a unit change in velocity, acquisition and weeding would lead to a -0.808,

-0.175 and -0.355 decrease in the quality of library service delivery in higher institution libraries in Ekiti State respectively. Regarding all the big data practices sub-variables examined, volume, varieties and velocity had relative significant influence on quality of library service delivery. As regards all the collection management practices sub-variables examined, collection development policy, acquisition and weeding had relative significant influence quality of library service delivery; while selection did not. The finding of this study about relative influence of weeding on quality of library service delivery is in agreement with the finding of a previous work which established that the collection development of data was influenced in the library through decisions making relating to weeding and collection development⁷. On the other hand, the finding on the combined influence of big data and collection management practices on quality library service delivery in higher institution libraries was in contrast to the finding of a previous study, which revealed that high exchange rates, order delays in book delivery, and high charges of foreign materials from donors are some of the challenges that the university library faces⁸.

Endnotes

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Chapter Five

Conclusion

This chapter concludes the study. It includes a summary of findings, a conclusion, recommendations, contributions to knowledge, and suggested areas for further research.

5.1 Summary of Findings

- This study looked into big data and collection management techniques as predictors of quality service delivery among librarians in higher education institutions in Ekiti State, Nigeria. Furthermore, three research questions were posed and addressed, with three hypotheses tested. Furthermore, relevant material was examined under several subheadings. The review of relevant literature encompassed the conceptual review, theoretical model, and review of empirical investigations. In addition, the conceptual model was outlined; while summary of the reviewed literature was carried out. The conceptual review in this study focused on quality library service delivery, collection development practices and big data practices. The quality library service delivery sub-variables examined included affect of service, information control and library as a place. The sub-variables examined under big data practices were volume, velocity and varieties. For the collection development practices, collection development policy, selection, acquisition and weeding were examined as sub-variables. Regarding the theoretical review and framework; collection development model was used to guide the construct of collection management practices. Lipqual Model was used to guide the construct of quality library service delivery; while Big Data Theory was used to guide big data as a construct. The review of empirical studies was carried out on quality library service delivery, collection management practices and big data practices. Furthermore, appraisal of reviewed literature was carried out to show gaps in the previous studies. The descriptive survey research design was used for this study. Population for this study comprised librarians in higher institutions in Ekiti state Nigeria. The sample size was eighty-four respondents which was made up of librarians in tertiary institutions in Ekiti state. Questionnaire was used as instrument for collection of data analysis. Content and

construct validity were carried out; while the validation was done through the guidance of the researcher's supervisor and other specialists in the field of Information Management.

- The instrument's dependability was tested by pilot research using twenty (20) librarians from Obafemi Awolowo University in Osun State who were not part of the original study. Cronbach's alpha reliability test was performed on the data to confirm the items' internal consistency, and the result was 0.75. The researcher collected data via questionnaire. Research questions one, two, and three were analysed using descriptive statistics such as frequency counts, mean, standard deviation, and percentage. Hypotheses 1-3 were tested using multiple regression inferential statistics at a significance level of 0.05.
- The result of the study revealed that the level of quality of library service delivery in higher institutions in Ekiti State was high. This was established through the grand mean for quality library service delivery; which showed that the respondents the statements regarding affect of service, information control and library as a place was high. The finding of this study on research question two revealed that volume was the most the prevalent big data practices in libraries in higher institutions in Ekiti State; followed by velocity, while varieties was the least. This was established through the overall results regarding big data practices which revealed that volume had the highest weighted mean, followed by varieties velocity respectively. The finding of this study on research question three revealed that acquisition was the most prevalent collection management practices existing in libraries in higher institutions in Ekiti State; followed by selection and collection development policy, while weeding was the least. This was established through the overall results regarding collection management practices which

revealed that acquisition had the highest weighted mean, followed by selection, collection development policy and weeding respectively.

- The finding on the first hypothesis revealed that there was a significant influence of big data practices on quality library service delivery in higher institution libraries in Ekiti State. It was further revealed in this outcome that big data practices had high positive and statistically significant relationship with quality library service delivery in higher institution libraries in Ekiti State. The coefficient of determination shows that big data practices predicted 93.5% of the changes in quality library service delivery in higher institution libraries in Ekiti State; while the remaining 6.5% changes in quality library service delivery in higher institution libraries is explained by other external factors other than those examined in this study.
- The outcome of hypothesis two revealed that there was a significant influence of collection management practices on quality library service delivery in higher institution libraries in Ekiti State. The finding of this study further revealed that collection management practices had high positive and statistically significant relationship with quality library service delivery in higher institution libraries in Ekiti State. The coefficient of determination shows that collection management practices predicted 75.4% of the changes in quality library service delivery in higher institution libraries in Ekiti State; while the remaining 24.6% changes in quality library service delivery in higher institution libraries is explained by other external factors other than those examined in this study. Furthermore, the results of regression coefficients revealed that a positive and statistically significant relative influence was reported for collection development policy; selection and

weeding had negative influence, while acquisition did not have significant relative influence.

- The findings of hypothesis three revealed that there was a significant combined influence of big data and collection management practices on quality library service delivery in higher institution libraries in Ekiti State. It was further revealed that big data practices and collection management practices jointly had high positive and statistically significant relationship with quality library service delivery in higher institution libraries in Ekiti State. The coefficient of determinaton shows that big data practices and collection management practices jointly predicted 99.5% of the changes in quality library service delivery in higher institution libraries in Ekiti State; while the remaining 0.5% changes in quality library service delivery in higher institution libraries is explained by other external factors other than those examined in this study. Furthermore, the results of regression coefficients revealed that a positive and statistically significant relative influence was reported for volume, varieties, collection development policy and selection, velocity, acquisition and weeding had negative influence; while selection did not have significant relative influence.

5.2 Conclusion

It was concluded in this study that the level of quality of library service delivery in higher institutions in Ekiti State was high. Conclusion was also made that volume was the most prevalent big data practices in libraries in higher institutions in Ekiti State; followed by velocity, while varieties was the least. It was established further that acquisition was the most prevalent collection management practices existing in libraries in higher institutions in Ekiti State; followed by selection and collection development policy, while weeding was the least.

Similarly, it was concluded that there was a significant influence of big data practices on quality library service delivery in higher institution libraries in Ekiti State. It was further revealed in this outcome that big data practices had high positive and statistically significant relationship with quality library service delivery in higher institution libraries in Ekiti State. The outcome of this study further established that there was a significant influence of collection management practices on quality library service delivery in higher institution libraries in Ekiti State. The finding of this study further revealed that collection management practices had high positive and statistically significant relationship with quality library service delivery in higher institution libraries in Ekiti State. Conclusion was further made that there was a significant combined influence of big data and collection management practices on quality library service delivery in higher institution libraries in Ekiti State. It was further revealed that big data practices and collection management practices jointly had high positive and statistically significant relationship with quality library service delivery in higher institution libraries in Ekiti State.

5.3 Recommendations

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

1. The management of higher institutions in Ekiti State should organize periodic capacity building for librarians in those institutions. This is to ensure that their skills are more improved to enrich the quality of library service delivery
2. Favourable environment should be created by the authorities of higher institutions in Ekiti State to ensure that data sets in the libraries of such institutions are properly analysed computationally; with focus on varieties regarding big data. This is necessary so as to reveal patterns, trends and associations which can be used to know who is using the library, why they are using it and how they can be served better.

3. The management of higher institutions in Ekiti State should also create enabling environment for the librarians to improve on their level of collection management practices existing in their respective libraries. This to ensure that they intensified efforts on their present level of collection management practices; specifically, on weeding.
4. The management of higher institutions in Ekiti State should focus on big data and collection management practices as strong factors influencing quality library service delivery in their respective libraries.

5.4 Contributions to Knowledge

This work contributed to knowledge in the following ways:

1. This study affirmed that the level of quality of library service delivery in higher institutions in Ekiti State was high.
2. The study established that volume was the most the prevalent big data practices in libraries in higher institutions in Ekiti State; followed by velocity, while varieties was the least.
3. It was established further that acquisition was the most prevalent collection management practices existing in libraries in higher institutions in Ekiti State; followed by selection and collection development policy, while weeding was the least.
4. This study affirmed that there was a significant influence of big data practices on quality library service delivery in higher institution libraries in Ekiti State.
5. It was confirmed that there was a significant influence of collection management practices on quality library service delivery in higher institution libraries in Ekiti State.

6. It was established that there was a significant combined influence of big data and collection management practices on quality library service delivery in higher institution libraries in Ekiti State.

5.5 Suggested Areas for Further Research

The following suggestions were made for further research based on the findings of the study.

1. Comparable study on quality library service delivery can be replicated in higher institution libraries in other states across South-west, Nigeria.
2. Robust intervention studies should be designed and properly implemented on quality library service delivery higher institution libraries in Ekiti state.
3. Other independent variables other than big data and collection management practices can equally be examined on quality library service delivery higher institution libraries in Ekiti state.
4. A study on big data and collection management practices on quality library service delivery in higher institution libraries in can be replicated in other higher institution libraries across all the geo-political zones, Nigeria.

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Appendix

**Lead City University, Ibadan, Nigeria
Faculty of Communication and Information Science
Department of Information Management**

Questionnaire on:

Big data & Collection Management Practices as Determinants of Quality Library Service Delivery among librarians in Higher Institution Libraries in Ekiti State

Dear Respondent,

This questionnaire is designed to collect data for academic research purpose. Information supplied will be handled with utmost confidentiality. Your participation in this study will be highly appreciated.

Thank you for your cooperation.

Researcher

Section A: Demographic Data

Please tick as appropriate

1. Indicate name of Institution: _____

2. Age: Less than 20 years [] 20-29 years [] 30-39 years [] 40-49 years [] 50-59 years [] 60 years and Above
3. Gender: Male [] Female []
4. Highest Educational Qualification: HND/Bachelor's Degree [] Master's Degree [] Ph. D [] others (Specify)
- 5 Department or Section (e.g. circulation):
6. Years of Work Experience: Less than 5 years [] 5-9 years [] 10-14years [] 15-19 years [] 20 years and Above

Section B

Quality Service Delivery among Librarians in Higher Institution Libraries

Please indicate your opinion using the scale: Very high (VH), High (H) Low (L),Very low (VL).

s/n Quality library service delivery (To what extent do you agree with the following) VH H L VL

Affect of service

- 1 I am very approachable and always ready to respond to users' enquiries.
- 2 I treat users in a polite way and show willingness to help users.
- 3 I always give users undivided attention.
- 4 I have adequate knowledge to answer users' questions
- 5 I always show willingness to help users

Information control

- 6 My library provides users with remote access to electronic resources
- 7 Information resources in my library are in their proper places on the shelves.
- 8 My library provides user education programme that enable users make effective use of library materials and services
- 9 My library has modern equipment like computers that let users have easy access to their needed information
- 10 The library provides users with adequate, current and relevant information resources in both print and non-print format

Library as a place

- 11 My library provides users with modern equipment (photocopiers, printers, scanners, CD-ROMs etc) that lets them easily access needed information
- 12 My library is a secured and peaceful place for study, learning and research
- 13 My library has a space for group learning and group study
- 14 My library is comforting, inviting and well lightened
- 15 My library has directional signs in the building for easy location of different area

Section C

Collection Management Practices in Higher Institutions Libraries

Please indicate your opinion using the scale: Very great extent (VGE), Great extent (GE), Low extent (LE), Very low extent (VLE).

S/N	Collection Development Practice in Academic Libraries	VGE	GE	LE	VLE
	Collection development policy				
1.	I am guided always by a collection				

	development policy when performing my collection development function				
2.	The collection development policy of my library covers policy on collection evaluation				
3.	The collection development policy is reviewed periodically				
	Collection selection practice				
4.	Acquisition librarians in my library often use various selection tools to select the latest information resources				
5.	Acquisition librarians in my library check various publishers' catalogues to select the relevant materials				
6.	Acquisition librarians in my library will not just buy from one vendor without consulting other vendors				
	Collection acquisition				
7.	My library acquires information resources through direct purchase				
8.	My library acquires information resources through direct gifts and donations				
9.	My library acquires information resources through direct bequeath				
	Weeding				
10.	Information resources that are no longer relevant can be weeded by any librarian.				
11.	There is a guideline to determine which information can be weeded from my library				
12.	The procedure for weeding of obsolete materials is clear and well documented				

Section D

Big Data Practices in Higher Institution Libraries

Please indicate your opinion using the scale: Very Often (VO), Often (O) Sometimes(S), Never (N).

s/n **Big data practices** **VO** **O** **S** **N**

Volume (how much data does your library

collect)

- 1 My library collects manual and digital data
- 2 My library keeps data of users that comes to the library everyday
- 3 Members registration data is being kept in my library
- 4 My library keeps data of every books and journals that it acquires

Varieties (Different types of data that the library collects)

- 5 My library retrieves data from the library management software
- 6 My library generates data on the library's social media pages
- 7 My library generates data through its daily routines
- 8 My library keeps data of all its digital collections

Velocity (The rate at which the library acquires data)

- 9 Data is being generated every day in my library through library routines
- 10 My library retrieves data every day from its software management system
- 11 Data on my library collections are regularly updated on the digital library system
- 12 My library analyses the data as soon as they are retrieved

Bio-data

A. Personal Data

1. Name: **Folashade Precious Ojo**
2. Sex: Female
3. Date and Place of Birth: 16th May, 1998, Ikole Ekiti.
4. Phone: 08109402836
5. State of Origin: EkitiState
6. Name and Address of Next of Kin: Adewale Oluwaseun Ojo
Adebayo, Ado Ekiti, Ekiti State
7. Email: folashadejo44@gmail.com

B. Institutions Attended with Dates

Lead City University 2022 – 2024

University of Ilorin, Ilorin, Kwara State 2015 – 2019

Educational Qualifications Obtained with Dates

Master of Library and Information Science (M.LIS) 2024

Bachelor of Library and Information Science (B.LIS) 2019

C. Work Experience and Date

Afe Babalola University, Ado Ekiti, Ekiti State 2021 Till Date

Position: Assistant Librarian

Institute of Aricultural, Research & Training Library, Apata, Ibadan 2020

Position: Graduate Assistant (NYSC)

Afe Babalola University Library, Ado Ekiti 2018

Position: SIWES

D. Major Conferences Attended with Date

Afe Babalola University and Trinity University Leadership & Governance Conference 2024

Web Development and Publishing (NLA, I.T. Section) 2024

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The University Compliance Certification

This is to certify that this thesis by Folashade Precious OJO with Matriculation Number LCU/PG/004054 in the Department of Information Management, Faculty of Communication and Information Sciences, Lead City University, Ibadan, is in FULL compliance with the approved university format and style.

Signature

Date

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