



# Effect of Library Data Base in Retrieving Information and Knowledge Discovering by HND II Students of Architectural Technology in Federal Polytechnic Ado-Ekiti

Research Article

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## ABSTRACT

This study examines the effect of library data base in retrieving information and knowledge discovering by HND II students of Architectural Technology in Federal Polytechnic Ado Ekiti libraries. The research objectives were: To examine the effect of library database in retrieving information and knowledge discovery of HND II student's architectural Technology, To enhance the use of information retrieving available for library service to HND II students in architectural Technology, To identify the ways to improve the use of library information retrieving in provision of library database to discovery knowledge in HND II student's architectural Technology The study adopted quantitative research methodology and area consisted of fifty (50) students in Architectural Technology in Federal Polytechnic Ado Ekiti librarians from all the study form questionnaire, and fifty (50) responses were collected and analyzed using simple percentage. The study's findings revealed that librarians need to possess technical competency in algorithms and have a wide range of abilities such as domain-specific knowledge in library science, strong analytical skills, and good communication abilities in order to use data mining techniques for knowledge discovery in academic libraries. The study concluded that the fact that these abilities are so widely valued highlights how crucial it is to use data mining to enhance decision-making and library services. The study recommended that academic Libraries should invest in professional development programs to enhance their librarians' technical proficiency in algorithms, analytical skills, and communication.

**Keywords:** Database, Information, Knowledge, Architectural, The Federal Polytechnic Ado Ekiti.

## 1 Introduction

### 1.1 Background to the Study

Historically, the field of Library and Information Science (LIS) has served as the custodian and repository of the world's intellectual heritage by organizing, disseminating, and providing access to information resources that contributes to the advancement of knowledge. It has housed different categories of ancient scrolls, books, manuscripts etc. However, in the present era, it is characterized by rapid technological advancement, steering profound transformation in the role of libraries and information institutions in organizing, disseminating and providing access to information resources. The rapid application of the latest technology advancements in Artificial Intelligence (AI) has revolutionized various sectors and libraries are not exempted as it is has proved to be very important for the growth of the learning space and marks as highly relevant in the era of digitization. Eiriemiokhale and Sulyman (2023) clarified this position by observing that technological advancements have ushered a pulsating paradigm shift in all dimensions of the daily activities of humans.



The wind of the changes blowing around human nature does not leave libraries behind and has challenged all types of libraries to be striving towards responding to the trending practices. This advent of generative artificial intelligence (AI) marked a paradigm shift that began a transformative era in technological advancement, reshaping our perception, interaction and integration with technology. With advancements like artificial intelligence, machine learning, and natural language processing, libraries are evolving to offer more personalized services, improved search capabilities, and enhanced user experiences. Researchers have been exploring how these technologies influence information literacy, digital inclusion, privacy concerns, and the role of librarians in facilitating access to diverse and reliable information sources. Additionally, investigating the challenges and opportunities posed by big data management, digital preservation, and the shifting landscape of scholarly communication in the digital age may also be fruitful avenues of inquiry in contemporary library and information science research. Beyond enhancing traditional functions, generative AI in stills a significant transformation in libraries (Leiker et al., 2023). This transformation redefines traditional methodologies, paving the way for an era where human/AI collaboration blurs the line between technological aid and human inventiveness (Mello et al., 2023). Yan et al. (2023) submits that these changes brought forth are multidimensional – technological, cultural, ethical, and operational – necessitating a comprehensive, multidisciplinary approach to fully leverage generative AI's potential in our everyday and professional lives. In the library and information field, it is about reimagining the role of libraries in our increasingly digitalized context. This progression enriches user experience and empowers libraries to manage resources more effectively, making valuable academic materials accessible to researchers and students (Narayanan, 2024). This justifies the positive response by libraries on AI around the globe since it is evident that it a tool that is increasingly playing a critical role in transforming interaction with users and service delivery by libraries and librarians, thereby evolving into effective and personalized medium of knowledge and discovery.

In academic settings, generative AI redefines the nature of learning and teaching. It extends beyond being a sophisticated tool, offering tailored educational experiences that adapt to individual learning needs (Chan & Hu, 2023). Mello et al. (2023) added that generative AI is pivotal in academic research, revolutionizing traditional research methodologies. It is an efficient digital assistant, swiftly reviewing, analyzing, and summarizing a broad range of literature. They concluded that generative AI accelerates the research process and encourages interdisciplinary collaboration, expanding the scope and depth of academic research. Massis (2018) averred that while AI may be seen as a threat to traditional institutions like libraries, it also has the potential to enhance library services greatly.

Different writers define Information retrieval (IR) with relation to search the engine and software utilized. IR based on software Technology, looks at data recovery, management and access issues.

Christopher and colleagues compared two definitions of IR; first one explains it literally as a way of entering a series of numbers from a credit or debit card into an online platform to retrieve an either an airline ticket or a room reservation. The second type of IR explicitly liken it to academic functions for example, looking for unstructured materials stored in a computer system to satisfy the quest for knowledge, Christopher et al., (2008). According Wikipedia, IR is a process of acquiring knowledge from information resources. Information retrieval (IR) also includes the simple task of passing out personal details to a customer service representative. The overall goal of IR is to obtain needed information from either a single document or a compendium of documents which holds relevant data, such as, journals and books. The few definitions of IR apply to different fields of practice and can be utilized by different professionals to help to give meaning to questions asked by the enquirer. Retrieving information from a database where it is stored is a major function of the library and Library information science (LIS) professionals (Wikipedia 2022).

IR in academic parlance is text-based information gathering obtained to meet a need. It is usually obtained from a database containing large volumes of information that is mostly accessible using computers. For the purpose of this paper, IR is viewed from the lens of information science, and it is regarded as - a method of sorting, searching and recovering information with the end user in mind. While the art of retrieving information is an age-long practice, learning ways of storing and retrieving information digitally for future use involves differentiating between structured, unstructured and semi structured record keeping methods (Sawalkar et al., 2018).



Knowledge discovery will improve information organization and management for quick access and retrieval, taking library service delivery to a new level. The delivery of information services to users is highly required to work efficiently and effectively in libraries and information centers, especially in academic libraries where students have a variety of information needs (Ntuboderia, Wiche & Onyema, 2023). The provision of service delivery in university libraries seeks to satisfy the needs of users in teaching, research, and learning, and librarians need navigation and selection skills to browse through the web and select relevant sources to improve their service delivery of information to their clientele (Onuoha & Chukwueke, 2019)

## 1.2 Statement of the Problem

Information access or retrieval tools also sometime called finding aids are produced for the sole purpose of leading users to particular types of information sources. Some of the traditional tools in libraries include catalogues, Indexes, abstracts and bibliographies. In recent times due to developments in ICTs, computerized access tools have begun to offer full-text access to digital documents in addition to bibliographic records (Ajedekun, 2007). All activities, resources and services of the university library are geared towards helping the students and researchers to retrieve information needs. The emergences of new technologies have necessitated many alternatives for the access to academic information resources for the academic purposes and in support of teaching and learning. But library-based tools for retrieval of information resources was rarely used by students. Also, the vision and mission of the university education in Nigeria has been threatening because most libraries in general are faced with the problem of poor budgetary allocation amongst others, this might lead to in adequate subscription of data bases and integration Library Management Software (LMS) such as Koha, Newgenlib, and D-pace for the management and retrieval of information resources in the libraries. This scenario has left university libraries with no option rather than to depend solely on intervention schemes such as Tefund and other national and international donors in the provision of such library management software to aid information retrieval. Therefore, there is need for the provision of adequate funds to acquire information resources and information retrieval system for effective library services.

Based on the preliminary investigation conducted by the researchers, it revealed that students encountered difficulties in accessing vast information resources in the library, this perhaps might be as a result of poor search skills on how to navigate in the use of databases. Also, lack of users' awareness on information retrieval services available constitutes a major problem.

This might also have negative impacts on the academic performance of the students most especially under graduate students.

## 1.3 Objective of the study

The main of objective of this study is to examine the effect of library data base in retrieving information and knowledge discovering by HND II students of Architectural Technology in Federal Polytechnic Ado Ekiti while the specific objective as follows:

- i To examine the effect of library database in retrieving information and knowledge discovery of HND II student's architectural Technology
- ii To enhance the use of information retrieving available for library service to HND II students in architectural Technology
- iii To identify the ways to improve the use of library information retrieving in provision of library database to discovery knowledge in HND II student's architectural Technology



## 1.4 Research Question

- i Does uses of library database in retrieving information have effect on knowledge discovery of students in architectural Technology?
- ii Does use of information retrieving available for library service have effect on students in architectural Technology?
- iii Does provision of library have effect on improving HND II students in architectural Technology?

## 1.5 Scope of the study

The scope of this study is limited to examine the effect of library data base in retrieving information and knowledge discovering by HND II students of Architectural Technology in Federal Polytechnic Ado Ekiti.

## 1.6 Significance of the Study

For this study not to be an effort in futility it has to be useful to a number of people and institutions among which are;

- i **Department of architectural Technology:** this study is also relevant to students and institutions in the course of study in that area of discipline it will enable them to keep their information save for future reference.
- ii **Research Institutions:** This study is also relevant to research bodies and institutions in the nation as a whole because findings would also be relevant to students and users of information in conducting further research in areas similar to this study.
- iii **Government Agencies:** This research is also of paramount importance because it would aid government agencies in making and implementing policies that would enhance the stability, growth and development of businesses throughout the region in matters concerning organizational productivity by seeking ways ensure that employees are adequately motivated in their various organizations thereby increasing overall productivity and performance levels.

## 1.7 Definition of Terms

- i **Database Retrieval:** Locating, extracting, and presenting information from existing databases, data storage systems, or other data repositories. It implies using queries, filters, or search criteria to find and extract specific data from the storage systems.
- ii **Database Management System:** These are software systems used to store, retrieve, and run queries on data. A DBMS serves as an interface between an end-user and a database, allowing users to create, read, update, and delete data in the database.
- iii **Information System:** an integrated set of components for collecting, storing, and processing data and for providing information, knowledge, and digital products. Business firms and other organizations rely on information systems to carry out and manage their operations, interact with their customers and suppliers, and compete in the marketplace.
- iv **Library Management:** The basic functions of library management include overseeing all library operations, managing the library budget, planning and negotiating the acquisition of materials, interlibrary loan requests, stacks maintenance, overseeing fee collection, event planning, fundraising, and human resources.



## 2 Literature Review

### 2.1 Conceptual Review

Information Retrieval (IR) is the process by which a collection of data is represented, stored, and searched for the purpose of knowledge discovery as a response to a user request (query) (Anwar,2010). This process involves various stages initiate with representing data and ending with returning relevant information to the user. Intermediate stage includes filtering, searching, matching and ranking operations. The main goal of information retrieval system is to find relevant information or a document that satisfies user information needs, to achieve this goal, IRS usually implement following processes: In indexing process the documents are represented in summarized content form, in filtering process all the stop words and common words are remove, Searching is the core process of Information retrieval System.

Information retrieval systems are tools Technology to retrieve documents or information required by the users; make the right information available to the right user at the right time. Information retrieval tools are basic building blocks for a system that organize recorded information collected by information organizations. This is to establish control of contents for information use as well as for promotion of users' ease of access. In order to organize knowledge, librarians and information professionals have to create a variety of retrieval tools (Carlson, 2016). Traditionally, the methods of information retrieval have been catalogues, bibliographies, printed indexes and abstracts. Presently, computerized databases and their indexes are also important in the organization of knowledge. These are gradually replacing the traditional methods in a number of applications. At this point, the traditional methods and the computer based methods provide a unified approach to the organization of knowledge. (Swanson, 2017). Itsekor and Ugwunna (2014) emphasized that ICT has transformed the face of librarianship as the role of library and information science professionals shift from custodian of books to information professionals, with the responsibility of creating, processing, storing, manipulation and disseminating information electronically. Therefore, a lot of information's are available on the internet; however, skills are required in order to be able to gather and retrieve this information on the web.

In other to access various information resources in the library, librarians have to device a means to locate such information by using search engines. Agboola and Shuaibu (2019) opined that search engine is a practical application of information retrieval to large scale document collections such as firefox, google chrome, bing, yahoo, ask.com, baidu, internet archive, opera, yandex.ru and etcetera. Search engine is an information retrieval system Technologies to help find information stored on a computer system. With significant advances in computers and communications technologies, people today have interactive access to enormous amounts of user-generated distributed content on the Web. This has spurred the rapid growth in search engine technology, where search engines are trying to discover different kinds of real-time content found on the Web. (Agboola & Shuaibu, 2019).

Another tool for information retrieval is catalogue which serve as a window to the library collection. A catalogue is the record of the collection in the library. A library catalogue comprises of a number of entries, each entry representing or acting as a surrogate for a document. There may be several entries per document or merely one, these include the author, title, author/title and subject catalogues. (François, Ranwez&Montmain, 2015). It is also a systematic arrangement of items in an alphabetical or other logical order including brief description. A library catalogue is a list of books and other reading material available in a particular library. The card catalogue has been a familiar sight to library users for generations. But it has been effectively replaced by the Online Public Access Catalogue (OPAC) which most of the student are not aware of as a retrieval tool (Adunola, 2011).

In recent times, a good number of academic libraries in Nigerian universities have automated their house keeping operations and most of these libraries are providing Online Public Access Catalogue (OPAC) as public interface to users to search and retrieve documents from their library holdings. (Godwin, & Godwin, 2019) A couple of studies and reviews have been carried out by scholars and researchers to determine the strength, weaknesses and usability of OPAC as information access tools and to determine the efficiency of the search capabilities of the tool. Dike and Edem (2015) which examined the extent of use of library catalogues as retrieval tools by students of Federal University of Technology, Owerri library, Nigeria, it was revealed that low awareness of catalogue use as a retrieval tool was a factor in the underutilization of its library resources.



If library service is to be effectively applied in libraries, the importance of the librarian's awareness of its existence cannot be over emphasized as they are the ones that mediate between information and information user. Their knowledge of particular information affects users either positively or negatively. The observations of Anunobi and Nwabueze (2016) that internal and external environment of the library services is changing at an ultrahigh speed and there is no possibility that the Library and Information Science professionals are aware of the change and its implications is a critical case that should be seriously looked into. Some librarians fail to understand that the library of today is no longer what it used to be and needed to equip themselves in a way that will enable them meet up with the new environment. They further state that RIS is the most demanding of the entire library services and close to the patrons.

### **2.1.1. Usage of Library Resources**

These days, the library has become the busy data resourced center, the information is available in prepacked formats for the benefit of the users. These library resources are sufficiently available in-depth, number, excellence, miscellany, and currency to support the curriculum of the institute. Thus, the library of the institute is a crucial academic resource center of seminary formation.

According to Khan (2016), Libraries have transformed into digital and virtual libraries, which has augmented the global dissemination of information. According to Murugan (2019), students and teaching staff use the resources of the library frequently for their speculative and research work.

### **2.1.2. Effect of a library orientation program to the fresher**

Many studies have highlighted the importance of conducting induction training programs on using library resources available in the institutes. Because of these training programs, there is strong evidence that students and faculty perform quality research and academic work. According to Kline and Rod (1984), the library orientation program bid the newly joined students with library resources and information regarding study skills and the integrity of the academics that makes their scientific pursuit effective. According to Hindagolla (2012), even though universities offer various resources to their users, most of them are not aware of the resources available in the library due to the lack of library induction training programs. Bhatti (2010) stated that library orientation program active connects with naturally learning techniques and lifelong learning. Library orientation is essential to act that plays a crucial role in enhancing the usage of library resources by library users. The library orientation consists of how to use the library resources and guidance on how to use the various tools with demonstration instructional methodology to the students.

Bleidt (2011) mentioned that if the libraries of the institutions conduct the orientation programs regarding the use of online databases, the student's performance in the academics and research area will be improved. In addition to this, Oakleaf (2011) stated that library induction programs help students achieve grade point average (GPA) and gain a good score in their academics.

Omeluzor (2017) opined that the library orientation program aims to provide sufficient information to the user's apropos availability of the resources in the institutional library. It needs to ensure that these resources are used by them effectively. In addition, he mentioned that the libraries in the future not merely digitalize the assortments, but relatively it is just about providing, inspiring, and enacting original kind of education happenstances.

### **2.1.3. Barriers to not using the various E- databases**

Over the last 20 years, there is no sign of abating in enhancing the technological diversity in accessing the academic data from the e databases. It displays a significant requirement in acquiring computer skills in accessing information from the e-databases. These barriers are associated with availability good number of e – resources, availability of e books and journals, increased cost of books and journals, and the policies drawn by the university in using library resources.

O'Dell, F. & Preston, H. mentioned about the factors associated with non-using library resources by staff working in the hospitals. There is a significant gap noticed between the perception of users apropos the readiness of resources in library and the definitive services provided by the library. Health Libraries Group (2016) opined that every user had



problems in accessing information from e-database. A few users had issues in accessing online databases even after receiving some sort of training. Accessing charges were repeatedly found as a primary barrier in obtaining information. Another important barrier was universally cited for not obtaining the information from online databases is insufficient time to learn on how to use the databases.

#### 2.1.4. Factors Inhibiting the Development of Information Retrieval

**Personality:** Autobiographic memories are memories of things that happened to an individual in a lifetime. Different personality traits tend to retrieve such memories differently. Introverted people are more likely to retrieve negative memories in contrast to extroverts.

**Demographic/Age:** there is a belief that when one starts aging, retrieving information gets a bit difficult. Brain coordination and sight are affected during the information search.

**Linguistic Diversity:** most languages suffer the limitation of access to information on the internet because most internet resources are not represented on the internet.

Deficiency of resources is another serious bottleneck in developing library services.

**Absence of collaboration:** information requires the collaboration of various fields of learning which is necessary for the system to co-exist. For example, the different groups involved in providing information retrieval systems are librarians, computer system network experts, data entry clerks to populate the database, electrical engineers, Metadata professionals, and so on.

#### 2.1.5. Future of information retrieval systems

Asadnia et al., (2022) stated that Library and Information (LIS) Professionals are in difficult situations retrieving information (IR) due to their lack of knowledge of technology. They wished to be independent but for their lack of diligence to inculcate trending information retrieval systems, they have not been able to achieve that desire. In comparing different professionals that need to be professionals in information retrieval, library and information system professionals turn out to be more important in this interdisciplinary focus. Library and Information (LIS) Professionals should have implemented equity and diversity which had adverse effects on their knowledge of technology and more specific information retrieval technology. Although a lot has changed now with LIS professionals because they have stepped up by inventing and launching new retrieval algorithms that can process and generate big data, detecting user profiles automatically. Users now have access to more resources that are stored in their personal cloud space. Sometimes health issues like COVID-19 that endangered human existence and other health issues users questions for information because of the fear of the unknown. A desire for up-to-date information that is filtered from officially certified agencies and organizations and more importantly presented based on relevance to their search terms became paramount. LIS professionals are still hoping for standard information retrieval tools and strategies to handle most cataloguing and indexing.

This article is a crucial piece for this paper as it provides the relationship between information science and information retrieval which explains the potential interdisciplinary topics for use. This article provides a solid intellectual framework but with a view of the future of information retrieval.

#### 2.1.6. Future of information retrieval systems

Although the author tried to mix the contemporary and modern systems in information retrieval to help LIS professionals to meet up with the current challenges and trends in IR. He wishes that this book will help LIS professionals polish their IR knowledge.

This article uses contemporary and modern information retrieval systems to drive home his point on different search forms. This is trying to say that the main point of information cataloguing and indexing by LIS professionals is for ease of retrieval. Why will information be painstakingly stored, digitalized, catalogued, and indexed if it cannot be retrieved for public or private use? The trend of future IR events is why LIS professionals must be up to date with current technology relevant to their field.



Mixing the contemporary and modern systems of information retrieval addresses the points raised in this research. LIS professionals must continuously align their knowledge of technology and IR with current information science.

### 2.1.7. Digital libraries and information retrieval in European Summer School

This article tries to justify digital libraries as it is peculiar. The information is produced by a different body than the network administrator and different from the LIS professional. That is why the paper is looking at the digital library from the perspective of technology, work, and file. Availability, reliability, manageability, and persistence of information are mainly the essence of digital collection for easy retrieval of materials. The author mentioned that an electronic library consists of digital collections representing text and other multimedia materials. He also said metadata content includes more research than conventional IR.

The author tried to differentiate between conventional and digital libraries. Although they meet the same need, the retrieval of the materials stored therein is different.

This article tries to justify the digital library as it is peculiar. The information is produced by a different body than the network administrator and different from the LIS professional.

## 2.2 Theoretical Review

### Theories of LIS

A theory in LIS is a theoretical explanation of information systems efficiency (including library efficiency), of user behaviour, of the function of different search elements such as descriptors, citations, titles, and so on. We do not have many explicit theories in LIS. It is a well-known fact that LIS lacks good B. Hjørland / Information Processing and Management 36 (2000) 501±531 517 theories. Brookes (1989) has noted that it is important that information science should not be regarded as "a collection of practical skills without underlying theoretical coherence". However, it is difficult to name just one good example of a theory in IS and even harder to find one that is formulated in a precise way which makes it possible to falsify it (as Popper demanded, cf. Jarvie, 1998). Most work in the field is of a pragmatic nature, which resists scientific analysis and generalization. However, a lot of papers are published and much practical work is done without explicating any theoretical or met theoretical assumptions.

Often theories from other fields, for example, psychology, sociology or management are applied, but they are not theories of IS, but theories applied in IS. Example:

1. **TQM (Total quality management)**

Ranganathan's facet-analytic approach contains a theory of subjects, which I would call a theory. However, other authors, including Ellis (2022), do not count classification research as a part of IS.

2. **Ranganathan's theory of subjects**

Also, what is called "information theory" is by many people this author included not regarded as a theory in IS, but a theory in computer science (compare Wersig, 1996).

3. **Information theory**

Specific approaches such as algorithmic retrieval or citation-based retrieval should not be termed theories, but they rest on a basis of assumptions, which can be termed "metatheoretical". Metatheoretic assumptions are broader and less specific than theories. They are more or less conscious or unconscious assumptions behind theoretical, empirical, and practical work.

## 2.3 Theoretical Review

Echem and Udo-Anyanwu (2018) stressed that the effectiveness of a library as an instrument of learning is determined by the success with which it is able to provide the users with the necessary tools capable of accessing and retrieving the information they seek. Retrieval tools enable information seekers to quickly and efficiently search, find/or locate and retrieve the resources that they seek. It therefore, becomes necessary for university libraries to deploy information retrievals tools for effective services to their users. It is also, perceived that undergraduate do not utilize library information resources due to inadequate skills for information searching and retrieval. There are other cogent factors,



either from the end of service providers, users or due to environmental factors, which serve as constraints to utilization of library information resources and services. In the use of IRTs by the students face many problems so but the maximum 21% the problems are faced by the students is a large amount of data is available so they cannot organize it in proper way.

Choudhury, Rahman & Barooah (2018) discussed knowledge management and the development of libraries. The authors stated that the development of knowledge management in recent years has become a key concern for librarians and libraries. The authors also analyzed how the library will play a very crucial role in the extension and modification of knowledge. The authors also gave an overview of knowledge management in terms of its relevance for library and science professionals. The authors highlighted the concept of knowledge management and its application to the development of libraries.

Ali and Khan (2017) conducted a study to investigate the knowledge management strategies adopted by libraries. The paper revealed that codification and personalization have been considered knowledge management strategies for sharing explicit and tacit knowledge within the library. To determine the most used knowledge management strategies in libraries, fourteen tools were recognized from the literature review and taken for examination. A total of 116 library and library science professionals of 23 central universities spread across India were surveyed through a web-based questionnaire to explore the knowledge management strategies. The findings of the research were that, between codification and codification, personalization was found to be the most effective strategy with a collective mean difference, i.e., 0.312. This study has practical implications for those who are not fully aware of the importance of knowledge management and how knowledge management strategies can be used to obtain a competitive advantage.

Chakraborty (2016) conducted an analytical study on the e-portal (Sarvam) of IIM Bangalore. The study aimed to analyze the benefit of Sarvam as a knowledge management tool. For this study, a questionnaire method was adopted and out of 100, the majority of the respondents used the portal regularly. They found the portal user-friendly and important for academic purposes. The web portal also supported electronic scholarly communication. According to the study, it was revealed that the user demanded to organize a special user education program to train on the use of the portal.

Devi and Verma (2016) conducted a study on users' perception and use of the library website of IIT, Guwahati, and found that the majority of the users are accessing the library resources and services from the website of IIT Guwahati library. 45% of respondents need special training to use the library website. But 27.21% of respondents feel uneasy about using the library website.

Patil (2013) described that knowledge management needs more effective methods of information handling and speedy transfer. This paper was intended to be an overview to assist knowledge management in terms of its relevance for the professionals of library and Information science. It also analyzed the role of librarians/libraries in knowledge management.

Singh (2012) conducted a study on academic library knowledge management practices and described the necessity of practices knowledge management in the library; especially in an academic library, challenges faced by libraries, changing the role of academic library staff. He also described the steps of KM practices- the creation of knowledge, capturing & acquisition of Knowledge, sharing and utilization of knowledge. Young (2010) discussed the five key steps that characterized the APO's Knowledge Management process as identifying the knowledge, creating the knowledge, storing the knowledge, sharing the knowledge, and applying the knowledge. The identification and creation are undoubtedly synonymous with Knowledge discovery, and these form the basis of any productive knowledge management process in any organization.

### 3 Methodology

This chapter will discuss methods that will be used in carrying out this research work which include research Technology of the study, population and sample used for the study, instrument used to collect data, instrument validation, method of gathering data and method used in data analysis.

#### 3.1 Research Methodology

The study examined the effect of library data base in retrieving information and knowledge discovering by HND students of Architectural Technology in Federal Polytechnic Ado Ekiti, Ekiti State. To effectively do this, survey type of descriptive research Technology will adopt.



These are materials of statistical investigation which were collected by the research for a particular purpose. They can be obtained through a survey, observation questionnaire or as experiment; the researcher has adopted the questionnaire method for this study.

### 3.2 Population of Study

Sampling frame is defined as a comprehensive list of individuals or objects from which the sample is drawn (Drost, 2011). The population selected for the purpose of this study is the HND and ND students of Architectural Technology in Federal Polytechnic Ado Ekiti, Ekiti State. The population of this study will 50 which involved students in the case of this study which direct questioners were administer.

### 3.3 Sample Size and Sampling Techniques

The sample for this research work was made and collected from students in department of architectural. The stratified sampling techniques are used in selecting the sample for HND II students male or female in architectural technology while male 45 and female 5 in Federal Polytechnic Ado Ekiti, Ekiti State. A stratified sampling technique was adopted in selecting the fifty (50) students of in the architectural used for this study.

### 3.4 Instrument for data collection

The major research instrument used is the questionnaires. This was appropriately moderated. The students were administered with the questionnaires to complete, with or without disclosing their identities. The questionnaire was Technology to obtain sufficient and relevant information from the respondents. The primary data contained information extracted from the questionnaires in which the respondents were required to give specific answer to a question by ticking in front of an appropriate answer and administered the same on staff of the organizations: The questionnaires contained structured questions.

### 3.5 Method of Data Analysis

Based on the data obtained, the researcher analysis and interpreted the data analysis by means of simple percentage of the respondent.

$$\frac{\text{No of Response}}{\text{Total No of Responses}} \times \frac{100}{1}$$

The researcher calculated the percentage score on each research question based on the number of respondents.

## 4 Presentation and Data Analysis

This chapter is aimed at presenting and analysing the data collected. For the purpose of this study, a total of twenty (50) questionnaires were distributed to the across final year students HND II level in institution was fully retrieved back because the researcher personally supervised it. The data collected in the questionnaire will be analysed below by the use of percentages and tables.



#### 4.1 Analysis of the Demographic Characteristics of the Respondents

The analytical presentation of the demographic characteristics of the respondents based on their colleges, status, level of study, gender, and gender are presented using tables 4.1 to 4.5 below.

**Table 1:** Distribution of respondent gender

Gender	Frequency	Percentage (%)	Cumulative Percentage (%)
Male	40	80	80
Female	10	20	100
Total	50	100	

**Source:** Field Survey, 2024

Table 4.1 above shows the gender distribution of respondents. In their responses, analysis shows that 40 respondents (80%) were male, while 10 respondents (20%) were female. This implies that the study has more male final year students in HND II as compared to the female students.

**Research Question One:** Do the uses of library database in retrieving information have effect on knowledge discovery on architectural students in FPA?

Table 2. Do the uses of library database in retrieving information have effect on knowledge discovery on architectural students in FPA

**Table 2:** Uses of library database in retrieving information

S/N	Items	Response				
		SA	A	D	SD	TOTAL %
1	Uses of electronic device in retrieving information have effect on my academic performance as architectural students in FPA	25	15	5	5	100
2	Dees uses of library database in retrieving information have effect on knowledge discovery on architectural students in FPA?	15	22	6	7	100
3	Library database has help in retrieving information store in the past	12	23	7	8	100
4	Uses of library database in retrieving information have effect on getting better grade on architectural students in FPA	22	18	6	4	100



5	Library database have contributed to high performance on architectural students in FPA	26	15	7	2	100
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Source: Field Survey, 2024

From the table 2 above, item 1 shows that 25 respondents (50%) strongly Uses of electronic device in retrieving information have effect on my academic performance as architectural students in FPA, 15 respondent (30%) also agreed Uses of electronic device in retrieving information have effect on my academic performance as architectural students in FPA, 5 respondents disagreed (10%) Uses of electronic device in retrieving information have effect on my academic performance as architectural students in FPA and 5 respondents also (10%) Uses of electronic device in retrieving information have effect on my academic performance as architectural students in FPA, However, 15 respondents (30%) express disagreement. For items 1, respondents (5%) strongly agree and 1 respondent (5%) agree that I feel safe at work. In items 1, respondents (5%), 2 respondents (10%) and 1 respondent (5%) show that the students provide me with adequate leave and holiday period while items show 2 respondents (10%) strongly agree while 2 respondents shows (10%) show database has help in retrieving information store in the past. It was found that the uses of library database in retrieving information have effect on knowledge discovery on architectural students in FPA.

**Research Question Two:** Do use of information retrieving available for library service have effect on students in architectural Technology?

Table 3. use of information retrieving available for library service have effect on students in architectural Technology

**Table 3:** information retrieving available for library service

S/N	Items	Response				TOTAL%
		SA	A	D	SD	
1	Information retrieving available for library service have effect on architectural students in FPA	20	20	5	5	100
2	Availability of material used in library have effect on academic performance on architectural students in FPA	15	22	6	7	100
3	How would you rate the effectiveness of the FPA library's online catalogue in helping you find architectural resources	12	23	7	8	100
4	Using library information available has help the architectural students in FPA	22	18	6	4	100
5	Library information system have effect on academic performance of architectural students in FPA	26	15	7	2	100

Source: Field Survey, 2024

From the table 2 above, item 1 shows that 20 respondents (40%) strongly agree that Information retrieving available for library service have effect on architectural students in FPA, 20 respondent strongly agreed



(40%) Information retrieving available for library service have effect on architectural students in FPA, 5 respondents disagreed (10%) Information retrieving available for library service have effect on architectural students in FPA and 5 respondents (10%) strongly disagreed Information retrieving available for library service have effect on architectural students in FPA However, (80%) agreed **use of information retrieving available for library service have effect on undergraduate students in FPA library users**

**Research Question Three:** Do provision of library have effect on improving **HND II students** in architectural Technology?

**Table 4. provision of library has effect on improving HND II students in architectural Technology**

**Table 4: Effect of Library Students Performance**

S/N	Items	Response				TOTAL %
		SA	A	D	SD	
1	Provision of library have significant effect on academic performance of architectural students in FPA	22	18	6	4	100
2	Library provision have effect on the performance of architecture student in FPA	15	20	8	7	100
3	Study in library provided can also save as a means of distraction for architectural students in FPA	12	23	7	8	100
4	How much do the resources from the FPA library contribute to your knowledge discovery and the architectural Technology process	22	18	6	4	100
5	Does the resources from the FPA library contribute to high performance on architectural students in FPA	25	15	5	5	100

**Source:** Field Survey, 2024.

From the table 3 above, item 1 shows that 22 respondents (44%) strongly agree that Provision of library have significant effect on academic performance of architectural students in FPA, 18 respondents (36%) agreed that provision of library have significant effect on academic performance of architectural students in FPA However, 6 respondents (12%) express disagreement while 4 (8%) strongly disagreed provision of library have significant effect on academic performance of architectural students in FPA the number students agreed (80%) that **provision of library have effect on improving architecture e students in FPA users.**



## 4.2 Discussion of Findings

The findings of this study are presented below in line with the objectives of the study:

**Objective 1:** uses of library database in retrieving information have effect on knowledge discovery on architectural students in FPA.

The findings of this study are based on statistical data analyses and hypothesis testing. The descriptive analysis of data collected revealed that the above stated HND II students is a significant predictor of effectiveness. These findings corroborate the findings of Lin (2013) in the research titled assessment of intrinsic and extrinsic motivation on employee productivity.

**Objective 2:** use of information retrieving available for library service have effect on undergraduate students in FPA library users.

The findings from the study revealed that employee relationship with managers is a significant predictor of worker efficiency as a measure of productivity. As such the alternate. Findings also showed that it had a minimal effect on the level of efficiency of the worker as such was not rated as highly as expected. This could be due to the fact that other factors could also affect the efficiency of workers which may not be intrinsic in nature. These factors could be extrinsic such as compensation effect of library data base in retrieving information and knowledge discovering by HND II students of Architectural Technology in Federal Polytechnic Ado Ekiti.

These findings agree with Centres and Bugental (2007) in their study of the relationship between motivational factors and workers performance using the two factor theory where effectiveness and efficiency were used as measures of performance. It was discovered that there was a significant relationship between both intrinsic and extrinsic factors and worker efficiency levels. Taylor (1992) further supported in his statement that extrinsic factors tend to be rated more highly than intrinsic factors especially for those at lower levels of the organization. effect of library data base in retrieving information and knowledge discovering by HND II students of Architectural Technology in Federal Polytechnic Ado Ekiti.

**Objective 3:** Provision of library have effect on improving architecture e students in FPA users.

The findings from the study revealed that training and career development is a significant predictor of worker efficiency. Furthermore, lack of adequate students schedule may also be responsible for inefficiency in most organizations.

Similarly, Lake (2000) in his study which is of importance to this research investigated the effect of library data base in retrieving information and knowledge discovering by HND II students of Architectural Technology in Federal Polytechnic Ado Ekiti, efficiency, effect of library data base in retrieving information and knowledge discovering by HND II students of Architectural Technology in Federal Polytechnic Ado Ekiti. The study concluded that most workers in developed nations placed more importance on intrinsic factors than those in less developed nations who opted for extrinsic factors citing the need to satisfy other needs as a major criterion for their choice.

## 5 Summary of Findings, Conclusion and Recommendations

### 5.1 Summary of Findings

The study's findings reveal that to effectively utilize data mining techniques for knowledge discovery in academic libraries, librarians must possess a diverse set of skills and competencies. Technical proficiency in algorithms, domain-specific knowledge in library science, strong analytical skills, and effective communication skills are crucial for extracting meaningful insights and conveying them to stakeholders. The unanimous agreement on the importance of these skills underscores their critical role in leveraging data mining for improved library services and decision-making. Moreover, data mining techniques are widely recognized for their potential to enhance library operations. They aid in knowledge discovery, decision-making, and improving user services by analyzing user behaviour and preferences. Data mining helps libraries identify trends, allocate resources efficiently, and improve metadata quality, making resources more accessible. Despite some reservations regarding data mining's role in security, its application in monitoring and safeguarding against unauthorized access is acknowledged as valuable.



## 5.2 Conclusion

Due to the information explosion, information seekers are looking out for easy access to information. It is therefore pertinent for the library to be very proactive when it comes to information retrieval. The information seekers should be educated on how to make use of information tools, which will enable the user to locate, retrieve, and utilize information effectively.

## 5.3 Recommendation

- a. There should be a regular orientation for academic staff in order to sharpen their skills on how to use information retrieval tools.
- b. There should be training and retraining of library staff on the use of information retrieval tools in order to effectively assist academic staff in accessing and retrieving information for research.
- c. A new library software should be installed in place of KOHA, for wider connectivity and adequate distribution of software
- d. Library management should ensure that they always subscribe to online databases and make it available to users for effective information resources utilization.
- e. Libraries should invest in continuous professional development programs focused on enhancing librarians' technical proficiency in algorithms, analytical skills, and communication skills. Training in programming languages, particularly Python, should be prioritized to enable librarians to handle extensive datasets and perform data mining effectively.

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## Appendix

### QUESTIONNAIRE

The Federal Polytechnic,  
Department of library Information Science,  
P.M.B. 5351,  
Ado Ekiti, Ekiti State.

Dear Respondent,

We are NDII students of Department of library Information Science in the abovenamed institution. We are carrying out a study on the topic **“Effect of Library Data Base in Retrieving Information and Knowledge Discovering by Students of Architectural Technology in Federal Polytechnic Ado Ekiti, Ekiti State (FPA)”**. Kindly supply the information required in the space provided. You are required to be very objective. All information will be strictly used for academic purpose and treated confidentially.

Thank you.



### SECTION A: Demographic Data

Please fill in the space

1. Gender: Male ( ) Female ( )

### SECTION B Instruction for the Questionnaire

Please, read the statement below and indicate your agreement by ticking one of the alternatives provided.

5 = Strongly Agree (SA); 4 = Agree (A); 2 = Disagree (D); 1 = Strongly Disagree (SD)

**Do the uses of library database in retrieving information have effect on knowledge discovery on architectural students in FPA?**

S/N	Items	SA	A	D	SD
1	Uses of electronic device in retrieving information have effect on my academic performance as architectural students in FPA				
2	Dees uses of library database in retrieving information have effect on knowledge discovery on architectural students in FPA?				
3	Library database has help in retrieving information store in the past				
4	Uses of library database in retrieving information have effect on getting better grade on architectural students in FPA				
5	Library database have contributed to high performance on architectural students in FPA				

**Does use of information retrieving available for library service have effect on undergraduate students in FPA library users?**



S/N	Items	SA	A	D	SD
1	Information retrieving available for library service have effect on architectural students in FPA				
2	Availability of material used in library have effect on academic performance on architectural students in FPA				
3	How would you rate the effectiveness of the FPA library's online catalogue in helping you find architectural resources				
4	Using library information available has help the architectural students in FPA				
5	Library information system have effect on academic performance of architectural students in FPA				

**Does provision of library have effect on improving HND II student's in architectural Technology?**

S/N	Items	SA	A	D	SD
1	Provision of library have significant effect on academic performance of architectural students in FPA				
2	Library provision have effect on the performance of architecture student in FPA				
3	Study in library provided can also save as a means of distraction for architectural students in FPA				
4	How much do the resources from the FPA library contribute to your knowledge discovery and the architectural Technology process				
5	Does the resources from the FPA library contribute to high performance on architectural students in FPA				