Chapter One

Introduction

1.1 Background to the Study

Healthcare Information Technology (HIT) is changing how the healthcare industry operates and has already began to reduce waste and help improve health outcomes. A major component of HIT is the Electronic Health Record (EHR). Electronic health records are digital forms of patient records that include patient information such as personal contact information, patient's medical history, allergies, test results, and treatment plan[1]. Some benefits of EHRs include improving efficiency, increasing positive patient outcomes, and population health. Electronic health record (EHR) data from millions of patients are routinely collected across diverse healthcare institutions. They consist of heterogeneous data elements, including patient demographic information, diagnoses, laboratory test results, medication prescriptions, clinical notes, and medical images[2]. However, it is challenging to create accurate analytic models from EHR data, because of data quality, data and label availability, and heterogeneity of data types. Traditional health analytics modeling often depends on labor intensive efforts, such as expert-defined phenotyping and ad-hoc feature engineering. The resulting models often have limited generalizability across datasets or institutions.

The use of electronic health records in monitoring and care actions can be advantageous for the population it serves. Many of these studies have shown significant positive interactions between public health and electronic health records[3]. Previous research has looked at how EHRs are used to track a range of demographics, and other research also looked at how EHRs are used in different countries to track patients' healthcare[4]. Benefits included better management of chronic illnesses, better surveillance of infectious diseases, and the identification of populations at higher

risk. According to current changes in healthcare policy, the primary goal of health practices should be preventative care in order to improve the population's overall health. The adoption of EHRs made it simpler for doctors to offer low-income patients the essential preventative care[5]. Several organizations have joined the National Health Insurance Scheme[6.] Have electronic health records integrated to provide better synchronized and patient-centered care. The death rate associated with surgical intensive care units and bloodstream infections related to central lines are significantly reduced when an EHR is used in the ICU. EHRs' ability to provide secure patient data access has a positive effect on both productivity and care quality[7]. Regular use of the EHR has been found to reduce data fragmentation and enhance provider continuity of care, given that the physicians take part in the archiving, processing, and retrieval of patient data. The management of chronic diseases like diabetes has utilized EHR systems. EHRs in the emergency department (ED) are found to be cost-effective, promote patient wellbeing, and enhance medical decision-making when used with a decision tree[8]. Findings from a different cost-benefit analysis of using data from electronic health records were encouraging. Since individual clinicians often manage EHRs, all personal information is kept in databases that are kept by the providers who created the papers. Some hospitals have electronic record storage facilities, but these hospitals are also rapidly spreading around the country due to a lack of security mechanisms and policy enforcement. This raises a number of security, privacy, and control challenges that emerging smart cities must address. The frequency of use of electronic health records and the purpose of use of electronic health records, both of which were modified are the indices to measure electronic health records in this study[9]. The rate at which medical staff in private hospitals in Ibadan, Oyo State use electronic health records on a daily, weekly, or monthly basis depends on

the situation, whereas the purpose of using electronic health records is the thorough and accurate use of electronic health to treat patients as effectively as possible.

Despite the widespread use of electronic health records (EHRs), American health care is still of low quality. Even while prescribed care is frequently not given and even those health outcomes that are most responsive to healthcare are poor, the costs of healthcare in the United States are far greater than those in any other industrialized countries. It is evident that the health care system is now reaping only a small percentage of the potential value of EHRs, even while health care professionals find advantages to using EHRs and few would opt to go back to paper records[10]. When compared to current practices in a pre-launch setting, such as an African nation, the European Electronic Health Records for Clinical Research has created an innovative platform that can transform conventional research processes. This platform has reduced actual person-time, operational costs, or average cycle times for Phase II-III clinical trials.

Health practitioners must constantly develop their information and communication technology skills in order to keep patients' records online. Information and communication technology (ICT) is increasing efficiency in all areas of human effort. By creating new skills, individuals, groups, and governments from all around the world are taking advantage of this opportunity to transform the way many sectors function. Information and communication technology (ICT) has been noted as having a substantial impact on the efficient delivery of services in the public sector, particularly the health sector. Office design has changed thanks to ICT, and this has affected how health environments look. This is particularly clear in the domain of office administration and management. The way that data are saved, retrieved, shared, and transmitted for archiving and medical purposes has improved because to developments in information and communication technology. Electronic technologies have made it possible to perform many tasks that were

previously carried out manually in offices. As a result, processing, storing, and retrieving health records is now done more quickly, more thoroughly, accurately, and with greater reliability thanks to new digital machinery and electronic equipment. The majority of duties performed by health professionals are increasingly done using information and communication technology (ICT), which promotes productivity and effectiveness at work. The globe has become a global village as a result of the new concepts brought forth by information and communication technology (ICT). The term "information and communication technology" (ICT) refers to the integration of computing, telecommunication, and video systems for the purposes of gathering, processing, storing, and transmitting spoken, pictorial, textual, and numerical information[13]. Through the learning of ICT skills and techniques like internet technology, Microsoft Word, effective computer use, and so on, these fundamental ICT goals are made achievable. The ability to process and store patient health records is provided by computing techniques. Information and Communication Technology (ICT) describes the application of knowledge in fusing information and communication processes and devices to gather, analyze, store, recall, and send precise records[14]. Information and communication technology (ICT) is a set of tools utilized in this study to process, store, and retrieve data electronically.

ICT usage calls for a unique set of abilities that are necessary for any task. The ability to process, store, and distribute information effectively and efficiently in private hospitals in Ibadan and Oyo, Nigeria, is facilitated by having the necessary ICT skills. After being exposed to the concepts and techniques that are fundamental to a field of study, skill is the capability to put newly acquired competences, attitudes, and behavior into practice. Skill is the ability to employ human knowledge successfully in carrying out a specific activity[15]. In the context of this task, the ability to competently and professionally do a given piece of work at a certain time with few

errors is referred to as skill acquisition. ICT knowledge and proficiency are now essential for working as a health professional. Word processing, database administration, and office communication abilities are thus the measures used in this study to quantify ICT skills. In order to access, process, store, and retrieve patient health records or resources in a specific area, in the appropriate format, at the appropriate time, and without delay, a computer must be available. In order to manage hospital records, health professionals use internet technology, which includes TCP/IP, or other architecture as well as computer terminals, terminal servers, routers, multicasting technology, and other data processing or transmission speeds. Microsoft Word has numerous features, including the ability to spell check and merge letters, among others. Health professionals use these tools to produce papers like letters, brochures, laboratory test results, health assessments, previous patients' medical records, and more. Health workers in private institutions are electronically processing patient records. Ibadan, state of Oyo Nigeria has been challenging because of factors such as the lack of ICT facilities in some hospitals, while other hospitals have not replaced outdated ICT facilities that have been in use for more than two decades (the available ICT facilities are damaged), and most of them have been abandoned. Another factor that has prevented health professions from using ICT facilities is that the majority of them are not versatile in the use of ICT facilities because they lack the necessary skill.

An enabling environment, defined as the immediate surroundings that humans alter for their survival, is necessary for any organization to strive and achieve its goals. Health professionals in private hospitals process health records electronically though faces some challenges because of factors such as the lack of ICT facilities in some hospitals, while other hospitals have not replaced outdated ICT facilities that have been in use for more than two decades (the available ICT facilities are damaged), and most of them have been abandoned. Another factor that has

prevented health professions from using Information and Communication Technology facilities is that the majority of them are not versatile in the use of ICT facilities because they lack the necessary skill.

An enabling environment, defined as the immediate surroundings that humans alter for their survival, is necessary for any organization to strive and achieve its goals. The work atmosphere has become quite important in hospitals and other medical facilities. Management should take into account the requirement for the provision of necessary facilities to improve the performance of health professionals. A worker who is highly satisfied with his or her job will act professionally. As a result, it is relevant to mention that the work environment contributes significantly to the development of a performance culture. An organization's work environment is defined as the surroundings in which employees do their duties. On the other side, it is described as the total of the interactions between the workers and the workplace environment. This environment includes both the physical location and the immediate surrounds, as well as behavioral practices, policies, rules, culture, resources, working relationships, and work location, all of which have an impact on how employees carry out their duties[15].

The surroundings of a person, including their workplace, can also be referred to as their work environment. In this social and professional atmosphere, one can anticipate to interact with a wide range of people. To boost productivity, it should have a warm, well-designed, secure physical space, good tools, and effective communication. Well-designed offices and workspaces have a tremendous impact on people's attitudes toward their work. The workplace might send negative messages about the standards and how highly an organization regards its personnel. The ability of businesses to share knowledge is also impacted by the architecture of the workplace, which enables them to use it as though it were a real environment. The two core elements of the

workplace are the physical component and the behavioral component (psychosocial). In this sense, it is argued that the physical environment consists of elements related to the connectedness of the user with their employment environment, which includes ICT facilities. On the other hand, the behavioural environment is made up of elements linked to user connectivity within the same work environment and the impact of the work environment on the user's behavior[16]. Physical environment in this context is defined as the functional and aesthetically pleasing elements, the ICT facilities, and other equipment that could guarantee ease of records processing, which in turn helps to improve the experience of the healthcare professionals and necessitates better performance[17]. The phrase "behavior environment" refers to a collection of elements that concern user interaction inside a particular work environment as well as the impact of that environment on user behavior. In light of the foregoing discussion, the study seeks to determine how ICT proficiency and workplace dynamics affect the usage of electronic health records by medical personnel in private hospitals in Ibadan, Nigeria's Oyo State.

1.2 Statement of the Problem

Electronic Health Records enables Health professionals to file and retrieve patients Records with ease. The improvement of public health care access and quality depends heavily on the work of health professionals. In accordance with the primary healthcare model, they administer vital services that support wellness, fight disease, and provide health care to individuals, families, and communities. When health professionals are working at their best, they take into account patients' medical histories when caring for patients which helps them assure proper medicine administration. The usage of patients' prior medical records by healthcare professionals has decreased, according to preliminary inquiry and careful observation. This trend may be due to ineffective record processing and storage. All of these inefficiencies have the potential to have a

negative impact on the reputation and development of the private hospitals in Ibadan, Oyo State by resulting in the prescription of incorrect medications, injections, diagnoses, or incorrect test findings for patients. In order to help healthcare workers provide patients with appropriate care, hospitals must be outfitted with modern ICT infrastructure and training programs It is challenging for most of these healthcare practitioners to acquire patients' prior medical records since they lack the necessary computer skills and ICT proficiency. ICT skills, the workplace, and the use of electronic health records have all been the subject of several studies[17].

However, empirical studies that combined the two independent variables within the context of the use of electronic health records seem scarce. The few studies done focused on other contexts; for example, studies not based on hospital records but on other organisations[18]; hence reinforcing the narrative that there is need for a study that would substantiate the interaction between ICT skills and work environment on use of electronic health records by health professionals. This study therefore investigated the influence of ICT skills and work environment on the use of electronic health records by health professionals in private hospitals Ibadan, Oyo state Nigeria.

1.3 Aim and Objectives of the Study

The main aim was to look into Information and Communication Technology Skills, work Environment and Use of Electronic Records by Health Professionals in Private Hospitals Ibadan, Oyo state, Nigeria. The following objectives guided the study;

i. identify the level of use of Electronic Health Records by Health Professionals in Private Hospitals Ibadan, Oyo state, Nigeria;

ii. examine the type of Work Environment that exist in Private Hospitals Ibadan, Oyo state Nigeria;

iii. Investigate the Perceived Competency level in the use of Information and Communication Technology Skills by Health Professionals in Private Hospitals Ibadan, Oyo state, Nigeria;

iv. Investigate the influence of ICT Skills on the Use of Electronic Health Records by Health Professionals in Private Hospitals Ibadan, Oyo state, Nigeria;

v. Examine the Influence of Work Environment on the Use of Electronic Health Records by Health Professionals in Private Hospitals Ibadan, Oyo state, Nigeria; and

vi. Analyse the interactions between ICT Proficiency and the Employee Environment to understand how Private Health Professionals use Electronic Health Records.

1.4 Research Questions

i. What is the level of use of Electronic Health Records by Health Professionals in Private Hospitals in Ibadan, Oyo State, Nigeria?
ii. What is the type of Work Environment that exist in Private Hospitals in Ibadan, Oyo State, Nigeria, have?
iii. What is the perceived competency level of health Workers Using Information and Communication Technology Skills in Private Hospitals in Ibadan, Oyo State?

1.5 Hypotheses

The following hypotheses, evaluated at a significance level of 0.05 developed to direct the investigation.

Ho1:There is no significant influence of Information and Communication Technology skills on the use of Electronic Health Records by Health Professionals in Private Hospital Ibadan, Oyo State, Nigeria

Ho2: There is no significance influence of Work Environment on the Use of Electronic Health Records by Health Professional in Private Hospitals Ibadan, Oyo State, Nigeria.

Ho3: There is no combined influence of Information and Communication Technology and Work Environment on the use of Electronic Health Records by Health Professionals in Private hospitals Ibadan, Oyo state, Nigeria.

1.6 Significance of the Study

This research work is of great benefit to health professionals of the four private hospitals used for the study, Human Resource Managers, Policy makers, and Researchers.

Address the conditions of work environment in private hospitals Ibadan, Oyo State Nigeria and help the management of the health facilities to understand and pay attention to Information and Communication Technology training which will in turn motivate and increase the professionals ability to execute their duty effectively, also their productivity and interest to work more and stay put on their job will be encouraged. It will also unveil the potentials of better work environment and Information Communication Technology skills to the incremental development of hospitals and will out rightly devise and discern best modalities of Information and Communication Technology skills training and work environment.

Ultimately, it will proffer lasting solution to some of the problems combating Human Resource Managers with regards to Information Communication Technology training which will result to better job performance for the health professionals of the four hospitals, it will also devise other methods of health professional development so as for the health professionals to move with the

innovative methods in executing their job. It will also serve as link and guide for future researchers of related study to have the right material for research on related topic.

1.7 Scope of the Study

The study focused on Information and Communication Technology skills, work environment and use of electronic health records by health professionals working in private hospitals Ibadan, Oyo State Nigeria. Use of electronic health records is measured by Frequency of use of electronic health records and purpose of use of electronic health records. The measures of work environment are physical environment and behavioral environment, while the measures for Information and Communication Technology skills are database management skills, office communication skills, and word processing skills. The geographical scope covered four private hospitals in Ibadan, Oyo State, Nigeria which includes Vine Branch Medical Center, Toun Memorial Hospital, Lad Medical Center, and Banby Specialist Hospital. The respondents were Nurses, Health information management professionals, pharmacists, Doctors, and Laboratory scientists.

1.8 Limitations of the Study

The study had limitations. One of such is conducting the study only in private hospitals. Accessing some of the other healthcare facilities was also turned down by the management of the health facility concerned. The questionnaires were in hard copy, and if an inevitable error was discovered, the researcher had to visit and review the chosen hospitals, adding to their time and financial demands. Nevertheless, the limitations encountered did not affect the originality of the work in any way.

1.9 Operational Definition of Terms

Use of Electronic Health Records: It is the process by which health professionals in private hospitals Ibadan, Oyo state refer to as digital form of paper chart records of their patients when attending to them.

Record Processing: This is the activity of health professionals in private hospitals Ibadan, Oyo state Nigeria using various packages in the ICT to key in data into computer system and manipulate them to produce the required records or documents that are meaningful for reference purpose.

Record Storage: It refers to keeping records electronically so that derived records can easily be found and used when required by health professionals in private hospitals Ibadan, Oyo state

Record Retrieval: It is the freedom or ability to identify, obtain and make use of stored records electronically in computer effectively by health professionals in private hospitals Ibadan, Oyo State Nigeria.

Purpose of use of Electronic Health Records: This contains a patients medical history, diagnoses, medications, treatment plans, immunization dates etc, by health professionals in private hospitals Ibadan, Oyo State

Frequency of use of Electronic Health Records: This refers to the rate of usage by health professionals in Private hospitals Ibadan, Oyo State, as documented by the number of times per day, week, month, or month.

Information and Communication Technology Skills: This means being adept and skilled in using various computer office packages such as Microsoft Word, Internet, use of email by health professionals in private hospitals Ibadan, Oyo state

Information and Communication Technology Facility: This is the availability of Information and Communication Technology facility by Health Professionals in Private Hospitals Ibadan, Oyo State Nigeria.

Use of Internet Technology: It is the ability and use of internet gadgets by health professionals in private hospitals Ibadan, Oyo state Nigeria to improve work productivity.

Use of Microsoft Words: This has to do with the competency in the use of various Microsoft packages also referred to as Microsoft Office Suite to improve work productivity by health professionals in private hospitals Ibadan, Oyo State.

Work Environment: This refers to the whole of the interactions that take place within the setting where healthcare professionals operate in private hospitals in Ibadan, Oyo State.

*Physical Environment***:** It covers elements of the physical working environment, such as the functional design of the surroundings of the medical staff in private hospitals in Ibadan, Oyo State, Nigeria.

*Behavioural Environment***:** In private hospitals in Ibadan, Oyo State, Nigeria, they refer to the adoption of attitudes and behaviors intended to minimize any negative consequences on the working environment of the Health Professionals.

Endnotes

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Chapter Two

Literature Reviwed

This chapter reviewed related literature that enabled the researcher broaden her understanding on the research problem. The chapter is presented under the following headings:

2.1 Conceptual Review

2.1.1 Overview of Use Electronic Record

2.1.2 Overview of ICT Skills

2.1.3 Overview of Work Environment

2.2. Theoretical Review and Framework

2.2.1 Theory of Information Life Cycle Management

2.2.2 Technology Acceptance Model (TAM)

2.2.3 Work Adjustment Theory by Dawes and Lofquist (1984)

2.3 Review of Empirical Studies

2.3.1 ICT Skills and Use of Electronic Health Records

2.3.2 Work Environment and Use of Electronic Health Records

2.4 Conceptual Framework

2.5 Summary of Literature Reviewed

Endnotes

2.1 Conceptual Review

In order to increase understanding of the variables used for the study, relevant literatures were reviewed in line with the existing literatures.

2.1.1 Overview of Use Electronic Record

By digitizing health data, digital medicine aims to improve care by making it simpler to use computer information systems. In reality, the volume and sophistication of regularly collected patient healthcare data are approaching the genomic[1]. The majority of this data, regrettably, has not yet been included in the kinds of statistical models with predictive powers that physicians might use to improve patient treatment. If effective, it is widely considered that the implementation of such efforts might dramatically increase patient safety and quality while also reducing healthcare expenditures. Despite the volume and promise of the data available, scaling the development of predictive models is difficult since, for traditional predictive modeling techniques, each result that needs to be anticipated involves the production of a tailored dataset with specific variables[2]. The time spent on an analytical model is frequently thought to be preprocessed, merged, modified, and cleaned datasets rather than actually reviewing the data for insights. This greatly limits the predictive models' ability to scale[3]. Another challenge is that the electronic health record (EHR) may contain hundreds of potential predictor variables, especially when free-text notes from doctors, nurses, and other clinicians are taken into account. This complexity has been streamlined by conventional modeling methods by just accounting for a small number of generally accessible variables[4]. This is a problem since the models that develop could produce inaccurate predictions: False-positive predictions were identified by The Joint Commission as a national patient safety issue[5] False-positive predictions have the potential to

overwhelm medical professionals, such as nurses and doctors, with unnecessary notifications and alert fatigue. False-negative predictions may fail to detect a significant part of clinically significant events, which could have poor clinical effects. Although doing so is challenging for most predictive modeling methodologies, integrating the whole EHR, including the free-text notes of doctors, offers some hope for overcoming these limitations. Hospitals and clinics preserve patient records in the form of document-based patient profiles. This traditional method has a lot of problems, despite being well known for a long time. Patients were at a substantial risk of medical errors because doctors were unable to match patients' current health states with their medical histories, particularly when it came to diagnosis, repercussions, and risk assessment for surgeries.[6] Hospitals and clinics may be able to find a solution for their profiling system by using the Electronic Health Record system (EHRs), a type of telemedicine, medical informatics, such as Electronic Health IT, and healthcare information technology[7]. EHRs are now widely used in hospitals and clinics all around the world. The widespread use of the EHR system by healthcare professionals has not yet happened as a result of the challenges experienced during the adoption and utilization of EHRs. Data can be recorded and stored history in EHR systems[8].

Doctors will receive help from the systems when entering patient information and medicine information. The majority of vendor products share features such as results reporting, order entry, multiple note creation, software interfaces, prescription writing, flowcharting, remote access, ordering referrals, patient registration, scanning, automated chart documentation, automated charge entry, inpatient reports, and patient follow-up[9]. EHR systems also provide features like digital dictation support that are advantageous to physicians and other healthcare workers. Findings reporting helps with reviewing and assessing outcomes when prescription medications, while patient care charting and electronic document management systems help with documenting

patient evaluations. Decision-making is aided by data mining, and data exchange between companies is made easier by progress notes[10].

Numerous healthcare organizations now routinely collect data from millions of patients' electronic health records (EHRs). They comprise a variety of information, such as demographic information about the patient, diagnoses, the findings of laboratory tests, medicine prescriptions, clinical notes, and pictures taken by medical professionals. However, it is challenging to create precise analytic models employing EHR data because of the data quality, label availability, and variety of data types. Ad hoc feature engineering and expert-defined phenotyping are two time-consuming processes that are widely used in traditional health analytics modeling1. Frequently, the generated models are not very generalizable to other institutions or datasets.[11].

Making record usage in companies systematic and organized is the aim of record management. This goal seeks to facilitate and improve record acquisition, generation, storage, and use in order to obtain improved performance, promote competitiveness, and improve capacity for response to changing environmental conditions. Therefore, building, maintaining, and improving record management systems fall under the purview of record management. The end result of record/data management should be a reliable system for maintaining records. Ad hoc feature engineering and expert-defined phenotyping are two time-consuming processes that are widely used in traditional health analytics modeling[12]. Frequently, the generated models are not very generalizable to other institutions or datasets. Making record usage in companies systematic and organized is the aim of record management. This goal seeks to facilitate and improve record acquisition, generation, storage, and use in order to obtain improved performance, promote competitiveness, and improve capacity for response to changing environmental conditions. Therefore, building, maintaining, and improving record management systems fall under the purview of record

management. The end result of record/data management should be a reliable system for maintaining records. Data distribution can take many different forms, including identifying and categorizing records, validating and evaluating the information that is already available, gathering significant records and storing them in corporate repositories, adopting guidelines that encourage and reward processing records and making them accessible when needed, setting up search and retrieval systems, and developing mechanisms to distribute data within the company[13]. Additional jobs that record management methods should be able to handle are revealed by looking at the record life cycle. A fundamental record model used in organizational activities consists of three interconnected phases: record processing, record storage, and record retrieval. These steps don't have to be completed in order and may repeat themselves. Later, the life cycle of a record was defined as scanning, monitoring, and evaluating records[14]. The core idea behind record life cycle is that records go through a natural process or cycle, starting with capture, continuing through usage or application, declining, and ultimately ending with destruction of documents that are no longer needed[15]. The record life cycle, according to a different source, is the management of records from creation to disposal. Included here are efficient record management methods, processes, and technologies. The stages of the record life cycle are characterized as data generation (creation), data utilization, publish data, data archiving/storage, and data destruction[16]. Although the use of technology is unquestionably vital for record management among the activities that these practices should carry out, organizational and policy requirements are also crucial for these tasks to be successful. The possibilities for record management have obviously increased thanks to information technology, but this is only one component of it and is typically the most user-friendly[17]. It is difficult, complex, and time-consuming to explicitly acknowledge organizational policies surrounding records and their

efficient maintenance[18]. In addition to the adoption of new information technology, organizational and cultural change are frequently necessary for effective record management: Although the use of technology is unquestionably vital for record management among the activities that these practices should carry out, organizational and policy requirements are also crucial for these tasks to be successful. Unquestionably, information technology has increased the possibilities for recordkeeping, but this is only one component of it, and it is typically the most user-friendly[19]. It is difficult, complex, and time-consuming to explicitly acknowledge organizational policies surrounding records and their efficient maintenance[20]. In addition to the adoption of new information technology, organizational and cultural change are frequently required for efficient record management. Before computers, health professionals received the records they required to plan and manage healthcare operations through the use of record management systems. The only thing new about record management techniques is computerization. The computer has introduced extra dimensions, such as speed, accuracy, and enlarged data volume to facilitate the study of more possibilities during the decision-making process[22]. Through the interaction of a number of integrated parts or entities that make up record management procedures, a certain function, objective, or goal is achieved. As a result, it is a computer-based system that provides data to aid in decision-making regarding the organizing, managing, and planning of the operation of the firm's subsystem and provides a synergistic structure in the process[23]. All of the organization's data will be stored in databases, and procedures are a set of documents that outline the organizational structure of that record management. Processes involving input/output and data storage utilize hardware. Data processing software is also used to guide the hand-ware component.

A number of factors, such as the following, have an impact on record management. Modern health professionals now need access to a large amount of properly chosen information in order to fulfill challenging tasks and make crucial decisions[24]. Because the lifespan of the majority of products has been getting shorter and shorter, the challenge for the record manager is to provide products with a longer shelf life. The manager must be able to keep up with the factors affecting the organization's goods and services in order to do this. As a result, record management is helpful in facilitating the process[25]. Due to the vast amount of data that today's health professionals have access to, record management is becoming an increasingly important tool for them[26]. Record management systems enable access to pertinent, accurate, and up-to-date data, facilitating the ability of health practitioners to make educated decisions. Computer abilities are also enhanced by incorporating principles from management science and research into routine record-keeping procedures, such as probability theory. The record management services, among other things can make use of the computing resources provided by the institutions, including their processing and storage capability[27]. Record management methods should be developed and improved in a number of businesses because today's health professionals want data access for managerial decision-making and management tasks[28]. Management has been defined as a process or series of actions that describe what health professionals do to plan, organize, launch, and manage operations for their firm. This definition helps to clarify the scope and objective of record management procedures. They decide on the best course of action to pursue in order to accomplish the objectives they have set in order to build plans. They organize the tasks necessary for the operational strategy into uniform groups, give those groups authority, and assign them responsibility. They also monitor performance standards to guard against divergence from the norm[29]. Making decisions is a crucial requirement for all of the aforementioned procedures. In

order to achieve specified institutional goals, planning, coordinating, and supervising the activity and functions of the institutions is the responsibility of management record systems. Making the distinction between data and information is essential for achieving the current goal. Information is any retrieved, examined, or otherwise used data that is forecasted, used in an argument, or used to make decisions about any business unit. Information is knowledge derived from facts for the proper operation of systems when they are placed in the proper context with the aim of reducing uncertainty regarding the alternative courses of action because they are based on the description and measurement of attributes of various entities connected to the enterprise. The system can be described as a group of parts cooperating to achieve a single objective[31]. A subsystem is a part of a larger system that interests someone. For our purposes, the divisions, departments, functions, and units that make up the organization are the subsystems, whilst the organization itself serves as the system. The system concept of record management practice is one of optimizing the output of the organization by integrating the working subsystems via the medium of data exchange. The process of managing data is a more modern invention, dating back around 20 years. There are several ways to comprehend and describe it. Other names for it include the record practice, the record and Decision practice, and the computer-based Decision practice. The records of a corporation are essential to its existence, particularly when it comes to system approach management[32]. Techniques for managing records can be characterized as knowledge that has been learned via research or study or that has been shared by others. It is a system that gives each healthcare professional the data they need at the right moment, in the right format, and in a way that will make it easier for them to understand and motivate them to take action. The practice of record management is a methodical manner of providing past, present, and projection information about internal operations and external intelligence. It supports an

organization's planning, management, and operational duties by promptly delivering consistent records to support decision-making[33]. An integrated user-machine system that delivers information to support an organization's operational, managerial, and decision-making processes is often referred to as a record management practice. The system uses manual procedures, software, computer hardware, and analytical models. Information is regarded as a resource in a manner similar to how land, labor, and capital are. It must be gathered, then managed, processed, preserved, and reviewed before being distributed, among other things. In general, a business with a well-defined information system will have an edge over one without a management information system or with poor management information.

A framework for using records to enhance organizational decision-making is referred to as "record management practice." A record management practice (RMP) is an integrated system of people and machines that delivers information to support operations, management, and decision-making inside an organization[35]. A record management practice is defined as the development of a system on a database within an organization with the intention of providing information to its members. The management record practice is a computer-based information practice. Although there are various definitions, the record management practice is a system that supports the organization's decision-making function[36]. The difference is in how the components of record management techniques are described. However, in the modern world, record management refers to a computerized business processing system that generates data for the people working for the company to meet the information needs for decision-making to achieve the organization's corporate goal[37]. Access to trustworthy data can be had quickly and flexibly using a computer-based technique called record management practice. The most important of them are the healthcare record-keeping procedures, which often have to do with the organization,

management, and conduct of an organisation. In educational institutions, the word "record management practice" primarily refers to a system that is typically fairly extensive, highly developed, structured, ever-changing, and of enormous financial value[38]. Many companies employ a substantial number of programmers and system analysts to design a variety of record management. As a result, record management practice is a group of computer-based tools and procedures that assist managers in their routine duties such as planning, expanding, and developing[39]. The objective of management is to acquire data for its decision-support system. With its support, the corporate objectives must be achieved in the most efficient way possible[40]. Because decision-making is not restricted to one level of management, it is envisaged that the management record system will help all levels of management in carrying out the health operations. Procedures for managing records cannot be beneficial to the organization unless they are used as a management tool. We describe the dimensions of record management by elaborating on the various record management functions[41].

Since several dimensions are interconnected, various jobs are usually included into a single routine or system. The meaning and purpose of each, however, are established independently. building records To make decisions, healthcare professionals need information from both within and outside the hospital. Both situations provide valuable information, but corporations have few alternatives for gathering external records, whereas they have many more options for processing internal data. It doesn't matter if it's done on purpose or as a result of achieving other goals, the computerization of ordinary chores involves data collecting. The management of a hospital can decide whether to preserve a system as a record of all interactions with patients or simply the most important ones. More data is recorded when an industrial process is computerized to a greater extent[42]. As a result, the database's records and data analysis will be more advanced. All

data produced in the institution's functional domains is typically integrated by educational institutions with more advanced record management systems. Resource planning systems have become increasingly popular as a result of the demand for a shared database for the entire school. Resource planning system adoption frequently necessitates business reengineering and has a significant impact on many academic operations, thus the organization must have the culture to embrace change[43]. Additionally, the school needs specific information technology skills in order to successfully perform these transformations; without these, the company would not be able to achieve the goals of these reengineering procedures[44]. It is inevitable that the record required for tacit or operative control will differ from the record required for strategic control. Strategic control is more future-focused than past-focused and incorporates extensive, synthesized data that is obtained from both internal and external sources[45]. As a result, record management systems must be able to compile data from external sources. Systems for competitive intelligence and surveillance are commonly created using universal record technology and can be simply adapted to work with existing information systems within the institution[46].

Record processing: After the initial data collection or acquisition, businesses must process the data to verify its accuracy, adjust it to the particular organizational environment, and improve its interpretation. This may involve compressing and combining data from several sources. Furthermore, initial data collection frequently yields simple data that must be processed in order to be converted into data and ensure its integrity. It is crucial to align data processing capability with organizational requirements in order to provide high-quality output[47]. This processing involves contextualizing, categorizing, calculating, correcting, and condensing data[48]. Information coding and storage: After gathering and processing data, organizations must store it in order to use it as and when necessary in the future. When needed, it is simpler to find and use

information that has been codified[49]. Future access to the material is impacted and is restricted by data storage and coding[50]. Information coding, storing, and retrieval are hence interrelated activities.

Getting to Data Accurate statistics are available from hospitals, however accessing and interpreting this data may be challenging for a variety of reasons. Information can be accessed using either a technology approach or an organizational one. The technological component is defined as the capability to swiftly access information without regard to geographic limits to any information available to the firm (as long as the user is authorized). Despite these possibilities, personal tastes and skills for acquiring and analyzing information may limit the use of even the most knowledgeable, sophisticated sources. In these circumstances, instruction and incentive are essential[51]. According to identifying information needs is influenced by company practices and culture. Knowing what information is needed: Information needs identification is tied to organizational practices and culture. In traditional firms with employee hierarchies, the organizational chart is a useful tool for determining each employee's information needs. On the other hand, employees in firms that place a high priority on knowledge are regularly involved in intricate processes where possessing knowledge of material outside of their normal areas of responsibility could be vital. A significant percentage of an organization's accumulated knowledge will be lost, lowering employee productivity, if behavioral patterns are not in place to identify these demands and promote a culture of sharing[52].

A company's document management procedures provide a similar purpose to the heart. Data is the blood, and management is the heart. The heart pumps healthy blood to all parts of the body, including the brain. The heart works more swiftly and pumps more blood as necessary. The brought-in impure blood is monitored and managed, processed, and sent in the necessary

quantity to the location. It supplies the blood the human body need in both routine and emergency situations[53]. The similar task is carried out for the business via the management information system. The system sees to it that the appropriate data is gathered from the various sources, processed, and passed on to all the locations that need it. The information demands of a single individual, a group of people, and management functionaries, including senior management, are projected to be met by the system[54].

Some of the essential tasks of record management procedures include the following: The record management technique meets the diverse needs through a variety of systems, including query systems, analytical systems, modeling systems, and decision support systems. Processing transactions, managerial control, operational control, and strategic planning are all aided by the discipline of record management. The record-keeping procedure assists the administrative staff in processing transactions and provides information in response to requests for transaction-related information, updates on a particular record, and references to various documents[55]. The record management strategy assists the junior management staff in decision-making at the operational level to handle an out-of-control scenario by providing operational data for planning, scheduling, and control. Middle management benefits from the use of record management techniques for short-term planning, goal-setting, and operational control. . It is supported by the use of management strategies such as planning and control. The practice of record management aids the highest levels of management in goal-setting, strategic planning, the development of corporate plans, and their execution. The profession of record management includes the production of records as well as communication, problem-solving, and decision-making. The management, administration, and operation of an organization are therefore all dependent on the practice of record management[56].

The record management practices affect the organization's operations, effectiveness, and production. Systems for managing records of management are crucial in this. How well manufacturing, marketing, finance, and human resources are managed when these procedures are followed demonstrates the impact of record management methods on functions. The functional targets are easy to monitor and track. The functional managers are informed of the status of the activity and the goals, as well as any achievements and failures. The manager is kept informed at all times by providing detailed information on potential trends in the various firm components. This helps with predicting and long-term planning. The management is alerted to a predicted problem, which causes him to take action or make a decision. Every person in the company has a structured database and knowledge base thanks to a well-organized information reporting system. Through blending and analysis, the information is available in a way that makes it immediately usable, saving the manager's valuable time. The firm's processes for managing information also have an impact on how effectively the business is understood. The foundation of information management techniques is the defining of data as an entity and its attributes. For the organization's information creation, a dictionary of data, entities, and characteristics was made use of. Because dictionaries are used by all information systems, there is a shared understanding of terms and terminology throughout the company, which enhances communication and encourages a shared understanding of events[57].

Inadequate planning, evaluation, construction, implementation, or maintenance of records management practices may lead to the creation of inaccurate, useless, or out-of-date data that could have severe effects on the business. In other words, businesses simply cannot survive and grow in the modern world without properly planned, designed, executed, and maintained record management procedures. It is well recognized that information record keeping practices give

even small businesses a competitive advantage by dramatically outpacing the economies of scale attained by their larger competitors. The most important justifications for having efficient document management practices are as follows: to restrict the growth and production of records; Despite using various non-paper storage devices for many years, the amount of paper in our offices has increased[58]. An effective records information system covers both creation control (which limits the generation of records or copies not necessary to operate the business) and records retention in order to control the growth of records in all formats (a system for destroying useless records or retiring inactive records). To save operating costs, recordkeeping requires administrative commitment for filing equipment, office space, and staff to maintain a systematic file system (or to search for lost records when there is no organized system). A data records center is substantially less expensive per linear foot of records than storing inactive records at the office. If you double that by 30% to 50% of the records in an office without a records management program in place, you could potentially save money on space and equipment as well as boost employee productivity. To maximize output and efficiency, search time for misplaced or wrongly filed documents should be minimized. With the help of an effective records management program, every corporation may modernize its recordkeeping practices and boost the productivity of its offices (such as a document system). Users can find information more quickly and easily if an index is effective and the filing system is well-designed[59]. A well-managed information system acting as a business asset aids companies in conducting an objective assessment of their information use as well as accurately laying out a roadmap for improvements that optimize financial benefits. Organizations in the business world use information management methods and practices to reduce their risk of fines and legal repercussions. This is also conceivable in governmental entities. For instance, a records

management program that is routinely used can reduce the liabilities associated with document disposal by allowing for its methodical, regular destruction in the course of business. All companies, public and private, must have a comprehensive strategy in place to secure their important documents and information since every company is vulnerable to loss. In order to preserve the integrity and confidentiality of the most important records, vital records programs are operated in accordance with a "Plan" to safeguard the records. They are a crucial component of top-notch information management techniques. Given that many large organizations are establishing resource planning systems, this is particularly true for financial data. In order to safeguard the departmental or unit memory, an organization's archives, records, and financial data contain its institutional memory, an irreplaceable asset. Every day at work, you keep the records that could be used as background knowledge for future management decisions and planning. to encourage professionalism in corporate management; A business office with jumbled-up papers, financial records, and filing cabinets on top of filing cabinets and boxes makes for a terrible working environment. Customer and public perceptions, as well as employee "image" and "morale," may be among the best reasons to put up a good information management system, while being challenging to quantify in terms of cost-benefit[60.]

Data processing is one of the most crucial ideas in cognitive science. Many cognitive scientists make the erroneous assumption that cognition and computing—or both—go hand in hand. However, a sizable portion of respondents disapprove of computation- or information-processing-based models of cognition61. This debate has gone on for more than 50 years without a resolution. An equally old debate puts classical theories of cognitive architecture against connectionist and neurocomputational ideas. In classical concepts, the connection between cognitive systems and digital computers is well-represented. The term "connectionism" is most

usually used to describe neural network models of cognitive events that are only constrained by behavioral (as opposed to neurophysiological) data. In contrast, "computational neuroscience" is the term most often used to describe neural network models constrained by neurophysiological and occasionally behavioral data. Many modern computer systems have mechanisms for protecting files from accidental and deliberate destruction. On systems that accommodate numerous users, file permissions are used to restrict who can change, delete, and create directories. Users may only be permitted to alter files or folders for a certain user, or they may only be given permission to create files or folders but not delete them[62]. It is also possible to use permissions to limit who can view the contents of a file or folder. By restricting unauthorized users from accessing specific files, permissions protect data in files from unauthorized modification or deletion and uphold the confidentiality of sensitive information. This flag permits file examination but not modification when it is enabled for a file (which can be done by either a computer program or a human user). This signal is useful for vital data that shouldn't be changed or removed, including special files required only by internal computer parts. Some systems may also have a hidden flag, which the computer employs to hide crucial system files that users must never change[63].

Hard drives, which are durable magnetic disks that spin inside of computers, are where the majority of computer contents are physically stored. In some cases, files can also be kept on different types of media, including cloud storage, flash drives, and memory cards. A backup operation is carried out when computer files contain important information to protect against disasters that could destroy the material. Simply put, backing up files includes making copies of the data in a different location so that they may be restored in the event that the computer is destroyed or if they are accidentally deleted[64]. There are several methods for backing up files.

Most computers come with utility software to aid with backing up files, which can take a while if there are lots to safeguard. Hard drives and other detachable storage media are routinely used to copy files. The only way to prevent the failure or destruction of the entire computer is to make copies of the information on media that can be taken out of the machine and preserved in a safe, remote location. Copying files to a different hard drive on the same machine provides protection against disk failure[65].

2.1.2 Information and Communication Technology Skills Overview

Fast changes have been happening for decades in every aspect of contemporary life, including the workplace. This is the result of technological growth. Today's organizational sectors (both business and educational sectors) all require facts and exact information in order to make judgments swiftly. Office staff including office managers, look forward to specific support from their employer. It is possible to offer both technological (machines and equipment) and human help. When medical professionals would dictate memos and letters in the past, office administrators would take shorthand notes, and they would then type the transcriptions by hand or on typewriters. Colleges have most recently built word processing facilities that connect to computers and even email in an effort to reduce the need for office management assistance and boost employee productivity[66].

Technology breakthroughs have altered every aspect of human activity. The aforementioned assertion is supported by a scholar who also notes that accurate knowledge and skill advancement, both of which are required to sustain a competitive advantage, are accelerating these developments. Technology advances have led to the out-modeling of traditional office tasks. . A change in business orientation is replacing more outmoded methods of conducting business as a result of the arrival of modern office technology, such as computers, word

processors, and other information resources, combined with new management strategies. Computer office skills are the driving force behind these advances[68]. ICT skills, also referred to as information and communication technology skills or ICT, are technical aptitudes that make it possible to do tasks requiring the creation, storage, manipulation, and sharing of information as well as related management and application approaches. Among the many tools used in workplaces are computers, telephones, televisions, radios, computer networks, and the internet, which offers services like video conferencing, desktop publishing, and e-mail among others. Such systems can improve end users' collaboration and productivity as well as that of work groups by substantially reducing the time and effort needed to produce, distribute, and share information. The office information systems are the brains of today's healthcare facilities[69]. Equipment that facilitates information management processes includes voicemail, e-mail, bulletin board systems, Microsoft Word, PowerPoint, desktop publishing, and facsimile. These tools enable health workers to send messages in text, video, or audio form fast.

ICT skills are now required due to recent and anticipated changes in society and industry. These technologies surely contribute significantly to the development of our nation[70]. As more and more positive ICT benefits emerge in the workplace, ICT adoption by health professionals has become crucial. Due to its huge impact on the economic, scientific, intellectual, social, political, cultural, and other areas of life, ICT proficiency is referred to by the United Nations Development Program as a formidable development facilitator[71]. It is now relatively easy to process, generate, market, and consume knowledge, skills, goods, and services without being bound by physical distance because to ICT, which has made the world into a global village[72]. Of course, no contemporary healthcare professional would choose to operate in an environment where manual data entry and other secretarial duties are still common. ICT-based offices are

gradually replacing manual ones as a result. Investments in networks of computer-based workstations and other automated equipment are transforming traditional manual office practices and paper information media. Automated systems that rely on text and image processing, electronic collaboration and information networks, as well as other information and communication technologies have been developed as a result of this transition[73].

ICT skills are frequently used to describe the ability to use integrated computer systems to support administrative procedures in an office environment. Information and communication technology (ICT) systems are organized methods of managing information through an integrated network. They could include word processing for creating correspondence, electronic messaging for person-to-person communication, teleconferencing services, facsimile transmission, electronic filing systems, online calendar systems, links to health files, and other services[74]. A "new" understanding of workplace literacy has emerged as a result of the rise of the computer office, changing the relationship between teachers and students. The emergence of several technology has had an impact on how modern workplaces operate. Office work is currently undergoing significant changes. The emergence of several technology innovations has changed how offices operate. Electronic devices now perform the manual duties that office administrators used to complete[75]. The majority of offices are now fully automated, and a variety of technical operations are described by terms like word processing, data processing, reprographics, and micrographics[76]. Offices used typewriters, handwriting, and manual operational techniques in the past.Paper sheets and manual filing methods are being replaced by tapes and disks, hastening the advent of the computer-based office or paperless office. All offices in the modern academic environment—public, corporate, and governmental—need accurate data and trustworthy information to make choices promptly. The company where the health professionals work,

especially the secretaries, expects specific support from them. It is possible to offer both technological (machines and equipment) and human help.

ICT has also changed the working teams and tools. . Nowadays, no office manager would prefer to operate in an environment where manual data entry and other secretarial duties are still commonplace. ICT-based offices are gradually replacing manual offices. How organizations run and how information is distributed is changing as a result of the use of networks of ICT-based workstations and other devices. Automated systems that rely on text and image processing, electronic collaboration and communication networks, and other information and communication technology devices have been developed as a result of this shift[77]. ICT abilities can take many different forms, some of which are discussed below:

The ability to utilize a computer while manipulating words using a word processing tool, such as MS-Word sentences and paragraphs, is referred to as having word processing skills. A word processor's first iteration was an electric typewriter with storage and processing power. The simultaneous display of the words as they are typed at the Visual Display Unit is one of a word processor's essential features (VDU). Before printing the documents, this function enables health practitioners to make changes, such as deleting or replacing words, sentences, and paragraphs[78]. As part of word processing skills, the author also stressed the use of advanced technologies to change words, phrases, and paragraphs. A word processor is a sort of electronic typewriter with processing and storage capabilities. Word processors are configured with automatic centering, line wrap around with no carriage return, and a variety of other features to increase a secretary's productivity. In a professional atmosphere, they can manage a range of responsibilities with ease. You can create documents, fill out forms, save and print data, and retrieve data from them using word processors. A word processor may add, remove, edit, amend, reorganize, tabulate, and

justify margins, among other things[79]. It also refers to the ability to use computers and software to create written documents like letters or reports. Word processing is now carried out on standard computers using programs like MS-Word. Word processing skills are a must for computer-based office jobs. The importance of word processing has grown as technology has advanced. The introduction of new technologies has led to the emergence of new methods for carrying out office duties. Office managers need to be flexible in order to function well in both their careers and the office[80]. The ability to produce written documents like letters, reports, and other sorts of writing using automated technology is known as word processing. It entails the transformation of ideas and words into legible form through the use of procedures, tools, and individuals. Inserting text, creating pages, removing text, and establishing margins, tabs, paragraphs, font specifications, headers, and page numbers are all examples of word processing functions. In addition to using tools like cut, paste, search, and replace, merging text from one file to another, and verifying spelling, syntax, and margins, editing documents also involves using these tools. Prior to delivering the documents to the printer, printing entails selecting the printer, the paper source, the number of copies, and the paper size[81]. Because of this, word processing is sometimes referred to as the foundation of office automation. Word processing cannot be called an art form without a computer. Like any other document, the ones utilized for management decisions must be accurate, thorough, and presented properly. It should be dependable, user-friendly, extensible, and the basis for future editions. Such a substantial document can be stored over the entire computer with word processing software. The words appear exactly the same on the screen as they would on paper. Words are automatically added to the following line, and insertion print is utilized to indicate where a new word has been added. The document must be stored on a diskette, flash drive, or hard drive to prevent loss or erasure.

Software for word processing includes Microsoft Word, Word Perfect, Windows Write, and Word Star.

For the purpose of creating, storing, and retrieving data from databases, database administration skills are required. A database is a collection of documents that have been organized for easy access by authorized users and stored in computer memory[83]. A database is a grouping of information made up of several components that is organized to permit different reviews. Data can be shown as text (character), numbers, or encoded images[84]. A database is frequently defined as a collection of connected, durable data that is stored on a computer storage system and is arranged for easy search and retrieval. Databases are created and managed by software known as a database management system[85]. Since a database keeps its data in a shared pool, several programs will be able to access it. A database management system enables rapid information access, information centralization, flexibility in information retrieval, and a reduction in inaccurate filing. One advantage of database storage is the speedy search across thousands of entries[86]. A collection of programs known as database management software enables users to create, query, and change databases as well as control who has access to them[87]. Since thousands of documents can be swiftly searched through, these databases are useful. To search the same number of paper records would take some time. Secretaries can access data from a database over a computer network in many firms. The identical information does not have to be kept in each department or work group as a result. Every database must have two elements: coherence and organization. When data are coherent, they can be linked to a certain endeavor or goal. So that users can access certain portions of the database in a meaningful way, organization explains how the data are related. Hierarchical databases, relational databases, and network databases can all be used to organize databases. In hierarchical databases, the logic is tree-structured, progressing

through one or more levels from a more general meaning to a more precise meaning. Other possibilities are discarded when it divides into smaller portions with each phase. "Narrowing the field" allows one to locate the desired object. Although this style facilitates searching, it is not the greatest choice for large data sets. Based on relationships between various database files, relational databases make it possible to access data. This suggests that specific information within a predetermined set of data fields and their relationships can be accessed using a single command. In network databases, data can be grouped into units that can be connected by pointers. Despite being relatively challenging to set up pointer structures provide users with a high degree of flexibility and efficiency when looking for data[88].

Skills in database and database management are now required in ICT-based workplaces. The main goal of a database is to satisfy the information requirements of an organization. Using the database allows one to add to already existent information. Database development, maintenance, and information extraction are all made possible by this software. There are many different types of database software. There are those who use Windows and people who use DOS. While Clippers and dBase IV are DOS programs, Windows programs include Access, Fox Pro, Paradox, Informix, and Oracle. Each piece of software has the same features, including the ability to create and maintain databases, extract and list all entries that meet a requirement, arrange information in either ascending or descending order, and offer written text with subtotals and totals[89]. The database contains a wealth of data about academic activities, structures, operations, maintenance, and other subjects important to the running of the institutions[90]. The gathering of a substantial volume of data that is routinely verified, saved, retrieved, and updated is also made possible by database management [91]. Data from the database will be stored in a computer pool so that several programs can access it. Information about employees, students, and assets is kept

in a database. The skills needed for database management include building records and spreadsheets, categorizing columns, defining fields and cells, entering and editing data, switching between records, inserting rows and columns, and having a basic understanding of how to design mathematical formulas[92]. Office managers must have the ability to operate the office communications, which serve as the modern workplace's central nervous system. Organizations can send messages in text, video, or voice form or transmit copies of documents and receive them in seconds rather than hours or days thanks to electronic mail (e-mail), voice mail, bulletin board systems, and fax. These systems use telecommunication networks to electronically communicate and distribute text and visual data. Office communication technologies enhance teamwork and communication inside organizations. Additionally, it helps to lessen the amount of paper mail, notes, reports, and papers that clog up many offices and postal systems[93]. Electronic mail is a type of information exchange in which messages are sent from one personal computer to another (or simply "e-mail"). Email refers to the process of sending messages through a computer network (such as the internet).

The message text is typed on one computer and sent to the recipient over the network. On the recipient's computer, the message is read. It can then be deleted, saved, printed, replied to, or forwarded to other network users. Each person who uses email has a mail box where their letter is put after being sent, frequently in only a few seconds. The mail will be there when the recipient visits his mailbox once more. Email is used to send electronic communications. Email can be accessed by users of local and wide area networks via those networks. Emails are transmitted more regularly than calls among people connected to the daily. Both small and large enterprises now frequently use it, and this trend is likely to continue for some time[94].

Without the use of the post office, letters can be sent and received using e-mail. Email is a communication mechanism that involves sending messages from one computer to another. A networked recipient receives the text that has been entered into one computer. Each person who uses email has access to a mail box. Millions of users today use email as their primary means of sending and receiving electronic messages. Any user on your network has the ability to send and receive email, which is then saved on their hard drives or electronic mail accounts. On the video screen at their desks, users can view and read their electronic mail whenever they choose. So it only requires a few minutes of labor to send and receive a message to one or many people[95]. Above all, an electronic mailing system handles correspondence electronically, boosting secretaries' work productivity. Sending messages, organizing information, locating conversations, and establishing gateway connections to other communication systems are all possible with email. Voice mail is a messaging system that uses a phone and computer to record, send, store, and retrieve voice messages. The majority of voice mail systems are accessible 24/7. They are an essential communication tool. Voice mail, as further defined by the author, is a computerized voice messaging system. It has numerous attributes that can be changed to meet a range of demands. The telephone push buttons are used by both the sender and the recipient to activate and use the voice mail features[96]. A typical personal computer, a specific voice processing card, and voice software are required.

Voice mail may also be referred to as voice store-and-forward. In this case, digital voice communications are employed instead of electronic text. To use this technique, you must first call the voice mail service's number. You may be needed to enter an identifying code in some security systems. You call the person's voicemail and leave a message after getting their approval. Your analog message is transformed to digital form and stored on the magnetic disk devices of

the voice mail computer system. By phoning your mailbox, you can listen to your voice mail from any location, and the computer will translate the recorded messages back into analog speech form[97].

Internet-based abilities are another essential area that health professionals need to be knowledgeable in to operate successfully and efficiently in a computer-based office. The internet, which has grown to become a global information superhighway, is currently the largest and most important network. The term "Internet" refers to a global network of computers, computer operators, and computer networks that are linked by telephone lines, satellites, microphones, and any other device imaginable. The internet is used by many different areas, such as business, entertainment, education, communication, health care, reference, engineering, and sports[98].

Internet-based competencies apply to a vast computer network. Users of one computer within a space may, with permission, access information from computers located in other spaces. A lot of information on a number of subjects is available thanks to the internet. By exchanging ideas, values, and interests online, people from different nations and sociocultural backgrounds may now effortlessly connect with one another, transforming the world into a global village. To properly manage information online, office managers require the following skills: proficiency with the keyboard, correct grammar and communication, fluency with computers, fluency on the phone, proficiency with the web, offline and online surfing, as well as the ability to download and upload software[99].

Computers and design software; For printing a variety of publications, such as books, magazines, brochures, flyers, and newsletters, these are used to create and modify layouts. The practice is referred to as desktop publishing. Desktop publishing is the ability to create documents like

adverts, posters, greeting cards, newsletters, and brochures as well as the ability to effectively interact with and attract particular audiences using design, color, sound, and motion. the capacity to use desktop publishing to produce printed publications containing text and graphics in a professional manner. It is closely related to word processing and shares many of the same skills with it. Examples of these items include brochures, forms, and bulletins. Desktop publishing programs like Adobe Page Maker are used for advanced desktop publishing. The basic skills required in this field include the ability to type quickly and accurately, knowledge of and proficiency with software programs, formatting and proofreading documents, mastery of grammar, punctuation, and spelling, and, if working as a transcriptionist, the capacity to create written work from audio recordings.

Image Processing System; This is another another area of workplace automation that is developing quickly. It allows for the electronic capture, processing, archiving, and retrieval of pictures of documents that may include text, graphics, photos, and handwritten data. Electronic document management may integrate with other electronic document preparation tools like word processing, desktop publishing, email, and voicemail. On the other hand, one of the application fields that is growing the fastest is transaction document imaging[101]. Customer correspondence, sales orders, invoice application forms, and service requests are among the processing documents that are electronically captured and distributed to end users within the firm.

Presentation Packages and Graphics; This is another another area of workplace automation that is developing quickly. It allows for the electronic capture, processing, archiving, and retrieval of pictures of documents that may include text, graphics, photos, and handwritten data. Electronic document management may integrate with other electronic document preparation tools like word processing, desktop publishing, email, and voicemail[102]. On the other hand, one of the

application fields that is growing the fastest is transaction document imaging. Customer correspondence, sales orders, invoice application forms, and service requests are among the processing documents that are electronically captured and distributed to end users within the firm.

Spreadsheet (Excel, Google Spreadsheet); They are applications that quickly compute numbers and arrange data and other information into tables. Spreadsheets can also be used for complex data processing. Some employers may demand that candidates have a basic working knowledge of spreadsheet software. If you're looking for more technical jobs, it can be required for you to be adept with advanced spreadsheet capabilities.

Communication and collaboration tools (Skype, Slack); Many businesses employ communication and collaboration services to boost productivity. If the tools you have experience with are relevant to the roles you are applying for, you might consider listing them on your resume. To decide if you need to add this information, carefully review the job description. Slack and Skype are popular among companies with remote workers.

Social Media (Twitter, Facebook, Instagram, etc): Social media expertise is becoming more and more in demand as businesses work to create and manage their online presence. These skills are more typically needed for careers in public relations, marketing, and advertising. Knowledge of specific social media tools, like Hootsuite, is commonly required for many of these vocations. If you're looking for a career in social media, you might be able to start little projects at your current employment to add these skills to your resume. In this study, these subheadings will be utilized to list these computer office skills: Utilizing email and electronic devices, Microsoft Office (Word, Excel, and Powerpoint), Internet technologies (browsing, downloading, and uploading content), and Microsoft Office.

2.1.3 Overview of Work Environment

The workplace has been conceptualized by several scholars. Perhaps the simplest definition of it would be the environments, situations, settings, and circumstances in which people work. Understanding the critical importance of the work environment in the company requires understanding that the human component and the organization are equivalent[104]. The idea of work environment has been put into reality by assessing the degree to which employees' immediate surroundings satisfy their social, emotional, and emotional demands as well as their incentive to remain with the company[105]. He goes on to argue that the environment has a big impact on how well people perform and how well their jobs are done. Every company organization's major goal is to increase performance in order to produce significant profits. Further evidence is provided for the fact that it is a very broad category or environment that encompasses the physical environment (heat, equipment, etc.), elements of the job itself (workload, task complexity), more general organizational features (culture, history), and even components of the extra organizational setting (local labor market conditions, industry sector, work-home relationships)[105]. When referring to the working environment, which includes the organizational, human, and technological environments, it is frequently referred to as the sum of interactions between employees, employers, and the working enviroment[106]. The organizational environment, the human environment, and the technical environment have all been identified as the three key sub environments that make up workplace settings[107]. The tools, infrastructure, and other tangible and technological elements of the workplace are all included in their definition of the phrase "technical environment." The human environment includes things like peers, people that employees interact with, team and work groups, interpersonal conflicts, management, and leadership.

The human environment can be thought of as the network of formal and informal contacts between coworkers, teams, and boss-subordinate relationships that take place inside the framework of businesses. Such connection, particularly informal interaction, is said to offer a route for the sharing of knowledge and information among employees as well as for the interchange of ideas. Additionally, a number of studies have shown that employees' interpersonal interactions at work tend to affect their mood[108]. It stands to reason that anything that affects employee morale will probably make them less dedicated to their work. As a result, the third type of work environment, the organizational environment, is composed of management-controlled systems, processes, practices, beliefs, and philosophies. As employed in this phrase, the term "organizational environment" refers to the present project and national environment from which an organization takes its inputs, processes them, and then gives the outputs in the form of goods or services for consumer consumption[109].

These three different types of workplaces can be further classified into two main groups based on how they affect employees at work. Numerous studies have revealed that an employee's personality profile is dynamic. It is dynamic and changes based on your experiences at work. There are thus two different kinds of workplaces: healthy workplaces and toxic workplaces[110]. Conducive working environments provide employees with delightful experiences that help them actualize in personality profile dimensions, whereas toxic workplace conditions supply painful experiences and de-actualize employees' conduct. It is believed that unreliable or uncommitted workers may transform into persons who are more engaged to their occupations and more responsible in an environment that promotes self-actualization.

Consequently, the opposite may be accurate in a toxic atmosphere. These workplaces are spectacular in many ways compared to other manufacturing or service-based organizations, from

which previous research has inferred the two types of work environments, so we may need to broaden our perspective on these two types of work environments by looking into what might be toxic or beneficial for employees in tertiary institutions. Therefore, creating and maintaining a nice workplace has several benefits. More output, happier employees, employment security, advantage in the marketplace, higher wages, more security, and better health[111]. Reduced errors, grievances, and absenteeism boost performance when workplace improvements are made[112]. The physical and emotional health of employees can be impacted by a wide range of features, components, or variables in the workplace. Employee commitment to work ultimately determines how long they stay in the position and has a substantial impact on their error rate, amount of innovation and collaboration with coworkers, absenteeism, and other workplace variables[113]. Prior research has identified twelve office environment factors that affect employees' engagement or disengagement. Some of these components include goal-setting, performance reviews, role consistency, clearly defined procedures, workplace incentives, supervisor support, mentoring and coaching, the opportunity to employ new skills, job tools, environmental considerations, and physical factors. A detailed knowledge of these variables makes it clear that, in addition to a number of other aspects, they are reduced and distilled into six main categories. This study found six variables that determine whether the workplace atmosphere is positive or negative. These elements are listed as follows:

Opaque management: Ineffective use of resources, violations of management principles, inefficient use of resources, disruption of unity of command, and situations in which people get away with lying or performing subpar work are examples of this factor. It also includes unclear vision, mission, goals, or objectives; unclear systems, policies, regulations, or rules; ambiguous roles; and.

Leadership/management style: A management who fails to recognize performance; a boss who takes credit for a subordinate's successes; a boss who favors one group of employees over another when it comes to their duties; boss who fails to provide clear instructions and directives; boss who lowers an employee's self-esteem; boss who withholds information from the employee that is necessary for the task's effective completion; boss who censors an employee's positive performance to higher management; manager who holds an employee accountable for errors; a management who disputes their own claims; boss who shows no initiative, which leaves the team without guidance; Boss who plays games with the performance review and assigns obligations without having the legal authority to do so – lowering the worker's self-esteem.

Organizational policies: closed door policy, low fringe perks, too much red tape, win-lose policies, consolidation of authority, the creation of privileged groups inside the firm.

Hot and noisy working circumstances; risky working conditions, a messy working environment, a lack of resources, outdated equipment

Interpersonal relations: unhealthy politics, a lack of teamwork among employees, backstabbing, empire building, rumor mongering, alienation, mistrust, and sabotage.

Pay: Subsidize the required rate.

Further research must be done to determine which of these workplace factors, whether they effect or contribute more to employees' dedication to their jobs in postsecondary institution settings depending on whether they are male or female. Which of these factors do university staff members consider to be hazardous environments? is the crucial question to ask. These factors will serve as a guide for federal and state authorities, educational policy makers, university

administrators, and educational policy makers in identifying the factors that are most important in the environment of tertiary institutions.

The workplace comes in a variety of forms. Six unique environments have been identified by studies: realistic, social, entrepreneurial, creative, investigative, and conventiona[114]. The many types have been organized in a number of different ways. In realistic environments, work is more hands-on, whereas in investigative settings, thinking and theoretical discussions are heavily appreciated. In entrepreneurial conditions, greater self-initiative is needed to innovate and launch new businesses. Unlike creative workplaces, which promote innovation and the production of original works of art, traditional workplaces adhere to preset methods and norms, such as database customer information. Two occupations that require a lot of social interaction are customer service and teaching. Another method for examining work settings is to look at the physical environment and make a distinction between offices, warehouses, retail stores, scientific research facilities, fieldwork locations, etc. These work environments could be acceptable for people with different personalities and career goals. The appropriateness of a person for a profession can also be impacted by their physical environment; For instance, some people enjoy working outside while others detest the restricted and ordered environment of a lab. Some job seekers may experience difficulties as a result of worries about the working settings at various jobs because they doubt their ability to thrive in physically taxing or boring environments.

One may also take into account the social and psychological climate as a factor when contrasting diverse work environments. In some contexts, chains of command can be very strict, while in others, they might be more supple and egalitarian. Employees might be told to focus on their work without berating their bosses or coworkers, or they might be urged to participate, offer criticism, and change their surroundings. Certain office cultures might become hostile due to a

tolerance for harassment or intense competitiveness, while others are friendlier and more laid back. The office environment was separated into three categories in another study: social, physical, and administrative. The physical environment is made up of a variety of elements, such as the workload, tools and technology, materials' accessibility, shift patterns, working hours, and others. The social environment also includes interpersonal relationships, various teams, management style and support, status at work, autonomy, decision-making, culture, and climate. The last area, Administrative Environment, includes Organizational Structure, Organizational Goals, Policies for Promotion, Leave, Transfer, and Performance Evaluation.

Physical Workplace Environment; Any company can easily understand how the actual working environment can influence employee actions and present a particular image. The physical environment of the workplace includes the observable components, such as the aesthetics and usability of the surroundings. The notion of spatial layout takes into account the dimensions, shapes, and spatial relationships of furniture, machines, and other objects. The spatial configuration of furniture was discovered to have an impact on the volume and kind of interpersonal communication[115]. The ability of the same items to support performance and the accomplishment of goals is known as functionality. Performance will be influenced by how well employees fit into their physical workspace and work environment. The term "physical working environment" is used to refer to a wider range of factors, including the level of comfort, ventilation, warmth, and illumination, both natural and artificial.

In turn, this influences the aesthetics, functionality, and design of the workplace, which eventually improves worker satisfaction and necessitates higher performance[116]. This emphasizes the need for tertiary institutions to base the services they offer on the importance and use of environmental data, to encourage staff involvement in improved space management, and to

automate some tasks. Similar to how layout and functionality are more important while performing challenging tasks than when performing routine or simple jobs. According to first impressions of office layout and design, some dimensions may have symbolic implications by expressing thoughts and ideas about businesses and, more specifically, the manner in which their employees should be involved[117]. Based on these affordances, it is expected that employees will tend to identify more with these components that boost performance. Informal seating arrangements, like chairs placed at a right angle, promote social interaction as opposed to formal seating arrangements, like chairs placed back to back. This explains how furniture design and other material symbols may have symbolic meanings as well.

Psychosocial Workplace Environment; The psychological aspect of the workplace is usually considered as one of the most important issues in today's and tomorrow's society. They go over organizational issues, work functions and content, worker effort, and personal and familial traits of the workers, in addition to the interaction between the environment and working circumstances. As a result, the psychological components have a complex nature that includes worries about the employees, external environment, and workplace. Six key components can be utilized to define employee workplace welfare[119]: a manageable workload, some personal job control, support from coworkers and management, decent connections at work, a reasonably clear function, and a sense of control or involvement in workplace improvements. Because they affect a person's ability to manage their work and the amount of stress they experience at work, a person's associations with the workplace are important. The specific characteristics and functions of job satisfaction change, as well as its systematic growth or deterioration over time, are behavioral factors that may have an impact on how well people perform at work. Numerous more factors, including job compatibility, supervisor support, and organizational leadership

styles, rank among those that may individually and collectively have an impact on employees' performance and may also enhance or impair it.

Job Aids Workplace Environment; A job aid is just a piece of writing that provides instructions so that employees can learn on the job on their own. It could take the form of instructions on how to complete a task in the most efficient way, such as job steps or a process. yet another idea By providing staff with instructions, rules, templates, and checklists, job aid can actually lower the error rate. Job aid should make tasks easier for workers to do, which will increase their sense of satisfaction while also reducing errors. According to his studies, a good employee would be unable to perform even when they are productive if the required job aid is not provided at the appropriate time[118]

Information Technological work environment; Using technology to expedite processes and applications has become commonplace at many organizations[122]. Many workplaces urge employees to use IT more inventively in order to boost productivity. Because technology may yield in benefits like cost savings, better flexibility, improved quality, and enhanced productivity, IT is therefore seen as a helpful tool.

By establishing a healthy work environment, the company is maximizing profits and boosting efficiency as a workplace. Additionally, it conveys the idea that the business is a cutting-edge corporation, which might aid in attracting top candidates. By creating surroundings that can do these things, architectural designers can impede, discourage, direct, promote, or enhance users' behavior. Due to the fact that these elements have a considerable impact on employees' overall performance, the majority of tertiary institutions are beginning to rethink how their workplace is

organized and what amenities they offer to staff. An conducive working climate is therefore crucial for boosting performance and, in turn, sustained returns.

The environment at work has been investigated as a potential factor in determining employee performance[124]. Researchers have examined the degree to which employees feel that their work environment satisfies their intrinsic, extrinsic, social, and need to remain in the firm[125]. They also examined how employees' perceptions of their working environment were impacted by employee commitment and turnover in the firm. They came to the conclusion that if companies give their employees a great place to work, those employees will be very satisfied and devoted to them, and as a result, turnover rates will be minimal. Similar findings were made by a second researcher, who discovered that workplace elements like appropriate lighting, silence, good ventilation, and layout arrangement significantly enhance employees' ability to perform their jobs[126]. The impact of the working environment and infrastructure on employees' job performance was studied in tertiary institutions. The findings demonstrated a positive relationship between workplace incentives and workers' job performance. An ergonomic and comfortable work atmosphere encourages employees and dramatically boosts performance, according to a different survey[127]. Accordingly, the study Working Condition, Motivation, and Incentive on Employee's Multi-dimensional Job Performance shows that the elements incentives, motivation, and working environment have a significant impact on employee job performance[128]. These studies demonstrate that enhancing employee performance from all four major viewpoints requires a favorable work environment.

The physical working environment is one of the most important aspects of tertiary institutions. As long as workers are content to work for the company the physical workplace circumstances are judged to be in harmony[129]. The layout of the office has an effect on how well personnel

carry out their duties. Good design ensures an increase in worker productivity and efficiency. The site where all amenities, like as equipment, appliances, and protective clothing, are present can also be referred to as the physical workplace environment. In a similar spirit, it can be argued that an ideal physical setting is free from unneeded interruption brought on by inadequate light, noise, temperature, or office design[130]. Additionally, environmental distractions could make workers anxious. When working conditions are ideal, employees are happier and more motivated to perform well. While unhealthy working conditions have an effect on employees' output or performance at work.

According to research, job aid strives to instruct and support people while they carry out their duties. Employment assistance is now viewed as help for efficient job performance in recent years. Furthermore, the leadership style is the most crucial aspect of management. For employees to perform better, relationships between staff members and managers must be solid. The quality of the relationship between the employee and the supervisor has a significant impact on employee job satisfaction, which raises the standard of work output. To get the best job performance, both parties must demonstrate their whole dedication to one another. Additionally, when a manager can communicate well, they may collaborate and help workers develop their abilities through a training program. Numerous studies have shown that a worker's relationship with their employer has a favorable effect on their ability to accomplish their job. Additionally, it shows how employees are motivated to show the same level of devotion when their supervisors do. Additionally, this relationship promotes the employee's behavior. They start conversing, and the worker is given a reward[131]. Also regularly provided is feedback.

2.2. Theoretical Review and Framework

2.2.1 Theory of Record Life Cycle Management

According to the Record Life Cycle Model, data is created, kept, and used for as long as it has value, after which it is either destroyed or archived[132]. Living things have three stages: birth, life, and death. The characteristics of the record life cycle model imply that it is more beneficial and suited for businesses maintaining paper documents. Researchers have shown that using the life cycle model in research or companies looking at the management of electronic information is incorrect. The record life cycle theory's shortcomings led to the development of the information continuum hypothesis. The information continuum hypothesis, which had its origins in Canada, was developed and made well-known in the 1980s and 1990s by Australian archival theorist Frank Upward[133]. According to the continuum theory, information is considered as a continuous process that flows from generation to disposition with no clear cut transition between phases. The information continuum paradigm unites office managers and archivists under a single integrated information storage architecture with the shared goal of ensuring the dependability, validity, and completeness of information. A view of the data continuum can be used to contrast the data life cycle idea. The life cycle concept proposes that there are many stages of information storage that can be distinguished from the storage of recent and historical information. The information continuum, on the other hand, has provided archivists and medical experts with insight into how to combine information-keeping and archiving activities. With the exception of the "chosen ones," who are reincarnated as archives, information undergoes a number of stages before ultimately "dying," according to the record life cycle concept

Managing records has become simpler and more efficient since the development of modern tools and technologies including computers, video, audio cassette, and film. Since these devices can hold enormous volumes of data and have eliminated the bottlenecks that formerly hampered the processes of data storage, it is now possible to produce, analyze, organize, and retrieve data at the speed of light. Despite these developments, the bulk of government organizations, including medical centers at private hospitals in Ibadan, Oyo State, Nigeria, continue to store records on paper. Health care workers are included. This theory supports the independent variable, electronic health records, and is pertinent to them since it describes the steps data goes through from creation to disposition.

2.2.2 Technology Acceptance Model (TAM)

A number of theoretical models have been proposed during the past 30 years to assess and clarify attitudes and behaviors connected to the adoption of ICT. Tools for measuring how well a technology "fits" with user tasks have been evaluated, and meaningful metrics have been developed[135]. The technology acceptance model (TAM), which was first presented in 1989 and has subsequently been applied and empirically confirmed in a wide range of ICT application areas, is the most well-known of these. One of the research models that is most frequently used to predict how individual users will embrace new technologies and information systems is the TAM[136]. Three models that emphasize a person's intention to engage in a behavior, though their underlying theoretical foundations are different and not entirely comparable, are the rational action theory (TRA) and planned behavior theory (TPB), two social psychological theories from which the TAM originally descended. As the go-to paradigm for examining the factors affecting users' acceptance of cutting-edge technology solutions, the TAM has taken over. The core model assumes that the relationship between system qualities (external variables) and system usage is

mediated by perceived utility and ease of use. Numerous evaluations of TAM usage across the entire ICT sector have been conducted, and one of them, included an overview of the first 10 years of TAM-related research as well as suggestions for the future[137]. According to the instructions, it was required to look into boundary conditions and include more factors that affected how people and societies changed. At that point, the "Attitudes" concept from the original TAM had already been eliminated, and the "External variables" concept had been broken down into experience, social influence (job relevance, output quality, and result demonstrability), and cognitive instrumental processes (subjective norm, voluntariness, and image). A few years later, Sharp drew attention to the differences between circumstances in which usage is optional and situations in which usage is required, as well as the relative strengths of perceived usefulness (PU) and perceived easiness, and the significance of attitudes in user acceptability. Hsiao and Yang used cocitation analysis to isolate three essential application settings for TAM use: The first three types are task-related systems, e-commerce systems, and "experiential" (or "hedonic") systems. Task-related systems are designed to improve task performance and effectiveness. These systems come within the categories of communication systems like electronic health records, office systems, and software development and automation software (EHR). Clinical practice guidelines, pertinent training resources, and patient handouts may all be included in the EHR. This might make it possible to respond to a medical inquiry while the patient is still in the examination room. E-commerce is the process of buying or selling things online or through other digital platforms. Hedonistic information systems, which place an emphasis on the enjoyable or distinctive characteristics of information systems while simultaneously pursuing enjoyment, include online gaming, browsing, shopping, and even online education. These systems are frequently connected to home and leisure activities. To investigate

the factors influencing the use of ICT by healthcare professionals, a systematic review was conducted[137]. According to a review of patient acceptance of ICT, one of the best models for analyzing patients' perceptions and behaviors is the TAM[138]. According to Garavand et alexamination .'s of the most common acceptance models in health care, the TAM is the most important model for identifying the factors influencing the adoption of information technology in the health system.

2.2.3 Work Adjustment Theory

Dawes and Lofquist developed the Work Adjustment theory (WAT) in 1984 at the University of Minnesota. The idea explains how people and their surroundings interact when they are at work. As a result, the interaction between an individual and their working environment is how work is perceived and interpreted. Because the environment requires it, the person brings up the abilities needed to perform the tasks. As part of the exchange link between the individual and the workplace environment, the individual also needs a specific amount of income or benefits for doing their job duties as well as a few preferred circumstances, like a secure and comfortable work environment. To maintain the interaction and keep the job, both the person and the workplace environment must continue to meet each other's needs[139]. The degree to which both sets of requirements are accomplished is called correspondence. As a result, the theory of person-environment correspondence is another name for the concept of job adjustment. This theory makes recommendations for circumstances where employees see certain physical characteristics of the workplace as undesirable, leading them to conclude that the atmosphere is unhealthy and unsafe. Therefore, for a setting to be considered favorable, a person-environment relationship must be compatible (i.e. the requirement of person and environment must be met). A communication breakdown could affect the commitment.

2.3 Review of Empirical Studies

2.3.1 Information and Communication Technology Skills and Use of Electronic Health Records

With reference to the adoption of the blockchain in the healthcare industry, a few research publications in particular cover the many systems that are accessible to healthcare providers. These articles' primary objective is to present blockchain-based ideas that would establish medical data access rules and allow people more control over their personal health information. In the article by Alexander Samarin, private cloud storage is offered with patient-only access to medical documents. This expressly grants people complete ownership of their medical records, but it ignores the requirement to share such information with different institutions. Additionally, it is unable to handle situations like psychotherapy notes when a doctor is compelled to keep a patient's medical information confidential, even from the patient[140]. Similar to the ideas proposed, our technology uses storage techniques that maintain patient data in a provider's current database while including the blockchain as an access control layer. Even though medical records are still retained in provider databases, patients should have more control over their personal health information by giving their permission before records can be shared with other doctors or other parties[141].

In order to increase the scalability of their plans, they do not upload entire medical records to the blockchain[142]. For instance, a blockchain index is kept that has links to patient records that are hashed and encrypted. The existing blockchains only hashed references to records and permissions. There were references to medical information via Uniform Resource Locators (URLs) as well as the data needed to perform smart contracts on the blockchain[143]. While

references to the patient data and access permissions are stored on the blockchain, the majority of patient data is still held in traditional databases that are managed by healthcare providers. Giving patients more control over their personal health records without requiring them to manage and maintain the records themselves improves the scalability of these programs[144].

Major problems in the health care industry include access control and the privacy of medical records. A researcher suggested using a permissioned blockchain framework and encrypting data off the network. creates a blockchain that is only available to government agencies, health insurance companies, and service providers. Our method likewise uses a permissioned blockchain framework, but it also allows user involvement with the blockchain and gives each node different levels of power. This is consistent with our goal, which is to provide patients more ownership over their health records while maintaining access controls[145].

To guarantee privacy, healthcare blockchains must safeguard EHRs from dangers affecting all portions of the system. Man-in-the-middle attacks, for example, can be used to compromise a system's access controls[146]. A researcher suggests many strategies for developing and securing access controls. . For biometric identity systems for party authentication, it was suggested to encrypt public data using a network-wide symmetric key and private data with secret keys. Furthermore, a researcher uses a "deposit box" to solve the issue of records being moved to another party[147]. When a patient consents to the transfer of a personal medical record, a copy of the record is placed in a safe deposit box and made accessible to the recipient for a defined period of time. To further authenticate a person's identity on the blockchain, an expert suggests that reliable organizations like banks and employers give proof of a person's identification in the system. Ancile does something similar before registering nodes: consensus verification. Data forensics also poses a hazard to medical data. Unfortunately, blockchains themselves have this

issue. A researcher advocates mixing phony records with actual ones on the blockchain to protect data privacy. This, however, suggests that authorized individuals have a logical means to search among records[148]. Three different options for the transfer of medical records were put forth in order to reduce the risk of man-in-the-middle attacks: providers could connect their databases directly to the blockchain, providers' current systems could send records to the blockchain, or providers could send the records to patients who would then manually upload them to the blockchain. The third option, according to a researcher, assumes that patients wouldn't conceal any medical information from the blockchain[149]. Instead, our solution implements several smart contracts and encrypts data on the blockchain to handle access controls. There is a long history of using a "properly ordered and recorded database" of clinical data to learn from. Despite the massive amounts of data that are now digitalized and stored in EHRs, a recent systematic review of the medical literature found that predictive models developed utilizing EHR data only use a median of variables, rely on traditional generalized linear models, and use data from a single location. Simpler models, like the 5-factor CURB model or warning scores with a single parameter, are most frequently utilized in clinical practice. Utilizing more of the data available for each patient has been hampered by the lack of standards and semantic interoperability of health data across numerous sites. The selection of a unique set of variables is frequently required for each new prediction task, and the extraction and normalization of data from diverse sources usually calls for a time-consuming procedure[150]. The Observational Medical Outcomes Partnership standard, developed by the Observational Health Data Sciences and Informatics group, was a focal point of earlier research that laboriously standardized data in traditional relational databases to address the scalability issue. Although it enables the building of prediction models consistently across sites, such a standard only considers a subset of the initial data. A

flexible data structure called FHIR (Fast Healthcare Interoperability Resources) was recently developed to represent clinical data in a consistent, hierarchical, and extendable container format, regardless of the health system, to simplify data transmission between sites. However, as the format does not provide semantic coherence it is necessary to design additional techniques for handling contradictory material[151]. Deep learning has become increasingly popular when applied to EHR data since the introduction of EHRs and the development of deep learning techniques. Auto-encoders were used by researchers in a well-known study to predict a specific group of disorders. The temporal sequence of events that occurred in a patient's record was simulated in later study using convolutional and recurrent neural networks, which may increase accuracy in cases where the order of occurrences is important. Prior study has often focused on a subset of the EHR's features rather than on all of its data, which includes substantial amounts of organized and semi-structured data as well as clinical free-text notes. ICU patients have also been the focus of numerous prior research from a single location, as well as other single-center studies[152]. This is because data from the Medical Information Mart for Intensive Care (MIMIC) is readily available. Each patient in an ICU has access to significantly more data than a patient in a regular hospital, even though non-ICU admissions in the US outnumber ICU admissions by a factor of about six. Recent studies have also examined how deep learning network interpretation mechanisms may be used to make clinical predictions. In a different study titled "The Impact of the Information Management Practices[153]." Arab Bank: A Case Study," the efficacy and efficiency of the Jordanian Commercial Banks were enhanced. In order to improve the efficiency and efficacy of the Arab Bank, this study set out to ascertain the impact of information management practices on interactions between staff, management, and customers. One of the study's most important conclusions was that people who use information management strategies

are highly trained technicians with the education, training, and experience necessary to perform their jobs to the best of their abilities. It also showed that Arab Bank has effectively met its needs by supplying the necessary hardware and software. This is due to the systems' high utilization of appropriate information, which also had an impact on the effectiveness of the decisions that were supposed to be made[154]. In a General Customs Authority study in Saudi Arabia, the impact of modern information technologies on workers' performance was investigated. The purpose of this study was to identify and classify pertinent internal and external data, as well as to comprehend the sources of information flow inside the Customs Department. Additionally, it aimed to comprehend both the beneficial and detrimental implications of applying contemporary information technologies on worker performance. One of the study's most important findings is that just 24.2% of respondents believe that there are now no specialist training programs in the field of modern information technology, while 61% of respondents claimed that they are not aware of any such programs. Not understanding the appeal in online purchasing among employees, 87% of respondents agreed that employing data on slumbering interests will help them perform better today, which is supported by 91.5% of respondents who claimed that leveraging current information systems will boost business correctness. Using current information systems will make it easier for staff to perform their tasks, according to 87% of respondents. The majority of respondents agreed that there are administrative, financial, and psychological barriers to using modern management information systems. Evaluation of the Role of Information Management Practices in Administrative Decision-Making at the University of Jordan is described in "Evaluation of the Role of Management Information System in Administrative Decision-Making at the University of Jordan[156]". The study's goals were to review information management practices generally and assess the role that the information

systems at the University of Jordan played in administrative decision-making. The study also examined the relationship between administrative decision-making and information management strategies and information quality. A positive correlation between information management practices and information quality was found by the study. Consequently, a good management information system affects sensible organizational decisions. According to a study on the role of information management practices in evaluating job performance in the KwaZulu-Natal Department of Arts and Culture government departments gather, process, and use information for planning and reporting to comply with various laws at the operational and strategic level. Government agencies gather, process, and use data for planning and reporting in order to strategically and operationally comply with a variety of laws. The collection, processing, synchronization, and exchange of information depend heavily on information systems. They make it possible to manage enormous amounts of data. Senior managers can effectively manage the strategic direction of a company by using information management practices to analyze data at the operational and strategic levels to monitor operations, assess and plan new services, and track trends. Information management procedures are essential when evaluating employee performance. The purpose of the study was to demonstrate how the KwaZulu-Natal Department of Arts and Culture uses information management techniques to assess staff performance[156]. A case study approach was used to investigate the research issue. The department's main program managers participated in the research. Self-administered questionnaires and in-person interviews were used to collect the data. According to the report, the department's use of information management practices to evaluate employee performance was fairly limited. An integrated PMIS (performance management information system) and the resources required to build and operate one were absent from the department. The research recommends that the department formalize

its performance measurement system and gain the proficiency needed to properly implement a PMIS. More in-depth analysis of information management systems should be done, and those outside of management should be included. According to a study on the impact of information management practices on the performance of business organizations in Nigeria the role of information management practices in the business environment has evolved over time to become a crucial component of its business operations in Nigeria[157]. This study looks at several challenges and possibilities for Nigerian information management practices. In the Federal Capital Territory of Abuja, North-Central Nigeria, a questionnaire and interviews were utilized to collect data for the study, and the Z-test was used for statistical analysis. The study aims to demonstrate how Nigerian corporate organizations have been impacted by management information systems. It aims to determine how an information system helps an organization be more effective. The study suggests that commercial organizations should make information management strategies more flexible in terms of their nature, methodology, and structure. Purchasing adequate and acceptable computer software and programs to fulfill information management practices' ongoing growth and expansion in the global business market environment must also be taken into consideration as a means of promoting company control of the market[158]. In a study on The Role of Information Management Practices to Increase Workforce Productivity, Iran was the case study. This survey research was conducted to examine how information management strategies might boost the efficiency of human resources. All 462 employees at the upper, middle, and lower levels of the organization under consideration were included in the statistical population. There were 210 people in the Morgan Table sample population that were chosen at random. Based on the six features of information that were introduced, the researcher created an instrument for data collection. Descriptive methods, central tendency measurements,

and the T test were used to evaluate the data. The study found that the two most crucial variables influencing the productivity of human resources were relevant information and information's cost-effectiveness. The study made recommendations regarding the advantages of adopting on-the-job trainings and management assistance for IMS for information delivery over networking. Effect of Management Information System on Organizational Performance: Applied Study on Jordanian Telecommunication Companies was the subject of investigation[159]. In this study, the relationship between information management practices and work performance in Jordan is examined, as well as the idea of information management practices and job performance. All of the telecommunication companies in Amman City make up the research's population. For the purpose of this study, a random sample of (100) employees from (10) telecommunication company branches was chosen. According to the report, Jordanian telecom workers are generally supportive of information management techniques. The study's findings also show that since Jordanian telecommunication businesses have databases as part of their managerial systems, their employees have positive attitudes regarding databases. The study's findings are negative. There is no statistically significant correlation between management information system and employee performance in Jordanian telecommunications enterprises, according to the following hypotheses. In order to adapt to changing demands, good information management processes are carefully developed, installed, managed, and enhanced.

The impact of information technology and management information systems on management performance and satisfaction was examined in a different study[160]. The study's objective was to look at the relationship between management information systems, business strategy, and firm performance. A sample of (170) executive managers from various corporate companies were examined. A questionnaire was used to evaluate company strategy and firm performance. The

analysis demonstrates that information technology and information management strategies enhance business strategy and work output. The report also recommended that when more information is needed, the information management techniques should evolve. Additionally, corporate strategy will be more successful if organizations have enough and dependable IT. Businesses perform better the more efficiently information management and IT processes are employed. IT could enhance and help increase the productivity and effectiveness of a firm.

Additionally, study was conducted on the use of information management techniques to improve work performance[161]. The report underscores how crucial information management procedures are to business success. Theories explaining how information management methods impact company performance have been supported by prior research. Information about potential future occurrences, efficiency, and output rates is provided by information management strategies. Additionally, it was found that higher levels of strategic performance are correlated with stronger information management procedures. Additionally, it was found that the organization may transmit information more successfully and successfully when using reliable information systems[162]. Companies also adopt new management approaches as a strategy to expand operations and enhance overall performance with the end goal of strengthening decision-making processes generally, improving outcomes, and ultimately lowering costs.

In higher education institutions, the effect of information systems on staff performance has been researched163. The partial least squares method was used to examine the data. The analysis of the data demonstrates that information system capabilities influence their success, which in turn influences job commitment and satisfaction, which in turn influences job performance. In a different study, a researcher examined the information management practices system and work performance in Aba and Port Harcourt at the Seven-Up Bottling Company. The study included

117 respondents in its sample. Descriptive statistics and Spearman's rank correlation were used for data analysis and hypothesis testing. The management information system and employee work performance at the Seven Up bottling factories in Aba and Port Harcourt, according to the study's findings, are significantly positively correlated[164]. A study that examined the impact of accounting information systems on job performance focused on SMEs in Saudi Arabia. With the help of sophisticated partial least squares, the study's hypotheses were verified and the data was examined. According to studies, using an AIS considerably enhances work performance on all fronts, including cost savings, quality improvement, and decision-making effectiveness[165].

A researcher named Almazán examined the impact of information systems on organizational outcomes. 133 establishments in the Mexican state of Tamaulipas were sampled for the study. The partial least squares (PLS) approach was used for the statistical analysis of the data. The results of the empirical analysis demonstrate that information quality is the most crucial prerequisite for user satisfaction and for the utility of the IS, given that consumers consider the accessibility and accuracy of the information to be a critical component for the successful execution of a system, followed by the quality of the system, and the service. Several research looked on the relationship between the use of management information systems and employee performance at Kenindia Assurance Company Limited[167]. A scale with ordinal values was used to analyze the data. The study's findings indicated that the use of information management strategies had increased resource accessibility and employee satisfaction. Employees who think the new IS is trying to replace them frequently feel dread and anxiety as a result, according to the study's findings.

An investigation of computerized information management techniques and their applicability to improving job performance involved Jawwal[168] employees from the Palestinian mobile

communications company. To achieve the goals of the study, a questionnaire was developed with the purpose of obtaining data and measuring the study variables. SPSS was used. The study reached several conclusions, the most important of which is that the prerequisites of procedure and maintenance of computerized Management Information Systems (physical, software, human, organizational) exist and play a statistically significant role in improving the performance of the employees of the Palestinian Cellular Telecommunications Company - Jawwal. There are statistically significant differences between the respondents' Computerized Management Information Systems and their correlation to improving the job performance of the employees of the Palestinian Cellular Telecommunications Company - Jawwal due to demographic factors (scientific level, years of experience, place of employment, and job level). At its conclusion, the study made a number of suggestions, the most important of which was the need to keep up with technological developments in the area of management information systems and to ensure the use of cutting-edge hardware and software. to keep modern connections accessible and seek to fix network problems like those caused by disruptions and poor communication that the study's findings revealed. Instead of focusing only on how to use, teach information technology lessons that are user-specific to increase users' comprehension of the potential of the hardware and software they use. A study was done to ascertain the function of knowledge-based computerized management information systems in the administrative decision-making process in order to prevent or restrict potential issues, particularly those connected to inadvertent bias and ambiguity. Computer information systems, which are knowledge-based systems, create a dynamic, created, and participative environment. In other words, experience is the primary way that people learn and grow. They can be used to develop procedures for picking sensible commercial decisions. . A study was done to ascertain the function of knowledge-based computerized management

information systems in the administrative decision-making process in order to prevent or restrict potential issues, particularly those connected to inadvertent bias and ambiguity. Computer information systems, which are knowledge-based systems, create a dynamic, created, and participative environment. In other words, experience is the primary way that people learn and grow. They can be used to develop procedures for picking sensible commercial decisions. The study generated a list of recommendations, including the requirement for using knowledge-based computerized information systems in administrative decision-making processes and the configuration of systems that can use modern information technology at different administrative levels in order to take advantage of the benefits that knowledge-based systems have to offer in terms of effort, time, and money, as well as to be able to adapt to changing environments.

A study was conducted at the Dar Al-Shifa Medical Complex to ascertain whether it would be feasible to incorporate the dimensions of digital health information systems[170]. The researchers used a questionnaire approach to collect data. The researchers used a random stratified sample approach, which involves distributing 30 samples, to examine the questionnaire's internal consistency, structural validity, and consistency. The study community was polled using (220) questionnaires after the validity and reliability of the test were established. A total of 197 responses were received, with a return rate of 89.5%. The findings revealed that none of the variables (gender, qualification, place of employment, years of service, and combined domains) statistically substantially differed from the sample's averages in these areas (Job title). The results showed that the sample mean on these subjects for people 40 years of age and older had age-related statistically significant differences. The results demonstrated that the administrative nature of the work favors those who are administrative by nature, and there are statistically significant differences between the averages of the study's sample estimates in this area. The

results show that the years of service, which favor those who have served for at least 10 years, cause statistically significant differences in the average of these two fields for the study population. The study made a number of recommendations, including the need to establish a specialized department of computerized health information systems, with clear responsibilities, and including technical and managerial specialists and health personnel in the number and efficiency required. The study also recommended working as a team to implement mechanisms of work in computerized health information systems and having direct contact with staff in clinics and divisions to provide services and technic. By encouraging users to adopt computerized health information systems and taking into account their diverse needs, senior management should provide more support for users. a willingness to provide financial support for the hardware and software of the computerized health information system. Utilizing database systems in clinics and departments is essential for making administrative and medical decisions because doing so improves decision quality and decision effectiveness.

As part of a study to ascertain the influence of automation in improving the performance of these departments, employees who directly carry out the tasks and responsibilities of the human resources departments in the central security agencies in Riyadh were surveyed. Overall, it was lacking, although automation may significantly aid in human resource planning, hiring, and training requirements[171]. The survey found that there are obstacles preventing the adoption of automation and that human resources departments are performing significantly better. The impact of management information systems and information technology on the efficiency of the corporate management was analyzed in a study[172]. The most important finding of the study was that administrative information systems and information technology improve an organization's effectiveness, performance efficiency, and strategic work. The more effective and successful the

organization is, the greater the culture of its employees toward efficiency and effectiveness of performance. Using modern information technology, in particular Internet and communication networks, can benefit corporate companies, according to a study[173]. The study included an exploratory analysis of how these modern technologies were used in Palestinian reality. Information transfer technologies enable internal users and decision-making to access information. According to the most significant findings of the study, the managers' ignorance of the Internet's importance and their low English proficiency are the main reasons why the majority of Palestinian enterprises do not adopt these approaches. The qualifications of the managers, the quality of the training they received, and the scale of the businesses, however, are also significant contributing variables[174]. In a study intended to demonstrate how technological and legal concerns impact the application of management information systems in the banking sector. The study found that the use of information management techniques was statistically significantly influenced by organizational and technological factors. The study came to the conclusion that workers' involvement should be sought while developing management information.

Another study (Management Information Systems - the effectiveness of system users) that assesses how these systems influence decision-making in Palestinian universities in the Gaza Strip is based on determining whether there are variations among the components of information management practices systems in the universities[175]. The study focused on assessing the quality of the information used in the decision-making process as well as the use of information management strategies. The study's conclusions show that the Islamic University's information management procedures are distinct from those of other universities, and there is a significant relationship between the Department of Information Systems' organizational level and the

precision and effectiveness of the data used in decision-making. A study developed a model to evaluate the performance of information systems based on input and output models of information system functions used to support the efficiency of functional processes and improve the performance of institutions[176]. The three outputs and trends to be evaluated in the model or management suggested by this research are the system efficiency, the information effectiveness, the effectiveness of the information, the efficiency of the service, the system efficiency in terms of ease of use, rapid response, etc., as well as its impact on the functional productivity of employees. The quality of the information is crucial for the system's design, use, and value as well as its impact on employee productivity and service efficacy in all actions, from the system's conception through its use in support and consultation. The efficiency of the strategy and its positive consequences on enhanced operational efficiency and organizational effectiveness. Regarding earlier research: Examining prior research reveals the diverse contexts in which it was conducted, the various activities of the groups to which it was applied, the variety of variables it addressed, and the variety of statistical approaches it used to gather and analyze data. These studies have brought to light the importance of management information systems and, if used effectively, their crucial role in achieving the organization's mission and goals, provided they get the support they need from the management of the organization and are put in place in the proper environment. The factors influencing the Kuwaiti public service's information management behavior were studied[178]. The goal of the study was to evaluate the impact of managers in the public sector's personal and professional traits on their information behavior. The most important variables impacting managers' information management habits were determined to be their age, education, and the information system they were using. Similar research on intelligence decision systems in enterprise information management was conducted by another researcher in Turkey.

The study claims that intelligence approach is a brand-new tool for handling information178. Intelligence approaches are systems that support decision-making by compiling, analyzing, and diagnosing problems, offering alternative solutions, and evaluating the offered answers. The study stressed the importance of cross-functional strategy integration and the requirement that investments in information management be motivated by both business strategy and demands as well as intelligence approaches.

The record-keeping practices employed by Botswanan labor organizations were also examined[179]. The study, which was quantitative in nature used a survey approach to collect data from 45 respondents. The research acknowledges that information management practices exist in a number of businesses, but they fall short of the necessary standards. The result shows that information management programs have a wide range of problems that impact all processes, including creation, storing, processing, and distribution. The study's findings support the idea that information management policies and strategies are essential for effective operation. A researcher looked into the evolution of information management techniques from the perspective of users[180]. According to the review, the two main problems with information management strategies are information overload and fragmentation. Information overload refers to situations when people or organizations are required to process information in ways that are beyond their ability, level of knowledge, and processing speed. Information fragmentation is described in the evaluation as a situation in which data are processed by several programs while being saved in various forms, scattered across various locations, and stored on various devices. Despite the fact that technology has made it simpler to gather, create, receive, store, and transmit information, the study found that managing and using data intelligently is difficult. Organizational resources have remained constant, despite the increase in information that people and organizations generate.

Future employment opportunities for information specialists will be quite difficult. A researcher who studied effective information management developed a number of ideas that are crucial and are viewed as crucial success factors for information management projects[181]. The review outlines the major problems that face information management programs in contemporary organizations, including the large number of disparate and poorly coordinated information management systems, the lack of explicit policies and guidelines for information management programs, the lack of support from top management, and the lack of the physical and other resources necessary for effective information management. These challenges have resulted in outdated, duplicate, and of poor quality information. The report proposes that in order to solve some of these issues, information management programs should recognize the complexity of demands and develop plans to meet these needs. For information management projects to be effective, all of the organization's employees must actively participate in them. Strong leadership is also necessary. Last but not least, it is important to base information management programs on strong ideas and strategies that are developed from corporate strategy.

Similar research was conducted by Iron Mountain to assess the information management compliance standard and compare information management programs across five best practice categories. Although there are still some problems with policies and procedures that need to be fixed, the investigation revealed that information management practices have greatly improved. Although the quality of policy drafting has increased, most organizations have not yet begun putting them into practice, according to the research on electronic records management. The best information management techniques were analyzed in the study, and five main areas were identified: policies and procedures, retention, indexing and access, privacy and disposal, and audit and accountability. The survey revealed the following facts regarding the evolution of

information management: 72% of the tested firms don't have an information management strategic plan, while 94% are increasing their investments in information management. Although 80% of the organizations had formal policies, only 37% of those organizations said that the policies are consistently followed[182]. The results of the study demonstrate that substantial efforts have been made to develop policies and make investments in information management. However, there are times when an information management strategy is absent and the policies are not regularly implemented. In particular, those caused by issues with information management and information technology were the focus of investigation by a number of researchers[183]. According to the report, dealing with information management requires more organizational transformation than dealing with information technology. This makes the case that issues with information management are different from issues with information technology and that all organizational members, particularly top level managers, must be aware of and participating in the former. A review was conducted to gauge public awareness of the need for effective information management methods and to identify the challenges many African countries face in this area[184]. The report unambiguously asserts that the multiple measures being conducted by the various African governments to reduce poverty will be useless if they do not include specific policies and strategies that address governments' records. The following challenges are listed in the paper using specific instances from many African countries: The colonial authorities' failure to create a suitable record/information management system is blamed for problems such as a lack of funding, obsolete and inadequate infrastructure, and a lack of individuals with the requisite training regarding the digital divide. Effective information management is a critical element of any country's rehabilitation, according to the research, so until these issues are effectively resolved, little will change in Africa in terms of growth. Numerous ideas and research findings

that are applicable to personal information were examined in order to gauge how people typically organize their information[185]. The study's findings indicate that information organization can accomplish three different tasks, such as facilitating speedy information retrieval, alerting users of pending tasks, and showing how well users understand the various bits of information and how they relate to one another. The review highlights how crucial information management is to raising employee productivity. Numerous studies have indicated that whereas expenditures in technology have led to a large increase in output in the United States, productivity and profitability have not followed[186]. In a research to examine the impact of information management investment value on job performance, this claim was made by certain academics. The paper makes the claim that a number of studies that examine the ways in which investments in information technology (IT) will produce positive results maintain that a variety of factors, including a firm's competitive edge and innovative technology, account for job success. This demonstrates how an investment in IT may have an indirect impact on an organization's success. A study to evaluate the relationship between investment in information handled by technology and productivity payoffs in US industries found considerable evidence of a correlation between the acceleration of productivity and the heavy use of information technology (IT) in the late 1990s[187]. In a separate study to evaluate the steep rise in information technology investment in the 1990s, it was shown that the surge may be attributable to the fall in the price of IT items rather than necessarily the fact that IT may boost productivity. This conclusion is at odds with a research that evaluated the costs and returns on IT investments that firms have incurred as a result of implementing IT[188]. The study included 126 construction enterprises, all of which were Small and Medium Scale Enterprises (SMEs). The following are the study's three key conclusions: The size of the firm has no influence on IT spending, as different types of

organizations invest in IT in various ways. because it is challenging to defend IT spending in the absence of a clear strategic objective. The study came to the conclusion that the competitiveness of construction SMEs is significantly influenced by managers' roles, concrete investments in intellectual capital, investments in ICT, and strategic capabilities. 15% of an organization's revenue is spent on the creation, administration, and distribution of information, according to a survey by Information Management Solution. Additionally, 75% of records are still retained on paper, 60% of employee time is spent interacting with information, and 65% of employee time is spent seeking for information. The study emphasizes how, when information is handled as a valuable resource, controlling information development and growth, reducing operating expenses, increasing productivity, and safeguarding sensitive information will all improve job performance. All of these will eventually provide businesses a competitive edge[189].

Organizations use a number of information sources to assist them in making crucial decisions, claims a study[190]. The environment for information management is vast and varied. According to the survey, only 13% of respondents have a clear information management strategy, yet 72% have improved adherence to rules, regulations, and policies. 68% of respondents claimed information management has helped to increase revenue, while 87% said it has reduced expenses and improved efficiency. A strategic/competitive edge will be provided to enterprises if they begin establishing information management strategies with the intention of integrating several systems into a single system. After investigating how information management strategies have benefited managers in decision-making, a researcher identified the following primary performance benefits: Access to relevant information and documents, quick and accurate reference, effective departmental collaboration, personnel cost reductions, and help with day-to-day operations of the business, such as accounting and stock control, are just a few of the

benefits[191]. According to the study's results, MIS—often referred to as information management by specialists like Davis—helps businesses save money, time, and labor, which ultimately improves job performance. The economic returns of information management investments have been assessed[192]. According to the report, evaluating the investment in information management is extremely difficult because it involves both direct and indirect company expenses and benefits. The three most important projects in information management have been identified as having business objectives, implementation, and business outcomes. This means that business objectives take into account the organizational goals and objectives that the information management initiative addresses in order to implement the initiatives and assess their effectiveness. This is accomplished by utilizing operational, business design, and technology methods. The results of the study provide evidence for the commercial value of information management and its return on investment.

2.3.2 Work Environment and Use of Electronic Health Records

The performance of employees in any company can be used to gauge the success of any organization. This enables employees in such a setting to give their all in a way that will help their organization achieve the established goals and objectives. The connection between the workplace and organizational performance has been studied both theoretically and practically. Theoretical and empirical study by these writers indicates that the workplace is both an internal and external milieu that can influence work ethic and result in fast finished tasks[193]. An accompanying study investigated the impact of the workplace on the health of those working in the leather industry in Sirpurm, India. They used a cross-sectional approach.

A one-time interview, pretested questionnaires, and 230 workers from eight different leather sectors were used to collect data for a descriptive research. The results also showed that working environments have an effect on employees' health status, and they support the need for proper action to improve facilities and, consequently, employees' health status[194]. A research on the physical work environment and employee performance in particular brewing establishments in the Nigerian state of Anambra follows in a similar vein[195]. The Boney proportion allocation formula was used to distribute the questionnaires among the 233 participants, and the Yemane algorithm was utilized to determine the sample size. The study's ultimate result showed that there is a positive and significant relationship between employee performance and the physical work environment. The study recommended talking to workers before mounting equipment and, if feasible, making changes to the design and layout to move things around to fit different worker types.

In Cross River State, Nigeria, studies were done on how the working environment affected employees' commitment in the agro-based industries. The two biggest agricultural sectors in the state provided study participants. 1,013 respondents, of 1,194 respondents overall, were specifically selected for the study. Participants were surveyed using a four point Likert scale to elicit information. The data was evaluated using Pearson Product Moment Correlation (r). The findings demonstrated a beneficial relationship between workplace elements such as ongoing communication, a manageable workload, access to electricity, and a location free from known hazards and employees' commitment and, as a result, performance. The study suggested, among other things, that management of agro-based companies in Cross River State build and support positive work environments in their organizations in order to boost employees' commitment, wellbeing, general performance, and productivity[196].

In a different study, a sample of 360 technical supervisors and operating core personnel was used to assess the impact of two aspects of the work environment (physical and psychological) on employees' job satisfaction and performance as well as organizational effectiveness[197]. The results of the analysis showed that participants who thought their workplace was suitable and favorable performed better on tests of job satisfaction, performance, and perceived organizational effectiveness. Additionally, it was discovered that the two elements of the work environment significantly influenced how employees carried out their duties and perceived the performance of the business. According to regression analysis, the many elements of the work environment that most significantly influence employees' job behavior and organizational effectiveness are the working conditions, welfare services, interpersonal relationships, trust, and support. The findings also showed that the physical environment of the workplace has less of an impact on employees' job behavior and organizational effectiveness than does the psycho-social environment.

An empirical study made an effort to look at how employees felt about the effectiveness and effects of the environment management system. The Tamilnadu Textile Processing Mill Society Ltd in Erode served as the study's location. This study's research design is descriptive. At the Tamilnadu Textile Processing Mill in Erode, 100 respondents were selected as the study's sample size. The required information was gathered in both main and secondary forms. The primary data is gathered using a structured questionnaire that includes open-ended, closed-ended, like-scale, and numerical scale questions. The analysis and high effectiveness of the environment management system, which helps to lessen environmental impact, are the study's main conclusions. In this analysis, it is recommended that new technology be used to reduce labor costs so that on-the-job training can be provided using the new technology. Recycling will lessen

the burden on EMS. Finally, it can be said that doing so will assist to enhance the working conditions for employees, raise knowledge of the environment management system, generate revenue, and keep the environment clean[199]. An associated study that looked at how aspects of the office environment affect workers' performance provided yet another crucial piece of empirical evidence a total of 139 employees from the main offices of Miyazu (M) Sdn. Bhdthree participated in the survey that was utilized to collect the data. The findings show that employee performance is not only dependent on supervisor support. On the other hand, there is a significant correlation between employee performance and the physical office environment and job assistance. How well people perform is influenced by the standard of the work environment, which includes job support, supervisor support, and the physical work environment. The three factors have an impact on how loyal or involved employees are with the business. . The researcher might be able to identify the factors influencing employee performance at work by completing this assignment. The analysis and improved understanding of the factors influencing employees' performance at three different Miyazu Malaysia Sdn. Bhd. working locations is the main objective of this study. Among these are the headquarters, stamping plant, and tooling factory of Miyazu Malaysia Sdn. Bhd.

An investigation of the relationship between the work environment and job satisfaction in the banking, educational, and telecommunications industries was conducted in Quetta, Pakistan. The study's target audience, which was comprised of educational institutions, financial institutions, and the telecommunications industry operating in the Pakistani city of Quetta, used a quantitative technique. The 210 employees' data are collected via simple random sampling. Finally, the study's findings indicated a link between a favourable work environment and job satisfaction[20]

2.4 Conceptual Framework

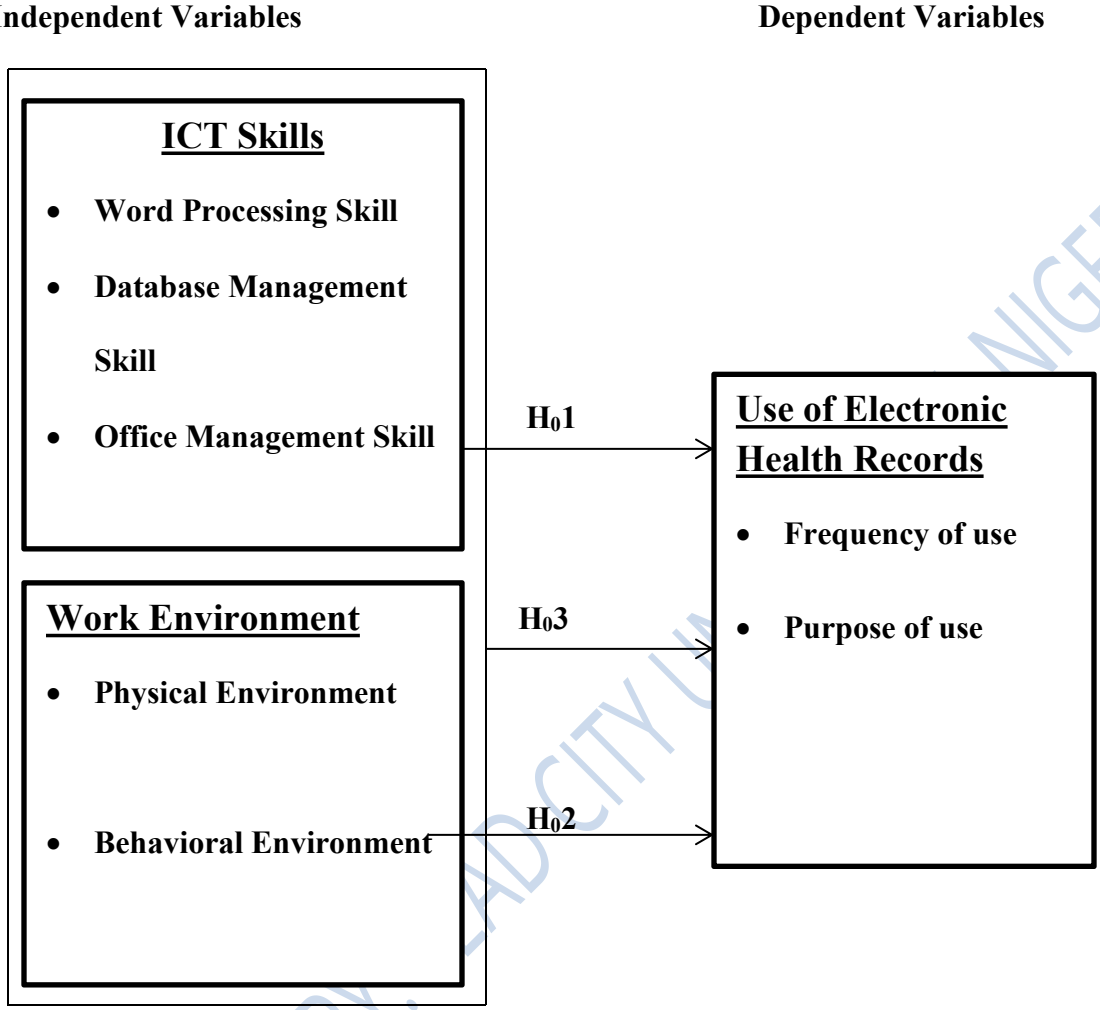

Figure: 2.1. Conceptual framework for Information and Communication Technology Skills, Work Environment and Use of Electronic Health Records.

Source: Researcher Conceptual Framework, 2022.

Information and Communication Technology Skills, Work Environment, and Use of Electronic Health Records are the three variables in the model, as shown by the conceptual framework in figure 1. The record life cycle model offered pertinent measures for electronic health records in this study, including frequency of usage and purpose of use of electronic health records. Three of these measures have been modified for the goals of this study. One of the study's independent

variables is ICT Skills, which can be measured by terms like word processing proficiency, data management proficiency, and office communication proficiency. Another independent variable is work environment, which can be measured by terms like physical environment and behavioral environment and was modified from Work Adjustment Theory. The theoretical framework explains how ICT capabilities and the work environment have an impact on the adoption of electronic health records by health practitioners in Private Hospitals Ibadan, Oyo State Nigeria.

2.5 Summary of Literature Reviewed

This chapter has reviewed relevant literature to the study. Literature reviewed on the concept of electronic health records explore its meaning and discussed empirical findings on how health professionals use computerized Health Records from different hospitals. The analysis of the literature on health professionals revealed that the usage of electronic health records by health professionals included record processing, record storage, and record retrieval, frequency of use and purpose of use of Electronic Health Records as key elements. Literature gives deep insight into the meaning of Health Professionals duties. The literature evaluated for this study demonstrates that Information and Communication Technology proficiency significantly increase various components of health records. Unfortunately, a lot of health professionals treat their patients like regular people, which has caused our healthcare system to deteriorate. Electronic record management is not guaranteed, Information and Communication Technology training for health professionals is insufficient, and health professionals depend on personal effort for capacity building and further training. Also literature reviewed showed that the independent variables on information and communication technology Skills and work environment with health professionals have been studied individually but most studies on ICT

and use of electronic health records seems scarce. None of these studies have been specific on health professionals. This is the gap the researcher concentrated on.

Endnotes

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Chapter Three

Research Methodology

This chapter presents the method used in carrying out the study. The section contains explanation of the procedures followed in arriving at the outcome of the study. The different sub-sections include: research design, population of the study, sample and sampling technique, description of research instrument, validity of research instrument, reliability of research instrument, and method of data analysis. The stages and steps taken while carrying out the research are arranged accordingly as reflected

3.1 Research Design

The descriptive survey research design, which represents a condition as it occurs naturally without interventions, was used for this study. It can be used to support present practices, form opinions, and create theories. Descriptive research will allow the researcher to analyze the association between ICT skill assessments, work environment, and use of electronic health records simultaneously for the purposes of this study. This approach is suitable since it is useful in gathering information on occurrences that cannot be directly viewed. The technique enables the researcher to gather information from a sample population that is typical of the entire population. A greater knowledge of the degree of the impact of ICT skills and work environment on the use of electronic health records by health professionals in private hospitals in Ibadan, Oyo State, Nigeria, resulted from the data collected and analyzed. In order to analyze the replies of a chosen sample from the study area, a quantitative technique was used.

3.2 Population of the Study

The population of the study comprises health professionals of some selected private hospitals in Ibadan, Oyo State, Nigeria. Table 3.1 shows the total number of health professionals in private hospitals, Ibadan, Oyo State Nigeria.

Table 3.1: Population of Health Professionals in Private Hospitals Ibadan, Oyo State, Nigeria

S/n	Name of Institution	Number of Health Professionals
1	Bamby Specialist Hospital, Akobo, Ibadan	20
2	Vine Branch Medical Centre, Mokola, Ibadan	40
3	Lad Medical Centre, Oluyole, Ibadan	30
4	Toun Memorial Hospital, Oke-Ado, Ibadan	30
	TOTAL	**120**

3.3 Sample and Sampling Technique

The sample size of the study is one hundred and twenty (120) which is made up of the health professionals. Total enumeration was used for the study

3.4 Description of Research Instrument

A structured questionnaire was employed to collect data from the respondents because it makes it simple for the structured questions and responses to meet the study's goal. The Likert scale design was used in the study, allowing the researcher to present choices from which respondents can select from. For the purpose of the study, data on the variables ICT Skills, Work Environment, and Use of Electronic Records scale were collected using self-rated questionnaires.

Section A: This section was developed by the researcher to collect demographic information of respondents and these contains Bio – data of Respondents measured through four factors; Gender, Age, Educational Qualification, and Year of Experience.

Section B: Use of Electronic Health Records scale which Indicates the competency level of health professionals in using electronic health records, the scale is of four point which are: Very high = 4, High = 3, Low = 2, Very low = 1. The research instrument was divided into various sections which was designed to elicit responses on the topic. The research instrument was adapted[1]. using Cronbach Alpha Value.

Section C: ICT Skills scale which indicate the impact of ICT skills on health professionals. This scale used a four-point response which is: Strongly Agree = 4, Agree = 3, Disagree = 2, Strongly Disagree = 1. The research instrument was adapted[2]. using Cronbach Alpha .

Section D: Work environment scale which indicates how conducive the environmental conditions are to the health professionals. The scale is also of four-point which are: Strongly Agree = 4, Agree = 3, Disagree = 2, Strongly Disagree = 1**.** This instrument was adapted[1].using Cronbach Alpha.

3.5 Validity of the Research Instrument

The accuracy of the research instrument utilized for the study is what determines its validity. Validity is the term for a measure's precision (whether the results really do represent what they are supposed to measure). The face and content validity of the questionnaire was determined by the thesis supervisor and two other experts in the field of information management and evaluated in order to establish the validity of the instrument that was utilized for the study. These experts reviewed the instrument to identify any statements made by the researcher that were poorly

phrased or that do not align with the study's objectives. They accessed the tool's thoroughness, relevancy of the contents, clarity of the instructions and assertions, potential ambiguities, errors, and/or omissions in order to make sure that the information gathered through the questionnaire was helpful in addressing the study's research questions and testing its hypotheses. The final draft of the questionnaire was taken into account the supervisor's comment as well as the advice and observations of the experts.

3.6 Reliability of the Research Instrument

The consistency of the research tool the researcher utilized for the study is referred to as reliability. It also refers to a measure's consistency (whether the results can be reproduced under the same conditions). Through a pilot study, the measurement device's dependability was evaluated. The capacity to elicit data that address the study's research topic and assure consistency and reliability of the scale are both benefits of the pilot study. This was done by distributing 30 copies of the questionnaire to medical staff at Opabode Medical Center in Oyo, which is not part of the general population. The data collected using the pilot study, and the inherent coherence of the items in each scale was determined using the Cronbach's alpha test. According to the results, the scales' items exhibit high reliability by meeting the general requirement for internal consistency, which is a Cronbach alpha value above 0.7.

3.7 Administration of Research Instrument and Method of Data Collection

In order to introduce the study and the researcher to the authorities of the hospitals where the health professionals are working, a letter of introduction was obtained from Lead City University's head of the department of information management. The researcher's motivation was covered in the letter in swiftly completing and submitting the questionnaire. The questionnaire cover page's content guaranteed the respondents' anonymity and the confidentiality

of the findings. The study's objective was explained to the health professionals, as the information obtained from them were utilized for academic purposes. The researcher distributed copies of the questionnaire to the health professionals in the hospitals selected for the study. The questionnaire were distributed to the health professionals with ample time to complete, thereafter copies were retrieved and compiled for analysis.

3.8 Method of Data Analysis

The Statistical Package for Social Sciences (SPSS) version 21 was used to analyze the data that was gathered for the project. To specifically respond to research questions 1 through 3, frequency tables, percentages, means, and standard deviation was employed. Multiple regression analysis was also used to test each of hypotheses 1 through 3. The significance level for each of the three hypotheses was tested at 0.05.

Endnotes

1. A. A. Belkur, R. Mehta, M. S. Shafter, & A. A. Amar, "*The Role of Management Information Systems in Increasing the Effectiveness of Managerial Decision Making . The Case of the General Company for Cement and Building Materials Study in Libya*," **International Journal England Research Technology**., vol. 6, no. 01, pp. 92–105, 2017.

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Chapter Four

Data Analysis and Discussion

The chapter covers the findings and analysis of the information gathered in carrying out the research objectives The data were collected through a structured questionnaire, which were physically administered to the respondents by the researcher. Table 4.1 shows the breakdown of the distributed questionnaires and the response rate.

4.1: Questionnaire Administration and Return Rate

S/N	Name of Institution	Administered	Returned	Percentage
1	Bamby Specialist Hospital, Akobo	20	19	95
2	Vine Branch Medical Centre, Ibadan North	40	35	87.5
3	Lad Medical Centre, Oluyole	30	29	96.6
4	Toun Memorial Hospital, Oke-Ado	30	26	86.6
	Total	**120**	**109**	**91.0**

Source Field Work 2022

Table 4.1 demonstrates that each healthcare facility has a return rate that is higher than 80%, for a total return rate of 91%. This is thought to be sufficient for analysis and generalization. The approved mean score starts at 2.50, and a significant p value is less than 0.05, according to the decision rule.

4.1 Demographic Analysis

Table 4.2: Demographic Representation of the Respondents

		Frequencies	Percentage
Hospital	Vine Branch Medical Centre, Ibadan North	34	31.5
	Lad Medical Centre, Oluyole	30	27.8
	Toun Memorial Hospital, Oke-Ado	25	23.1
	Bamby Specialist Hospital, Akobo	19	17.6
	Total	**108**	**100.0**
Gender	Male	26	24.1
	Female	82	75.9
	Total	**108**	**100.0**
Age	25-35 years	80	75.5
	36-50 years	20	18.9
	51+ years	6	5.7
	Total	**106**	**100.0**
Qualification	HND	32	29.3
	B.Sc	24	22.0
	M.Sc	3	2.8
	RN,RM	14	12.8
	MBBS	9	8.3
	OTHERS	27	24.8
	Total	**109**	**100.0**
Experience	1-10 YEARS	92	84.4
	11-20 YEARS	12	11.0
	21+ YEARS	5	4.6
	Total	**109**	**100.0**

Source: Field Work 2022

The demographic breakdown of the respondents is displayed in table 4.2's data. According to their place of employment, 34 (31.5%) of the respondents said they were employed by Vine Branch Medical Centre, followed by 30 (27.8%) by Lad Medical Centre, 25 (23.1%) by Toun Memorial Hospital, and 19 (17.6%) by Bamby Specialist Hospital. This demonstrates that Vine Branch Hospital responders make up the bulk of the sample. Regarding gender distribution, 26 respondents (24.1%) were men, while 82 (74.9%) were women. This resulted in a definite majority of female respondents. The age distribution of the respondents reveals that 80 (75.5%) of them are between the ages of 25 and 35; 20 (18.9%) are between the ages of 36 and 50; and 6 (5.7%) of them said that they are either 51 or older. This often reveals a younger generation of responses. The response, however, suggests that the bulk of them also have education and experience.

According to information on the respondents' academic backgrounds, 32 of them (or 29.3%) have HND in a variety of subjects. Similarly, 24 (22.0%) of them reported having a B.Sc., while 3 (2.8%) said they had a master's degree in a different field. There are 9 (8.3%) respondents with an MBBS degree and 14 (12.8%) respondents with a medical degree who are registered nurses or midwives. Additionally, 27 (24.8%) of the respondents possess additional certifications. 92 (84.4%) of the respondents have between one and ten years of work experience, 12 (11%) have between eleven and twenty years, and 5 (4.6%) have more than twenty one years.

4.2 Research Questions

4.2.1 RQ 1: What is the level of use of electronic health records by healthcare professionals in Private hospitals Ibadan, Oyo State, Nigeria?

Table 4.3a: Frequency of Electronic Health Records Usage by Health Professionals in Private hospitals Ibadan, Oyo State, Nigeria

	Always	Often	Rarely	Never	Mean
How frequently do you make use of electronic health records	83 (76.9%)	23 (21.3%)	2 (1.8%)	--	3.74

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 Work 2022

The level of use of electronic health records by health professionals is measured by frequency and purpose of use of electronic health records. The respondents' use of electronic health records is depicted in Table 4.1a. The research reveals that 83 (76.9%) of the respondents always utilize electronic health records, 23 (21.3%) do so frequently, and only 2 (1.8%) said they do so infrequently. With a mean score of 3.74, the respondents' overall use of electronic health records falls into the extremely high range specified by the decision rule. However, in this information era, it is important to pay attention to the small number of respondents who stated that they rarely used the health record.

Table 4.3b Purpose of Use of Electronic Health Records by Health Professionals in Private hospitals Ibadan, Oyo State, Nigeria?

I use EHRs for:	SA	A	SD	D	Mean
processing Patient's records	86 (79.6%)	21 (19.4%)	--	1 (0.9%)	3.78
Preserve patients' medical records	81 (75.0%)	23 (21.3%)	4 (3.7%)	--	3.71
to store patient's records in my department	77 (71.3%)	30 (27.8%)	1 (0.9%)	--	3.70
To ensure continuity of care	77 (71.3%)	29 (26.9%)	1 (0.9%)	1 (0.9%)	3.69
Average mean					3.67
Share health information with authorized personnel	75 (70.1%)	29 (27.1%)	1 (0.9%)	1 (0.9%)	3.66
disease surveillance	69 (70.4%)	25 (25.5%)	4 (4.1%)	--	3.66
health management reviews	67 (61.5%)	40 (37.0%)	1 (0.9%)	--	3.60
patient outcomes evaluation	64 (58.7%)	38 (35.5%)	2 (1.9%)	3 (2.8%)	3.52

Decision Rule 1.00 – 1.49= very low, 1.50 – 2.49= low, 2.50 – 3.49 = high, 3.50-4.00= very high.

Note: Strongly Agree(A-) Agree (A) Disagree (D) Strongly Disagree (SD)

Source: Field Work 2022

Table 4.3b's findings show that 79.6% of respondents strongly agree that they process patient records using electronic health records, 19.4% agree, and 0.9% strongly disagree. The statement concerning processing patient records using electronic health records got a mean score of 3.78 on average. As for using electronic health records to provide continuity of care, the results showed that 71.3% of respondents highly agree, 26.9% agree, 0.9% disagree, and 0.9% strongly disagree. The comments indicating they employ electronic health records to maintain patient health records had a mean score of 3.69 on average. In addition, 25.5% of respondents and 4.1% of

respondents agreed and strongly agreed that they use electronic health records for disease surveillance. A mean score of 3.66 is assigned to the claim that respondents utilize electronic health records to monitor disease. Additionally, according to the results, the respondents use electronic health records to keep patient records. Of those who responded, 71.3% strongly agreed with this statement, 27.8% agreed, and 0.9% disagreed. A mean score of 3.7 is assigned to the assertion that the respondent used electronic health records to store patient records. The findings also revealed that the respondents use electronic health records to keep track of patients' medical history. 75% of respondents strongly agreed, and 21.3% agreed, demonstrating this. 3.7% of respondents, who were in the minority, disagreed, nonetheless.

The evaluation of patient outcomes is another reason to use electronic health records. 35.5% of respondents agreed with this statement, while 58.7% of respondents strongly agreed. 1.9% of respondents disagreed, and 2.8% strongly disagreed, with this statement. The statement has a mean score of 3.52, on average. Additionally, the results showed that 27.1% of respondents agreed and that 0.9% opposed and strongly disagreed with the idea of using electronic health records to communicate health information with authorized employees. The assertion that respondents share health information with authorized employees by using electronic health records has a mean score of 3.66 on average. Moreover, 61.5% of respondents highly agreed that they use electronic health records to perform health management reviews, compared to 37% who strongly agreed and 0.9% who strongly disagreed. The statement's mean score is 3.60 on average. The statement's overall average score is 3.66, which is regarded as being extremely high under the decision rule. In order to share health information with authorized staff, electronic health records are used; 27.1% of respondents agreed with this, whereas 0.9% opposed and severely disagreed, respectively.

4.2.2: What is the perceived competency level in the use of Information and Communication Technology skills by Health Professionals in Private hospitals Ibadan, Oyo State, Nigeria?

Table 4.4: Perceived Competency level in use of Information and Communication Technology Skills by Health Professionals in Private Hospitals Ibadan, Oyo State, Nigeria

	SA	A	D	SD	Mean
I have the skill to document, copy and paste within a record	81 (75.0%)	24 (22.2%)	(2 1.9%)	1 (0.9%)	3.71
I can copy or move a file or folder	80 (74.1%)	16 (14.8%)	11 (10.2%)	1 (0.9%)	3.62
I can organize computer files in folders and subfolders	75 (70.1%)	21 (19.6 %)	11 (10.3%)	--	3.60
I can use a spreadsheet in key data to plot graphs	43 (39.8%)	33 (30.6%)	22 (20.4%)	10 (9.3%)	3.01
I can create presentation with simple animation functions	54 (49.5%)	30 (27.5%)	13 (11.9%)	12 (10.1%)	3.22
I can use internet to browse, download and upload information	88 (80.7%)	16 (14.7%)	5 (4.6%)	--	3.81
I can access patient's record from the Internet	78 (71.6%)	21 (19.3%)	4 (3.7%)	5 (4.6%)	3.59
I can distribute patient's records online such as notices of managements, minutes of meetings etc	54 (49.5%)	36 (33.0%)	12 (11.0%)	7 (6.4%)	3.28
Average mean					3.48

Decision Rule 1.00 – 1.49= very low, 1.50 – 2.49= low, 2.50 – 3.49 = high, 3.50-4.00= very high.

Note: SA-Strongly agree, A-Agree, D-Disagree, SD-Strongly disagree

Source: Field Work 2022

Table 4.4's findings show that 75% of respondents highly agree that they have the ability to document, copy, and paste within a record. The remaining respondents (22%) agree with this statement, while 1.9% disagree and 0.9% strongly disagree. The respondents' mean response to the question about whether they can copy and paste information into a record was 3.71. Additionally, the results showed that 14.8% of respondents agreed, 74.1% of respondents

strongly agreed, 10.2% opposed, and 0.9% of respondents very disagreed that they could copy or transfer a file or folder. The responses that they can document, copy, and paste into a record have a mean score of 3.62 on average. Additionally, 19.6% of respondents and 10.3% of respondents strongly agreed that it is possible to organize computer files into folders and subfolders, with 70.1% of respondents highly agreeing. The average response rate for the claim that respondents use electronic health records for disease surveillance is 3.60. The replies also showed that the respondents could utilize a spreadsheet to generate graphs with important data; 39.8% strongly agreed, 30.6% agreed, while 22.4% and 9.3% disagreed. The statement that the responder can utilize a spreadsheet to draw graphs using relevant data has a mean score of 3.01 on average. The results also revealed that the majority of respondents were able to build presentations using basic animation features. The 49.5% who strongly agreed and the 27.5% who concurred demonstrate this. However, 10.1% strongly disagreed, and 11.9% of the respondents disagreed. The item's mean score is 3.22 on average.

The majority of respondents, as shown in Table 4.4, can browse, download, and upload material online. 80.7% of respondents strongly agreed with this statement, while 14.7% agreed. 4.6% of people had a different opinion. The statement has a mean score of 3.81 on average. Results showed that 19.3% of respondents agreed, 3.7% disagreed, and 4.6% strongly disagreed with the statement that they can view a patient's record online. However, 71.6% of respondents very agreed with this statement. The assertion that the respondent can see the patient's record online has a mean score of 3.59 on average. The average mean score across all the statements under "ICT competency" is 3.48, indicating that the respondents have excellent levels of ICT proficiency.

4.2.3 What are the type of Work Environment that exist in Private hospitals Ibadan, Oyo State, Nigeria?

Table 4.5: Work Environment that Exist in Health in Private Hospitals Ibadan, Oyo State, Nigeria?

Statements	SA	A	D	SD	Mean
I am happy with my Professional life	87 (79.8%)	16 (14.7%)	2 (1.8%)	4 (3.7%)	3.78
I am happy with my relationship with my Boss	73 (67.0%)	25 (22.9%)	3 (2.8 %)	8 (7.4%)	3.59
I don't need to worry about my finances because I am well paid at work	48 (44.0%)	28 (25.7%)	21 (19.3 %)	12 (11.0%)	3.15
I don't procrastinate when I have a task to achieve	74 (67.9%)	24 (22.0%)	5 (4.6%)	6 (5.5%)	3.82
I don't feel depressed with the nature of my work	68 (62.4%)	28 (25.7%)	5 (4.6%)	8 (7.4%)	3.55
I am provided with necessary work materials, tools & equipment to work with	74 (67.9%)	29 (26.6%)	1 (0.9%)	5 (4.6%)	3.68
I understand and adapt to changes in the strategic and operational direction of my work	71 (65.1%)	32 (29.4%)	6 (5.5%)	--	3.65
I show foresight and imagination to see possibilities, opportunities and trends	75 (68.8%)	27 (24.8%)	1 (0.9%)	6 (5.5 %)	3.69
I demonstrate and have desire to take advantage of opportunities to upgrade my skills	78 (71.6%)	25 (22.9%)	5 (4.6%)	1 (0.9%)	3.71
Workload at my office is reasonable	58 (53.2%)	28 (25.7%)	12 (11.0%)	11 (10.1%)	3.30
Average mean					3.60

Decision Rule 1.00 – 1.49= very low, 1.50 – 2.49= low, 2.50 – 3.49 = high, 3.50-4.00= very high.

Note: SA-Strongly agree, A-Agree, D-Disagree, SD-Strongly disagree

Source: Field Work 2022

The results of the current working conditions in hospitals and health centers in the private hospitals Ibadan, Oyo State, of Nigeria are displayed in Table 4.5. The findings indicate that

79.8% of respondents strongly agreed, 14.7% very agreed, 1.8% disagreed, and 3.7% strongly disagreed that they were content with their professional lives. The mean number of respondents who said they were content with their professional lives was 3.78 on average. The findings also showed that 22.9% of respondents agreed, 2.8% disagreed, and 7.4% strongly disagreed with the statement that they are happy with their connection with their boss, which was strongly agreed upon by 67% of respondents. The comments that they are content with their relationship with their boss have a mean score of 3.59 on average. The majority of respondents also said that because they are paid well at work, they do not need to worry about money. 44% and 25.7% of the respondents, who strongly agreed and agreed, respectively, endorse this. 4.6% of respondents disagreed, while 7.4% strongly disagreed, on the other hand. The average score for the claim that respondents don't need to worry about money because they are paid well at work is 3.15. The vast majority of respondents also said that when they have a work to complete, they don't put it off. According to the responses, 22% of them and 67.9% of them strongly agreed that this was the case. 5.5% of respondents strongly disagreed, while 4.6% disagreed. The statement that respondents don't put off doing a task when they have to, has a mean score of 3.82 on average.

Additionally, Table 4.5 revealed that the vast majority of respondents are generally content with their jobs. This is demonstrated by the 62.4% of respondents who strongly agreed and the 25.7% who agreed that the nature of their profession does not make them feel gloomy. 4.6% and 7.4% of them, however, disagreed. The average score for the claim that the respondents are not depressed by the nature of their work is 3.55. Results showed that 26.6% of respondents agreed with this, 0.9% disagreed, and 4.6% strongly disagreed, whereas 67.9% of respondents strongly agreed that they are given the tools, materials, and equipment they need to do their jobs. The assertion that respondents are given the tools, materials, and equipment they need to do their jobs

gets a mean score of 3.68 on average. According to the table, 65% of respondents firmly felt that they comprehend changes in the strategic and operational direction of their work and can adjust to them. 29% of respondents agreed with this statement, while 6% of respondents disagreed. The average score for the claim that they comprehend and accommodate changes in the strategic and operational focus of their work is 3.65. Furthermore, 69% of the respondents firmly stated that they exhibit vision and foresight to recognize opportunities, trends, and possibilities in their employment. 25% of respondents agreed with this, compared to 0.9% who disagreed and 5.5% who strongly disagreed. The assertion that the respondents demonstrate vision and foresight to recognize opportunities, trends, and possibilities in their employment gets a mean score of 3.69 on average.

Additionally, 22.9% of respondents, or 71.6%, strongly agreed that they show a willingness to seize opportunities to advance their skills. But just 4.6% and 0.9% of them strongly disagreed with each other. The assertion that the respondents show evidence of and a desire to seize opportunities to advance their skills has a mean score of 3.71 on average. In a similar vein, 25.7% of respondents agreed that the workload at their offices is appropriate, whereas 11.1% and 10.1%, respectively, disagreed. Overall, 53.2% of respondents strongly agreed with this statement. The average score for the claim that the workload at their offices is reasonable is 3.33.

The average mean score of all the statements under "work environment" is 3.60, which indicates a very favorable work environment in the chosen hospitals. This is because all of the statements under this heading have high mean values.

4.3 Test of Hypotheses

4.3.1 $H_0$1: There is no significant influence of Information and Communication Technology skills on the Use of Electronic Health Records by Health Professionals in Private hospitals Ibadan, Oyo State, Nigeria

Table 4.6 a-c: Influence of ICT Skills on the use of Electronic Health Records by Health Professionals in Private Hospitals Ibadan, Oyo State, Nigeria

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.522[a]	.273	.265	3.65167

a. Predictors: (Constant), ICT Skills

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	450.312	1	450.312	33.770	.000[b]
	Residual	1200.123	90	13.335		
	Total	1650.435	91			

a. Dependent Variable: EHR Use

b. Predictors: (Constant), ICT Skills

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	23.828	3.470		6.867	.000
	ICT Skills	.468	.081	.522	5.811	.000

a. Dependent Variable: EHR Use

The findings of the multiple regression analysis for the impact of ICT skills on the adoption of electronic health records by healthcare workers in private hospitals in Ibadan, Oyo State, Nigeria are presented in Table 4.6a-c. According to Table 4.6a's findings, the usage of electronic health records by healthcare professionals in private hospitals in Ibadan, Oyo State, Nigeria, Nigeria is positively and significantly correlated with ICT capabilities. ($R = 0.522$, $p<0.05$). The use of electronic health records by healthcare professionals in private hospitals in Ibadan, Oyo State, Nigeria is explained by other variables that were not examined in this study, according to the coefficient of determination (Adj. R2) of 0. 273 which indicates that ICT skills account for 27.3% of the variation in that use.

The results of the ANOVA (Analysis of Variance) are shown in Table 4.6b, indicating the overall model significance of the regression test, which showed that the use of electronic health records by healthcare professionals in private hospitals in Ibadan, Oyo State, Nigeria, is significantly influenced by ICT skills. This can be explained by the F-value (33.770), which is statistically significant at a 95% confidence range, and the low p-value (0.000). As a result, the findings suggested that ICT expertise had a substantial impact on how medical personnel used electronic health records in private hospitals in Ibadan, Oyo State, Nigeria.

Additionally, table 4.6c's regression coefficient results showed that, with a 95% level of certainty, an increase in ICT skills will result in a 0.468 increase in the use of electronic health records by healthcare professionals in private hospitals in Ibadan, Oyo State, Nigeria, when all other variables are held constant. The null hypothesis one (H_o1), which claims that there will be no significant influence of ICT skills on the usage of electronic health records by health professionals in Private hospitals Ibadan, Oyo State, Nigeria, is rejected by this finding (Adj. R2 = 0.273, F (1, 90) = 33.770, p=0.000).

4.3.2 $H_0$2: There is no significant influence of Work Environment on the \Use of Electronic Health Records by Health \Professionals in Private Hospitals, Ibadan Oyo State, Nigeria.

Table 4.7a-c: Influence of work environment on the use of electronic health records by health professionals in Private hospitals Ibadan, Oyo State, Nigeria.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.559[a]	.313	.305	3.60206

a. Predictors: (Constant), Work Environment

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	520.036	1	520.036	40.080	.000[b]
	Residual	1141.787	88	12.975		
	Total	1661.822	89			

a. Dependent Variable: ICT Use

b. Predictors: (Constant), Work Environment'

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	26.052	2.853		9.130	.000
	Work Environment	.501	.079	.559	6.331	.000

a. Dependent Variable: ICT Use

The findings of the multiple regression analysis for the impact of workplace factors on the usage of electronic health records by healthcare workers in private hospitals in Ibadan, Oyo State,

Nigeria are presented in Table 4.7a-c. According to the findings in Table 4.7a, the work environment has a significant positive connection (R = 0.313, p0.05) with the usage of electronic health records by health professionals in private hospitals in Ibadan, Oyo State, Nigeria. The work environment explains 30.5% of the variation in the use of electronic health records by health professionals in Private Hospitals Ibadan, Oyo State. Nigeria, according to the coefficient of determination (Adj. R2) of 0.305, while other variables not examined in this study account for the remaining 69.5% of the variation in the use of electronic health records by health professionals in private hospitals in Ibadan, Oyo State, Nigeria. The ANOVA result further supports this.

The results of the ANOVA (overall model significance) regression test are presented in Table 4.7b, and they show that the work environment has a substantial impact on how often medical personnel use electronic health records in private hospitals in Ibadan, Oyo State, Nigeria. This can be explained by the F-value (40.080), which is statistically significant at a 95% confidence range, and the low p-value (0.000). The findings suggested that Information and communication had a major impact on how health professionals used electronic health records at private hospitals in Ibadan, Oyo State, Nigeria.

Additionally, table 4.7c's regression coefficient results showed that, with a 95% level of certainty, a change in the workplace will result in a 0.501 increase in the use of electronic health records by medical professionals in private hospitals in Ibadan, Oyo State, Nigeria, assuming that all other variables remain constant. This study rejects null hypothesis two (H_o2), which claims that there won't be a substantial impact of work environment on the usage of electronic health records by health professionals in Private Hospitals Ibadan, Oyo State, Nigeria (Adj. R2 = 0.305, F(1, 88)= 40.080, p=0.000).

$H_0$3: There is no significant combined influence of ICT skills and Work Environment on the Use of Electronic Health Records by Health Professionals in Private Hospitals Ibadan, Oyo State, Nigeria.

Table 8a-c: Combined influence of ICT skills and Work Environment on the use of Electronic Health Records by Health Professionals in Private Hospitals Ibadan, Oyo State, Nigeria

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
2	.659[b]	.434	.421	3.30207

. Predictors: (Constant), ICT Skills, Work Environment

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
2	Regression	702.507	2	351.254	32.214	.000[c]
	Residual	915.906	84	10.904		
	Total	1618.414	86			

a. Dependent Variable: EHR Use

b. . Predictors: (Constant), ICT Skills, Work Environment

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
2	(Constant)	15.925	3.544		4.494	.000
	ICT Skills	.351	.081	.386	4.349	.000
	Work Environment	.362	.079	.407	4.582	.000

a. Dependent Variable: EHR Use

The findings of the multiple regression analysis for the impact of ICT skills and work environment on the usage of electronic health records by health professionals in Private Hospitals Ibadan, Oyo State, Nigeria are presented in Table 4.8a-c. According to the findings in Table 4.8a, the usage of electronic health records by medical professionals in private hospitals in Ibadan, Oyo State, Nigeria is positively and significantly correlated with ICT skills and work environment (R = 0.659, p0.05). ICT skills and work environment together account for 42.1% of the variation in the use of electronic health records by healthcare professionals in Private Hospitals in Ibadan, Oyo State, Nigeria, according to the coefficient of determination (Adj. R2) of 0.421. The remaining 57.9% of the variation in the use of electronic health records by healthcare professionals in Private Hospitals Ibadan, Oyo State, Nigeria, is explained by other variables not examined in this study.

The usage of electronic health records by healthcare Professionals in private hospitals in Ibadan, Oyo State, Nigeria was found to be significantly influenced by ICT skills and work environment, according to Table 4.8b's analysis of the ANOVA (overall model significance) of regression test findings. This can be explained by the F-value (32.214), which is statistically significant at a 95% confidence range, and the low p-value (0.000). The conclusion of the study was that the use of electronic health records by health professionals in private hospitals in Ibadan, Oyo State, Nigeria, is significantly influenced by ICT skills and work environment.

Additionally, the regression coefficient results in Table 4.8c showed that the adoption of electronic health records by healthcare workers in Private Hospitals in Ibadan, Oyo State, Nigeria is significantly influenced by ICT skills and work environment. In particular, the analysis demonstrated that, when all other variables are held constant, a unit change in ICT Skills will result in a 0.351 rise at the use of electronic health records by health professionals in Private

hospitals in Ibadan, Oyo State, Nigeria. Additionally, assuming that all other variables remain constant, a unit change in the Work Environment will, at a 95% confidence level, result in a 0.362 rise in the usage of electronic health records by health practitioners in South West, Nigeria. Additionally, the use of electronic health records by medical personnel in private hospitals in Ibadan, Oyo State, Nigeria has been significantly influenced by both of the independent factors examined—ICT Skills and Work Environment. This study rejects null hypothesis three (H_o3), which states that there will not be a significant combined influence of ICT skills and work environment on the use of electronic health records by health professionals in Private hospitals in Ibadan, Oyo State, Nigeria (Adj. R2 = 0.421, F(2,84)= 32.214, p=0.000).

4.4 Discussion of Findings

The study looked at how the usage of electronic health records by healthcare professionals in private hospitals in Ibadan, Oyo State, Nigeria was influenced by ICT skills and the workplace environment. To fulfill the study's objective, three research questions and three hypotheses were tested.

The utilization of electronic health records by medical professionals is the subject of the first research question. The research subject was handled by looking at the respondents' usage patterns and motivations for using electronic health records. The results demonstrated that very frequent use of electronic health records is prevalent among the respondents. Other studies have also noted the extensive use of electronic health records. According to research, there have been long-term initiatives to implement a health electronic records management system in Nigerian hospitals. Studies have shown that many hospitals employ basic computerized records rather than true databases for electronic health records since the software developed for Nigerian hospitals by various organizations is too expensive and hard to use. 3 This also applies to other

African nations where electronic health records are currently very minimally managed[4]. The usage of electronic health records in hospitals and its potential uses must therefore be carefully considered. This study also looked at the reason why electronic health records are used. The results show that electronic health records are used for a variety of functions, including disease surveillance, health management reviews, and patient outcome evaluation. These functions include processing patient records, preserving patients' medical records, storing patient records in my department, ensuring continuity of care, and sharing health information with authorized personnel. This demonstrates that the intended usage satisfies the everyday requirements of medical personnel and also provides management with information to assess how things are going in the hospitals. A further way that electronic health records can benefit public health is by being used for disease surveillance and health management evaluations. The conclusions about the goal are consistent with what academics who have supported the use of electronic health records in hospitals have predicted.[5,6,7]. Similar to the results of this study, these scholars have all listed potential uses for electronic health records. The idea is that processing patient data through electronic health records enables more efficient and effective service delivery. Time wastage is eliminated, and the patients are more satisfied. Additionally, using electronic health records for illness detection and reviewing health outcomes helps manage public health effectively.[8] When COVID-19 was at its worst and contact tracing was absolutely essential to stopping the virus's transmission, the value of having an integrated health record was made abundantly evident. The intended use also demonstrates the system's stability and other relevant elements. According to experts, an efficient electronic health records system should make it easier for people to share health information, increase communication between doctors and patients, and provide poor and isolated rural populations with access to the greatest medical services and knowledge. However,

many health record systems used in impoverished nations like Nigeria frequently lack these features and function at the most basic level by employing generic programs like MS Word, Excel, and other programs to maintain a roster of patients.[9] In the few cases where there is a robust system, ineffective use may be caused by a lack of ICT skills or a hostile work environment. The respondents' level of ICT proficiency is the subject of the second study question. The results demonstrate that the respondents had well developed ICT skills. The respondents listed the following skills in terms of hierarchy: documenting, copying, and pasting within a record; copying or moving a file or folder; organizing computer files in folders and subfolders; using a spreadsheet to plot graphs with key data; creating presentations with simple animation functions; using the internet to browse, download, and upload information; accessing patient records from the Internet; and disseminating patient records online, such as notices of management. All of the skills were given very high ratings, although it is interesting to notice that the internet-related skills received very low ratings. In an era where connectivity is the norm, this has implications for the efficient use of electronic health records.

According to studies, health workers who have had prolonged exposure to computer use are more likely to have acquired a variety of ICT skills. In fact, it was discovered that the majority of Nigerian healthcare professionals understood the value and relevance of using ICT in healthcare delivery and were eager to learn more about using it. When health professionals are well-paid, given access to all necessary resources, and foster a friendly environment among themselves, a study suggests that the work environment can be favorable.[11] However, according to another scholar, the work environment of health professionals is frequently risky because these individuals are exposed to violence and abuse from patients and their families. In some circumstances, managers can also make life for their employees intolerable[12]. Another researcher

noted that, particularly during significant outbreaks and emergencies, health practitioners are frequently overworked and underappreciated.[13] The professional resiliency of the respondents, who may have acquired abilities to deal with everyday problems that come with the job, might be credited for the overall, favorable answer to the comments about the work environment in this study. Indeed, conflicts with customers and other stakeholders can spur innovation. In this approach, a demanding workplace can inspire the creation of fresh ideas, like the adoption of electronic health records to enhance services. The impact of the work environment and other variables on the usage of electronic health records can only be determined empirically. The study's hypotheses looked at this connection.

The first hypothesis looked at how health professionals' ICT abilities affected their utilization of electronic health records. The study discovered that the use of electronic health records by health professionals is significantly influenced by their ICT skills. This suggests that healthcare workers are more likely to use electronic health records if they possess advanced ICT abilities. They will also probably use the systems more effectively. A professional with sophisticated ICT abilities will be able to handle the system's most complicated functions and will be able to solve any issues that may come up while using it. Other research have emphasized the connection between ICT proficiency and the utilization of electronic information systems. Researchers in Tanzania discovered that the lack of ICT skills among the country's health workers had a negative impact on the utilization of electronic information systems there.[14] The same issue was noted in Zimbabwe, where academics observed that a lack of ICT expertise among the workforce has made it difficult for the government to integrate technology into the delivery of healthcare services.[15] This suggests that when healthcare workers who are intended to use the electronic information system exhibit a lack of the necessary abilities, it could result in the implemented

system not being used to its full potential because of incompetence. On the other hand, it might deter management from spending money on electronic medical records. Additionally, this can lessen employee pressure on management to implement the new method. The working environment might have an impact on the utilization of electronic health records in addition to the professional's ICT abilities.

The study's second hypothesis looked at how the workplace can affect how medical professionals use electronic health data in private hospitals in Ibadan, Oyo State, Nigeria. The results demonstrated that healthcare professionals' adoption of electronic health records is influenced by the nature of their work environments. The significance of the finding is that healthcare workers have a better likelihood of using electronic health records effectively the more favorable the work environment is. Other studies in many disciplines lend support to this conclusion. There is a strong and favorable correlation between the physical work environment and employee performance, according to a study done to ascertain the impact of physical work environment on employee performance in specific brewing enterprises in Anambra state, Nigeria.[16] The study has implications for the present one because it discovered that employee involvement is crucial for the successful adoption of any technology in the workplace.

Additionally, it was discovered that, in Cross-River State's agro-based businesses, the workplace atmosphere affected employees' dedication. According to the study, a work environment with regular communication, a manageable workload, access to electricity, and a location free from known hazards is positively related to employees' commitment and, consequently performance. This suggests that employees would respond favorably to management's attempts to make them feel at ease and by paying attention to their suggestions.[17] Another study looked at the impact of the physical and psychosocial aspects of the workplace on productivity, performance, and

organizational effectiveness. The results of the analysis showed that participants who thought their workplace was suitable and favorable performed better on tests of job satisfaction, performance, and perceived organizational effectiveness . Additionally, it was discovered that the two elements of the work environment significantly influenced how employees carried out their duties and perceived the performance of the business. According to regression analysis, the many elements of the work environment that most significantly influence employees' job behavior and organizational effectiveness are the working conditions, welfare services, interpersonal relationships, trust, and support. The findings also showed that the physical environment of the workplace has less of an impact on employees' job behavior and organizational effectiveness than does the psycho-social environment.

The third hypothesis looked at the interaction between workplace environment and ICT skills as it related to health professionals' usage of electronic health records. The study discovered that the adoption of electronic health records by healthcare workers is significantly influenced by both ICT skills and work environment, both individually and collectively. This finding is informative because it shows that the best way to ensure the correct use of electronic health records is to combine a positive work environment with sufficient ICT skills among healthcare workers.

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Chapter Five

Conclusions

5.1 Summary of Findings

i. The study found that the level of electronic health records use by health professionals is at a very high rate. It was discovered that they routinely use the systems and do so for a variety of purposes related to the day-to-day operations of the institutions. However, the use of electronic health records for patient outcomes is not as high as it is for other purposes, and some people still do not use the systems on a regular basis.

ii. The study found that healthcare professionals have a high level of ICT proficiency. They weren't as adept at using internet-related functions, though. Some of the responders have exceptional competence when it comes to using internet tools to complete jobs.

iii. The study also found that the work environment is generally favorable, with respondents giving positive answers to all statements assessing the work environment. However, their level of satisfaction with the cash incentive is the lowest, indicating that there may be a problem with the system's low or insufficient level of reward.

iv. The study found that the use of electronic health records by health professionals is significantly influenced by their ICT skills. It was established that healthcare practitioners would use electronic health records to a greater extent as their ICT proficiency grew.

The results demonstrated that healthcare professionals' adoption of electronic health records is influenced by the nature of their work environments.

v. The study showed that the usage of electronic health records by healthcare professionals is significantly influenced by Information and Communication Technology skills and work environment, both individually and collectively.

5.2 Conclusion

A major concern for international development is healthcare management. This clarifies the proverb "health is wealth." Any society's ability to maintain a healthy and active population that is willing to contribute to its economic and social progress depends on how well its healthcare system functions. As a result, healthcare institutions should implement all facilities required to enable effective healthcare delivery. One of these services is the utilization of electronic health records. For both health professionals and their patients, this approach offers many benefits. Therefore, it is good to see that Ibadan's private hospitals are working to implement electronic health records into their daily routines. Additionally, the development of a conducive working environment and the rising degree of ICT proficiency among health professionals are promising signs for the future. Even while progress is being made, it must be noted that private hospitals are much behind in their use of electronic health records compared to several other African nations. For instance, there is presently no widely used program for managing electronic health records in hospitals. Sharing information across the hospitals is practically impossible as a result. Additionally, it makes it more difficult to transmit information with governmental agencies like the ministry of health.

5.3 Recommendations

Based on the findings and conclusions reached in this study, the following recommendations were considered appropriate;

i. Ibadan, Oyo State, Nigeria's private hospitals must implement more dependable and specifically designed software for the handling of electronic data. By doing this, the current systems' functions will improved and their potential uses will be broadened.

ii. Healthcare professionals require ongoing capacity-building programs in order to further develop their skills in those areas where they are lacking.

iii. The administration of private hospitals in Ibadan, Oyo State, Nigeria should see to it that an atmosphere is created that may foster innovation and promote a wider adoption of electronic health records.

iv. To stay current on new advancements and be consistently effective while using electronic health records, healthcare workers should be exposed to developing trends in electronic records administration on a regular basis.

v. To encourage innovation and improve the use of electronic health records, the work environment in hospitals needs to be continually assessed.

vi. The significance of both Information and Communication Technology Skills and Work Environment in the use of Electronic Health Records by Health Professionals indicates the need to ensure a balanced mix of policies that can ensure that both ICT Skills of health professionals and the environment in which they operate can work together to facilitate effective use of health information record.

5.4 Contribution to Knowledge

This study has added to understanding conceptually, empirically, and theoretically. The thorough analysis of the literature used to contextualize ideas like ICT skills and work environment as they relate to healthcare workers shows how the study's conceptual contribution can be seen. When it comes to the use of electronic health records in Oyo State's medical facilities, the literature study itself can be used as a source of information.

In terms of theory, the study was able to combine three different theories, including the Theory of Information Life Cycle Management, the Technology Acceptance Model (TAM), and the Work Adjustment Theory, to produce a model for calculating the use of electronic devices by health professionals in Private Hospitals Ibadan, Oyo State, Nigeria. This model was created and validated for the first time in this work, and other researchers conducting related research can use it.

Additionally, the study has offered empirical proof that the use of electronic records is influenced by ICT skills and the workplace environment. This strengthens the case for health professionals' capacity development and the creation of an environment at work that encourages innovations like the use of electronic health records.

5.5 Suggested Areas for Further Research

The study looked at how ICT proficiency and workplace conditions affected how medical professionals in Private Hospitals Ibadan, Oyo State, Nigeria used electronic health records. However, the study was only conducted in private hospitals. The focus of future research should be on government-owned hospitals because they may have a different organizational structure and working environment.

Additionally, as this study concentrated on private hospitals in Nigeria's Ibadan Oyo State, other researchers can concentrate on other health sectors in the Nigeri

Lead City University, Ibadan

Department of Information Management,

Questionnaire

Dear Respondent

I am a Post Graduate student of the above-named institution. I am gathering data for Masters Research titled "**ICT Skills, Work Environment and Use of Electronic Health Records by Health Professionals in Private Hospitals Ibadan, Oyo State, Nigeria**." The questionnaire is strictly meant for academic purpose. To achieve this, your optimum cooperation is needed; there is no right or wrong answers. All your responses will be kept confidential and used for research purpose only.

Thank you for your cooperation.

Section A: Bio-data of Respondent
Instruction: Please, tick (√) the appropriate answers to the questions asked below:

1. Gender: (a) Male ( ) (b) Female ( )
2. Age: (a) 25–35 years ( ), (b) 36–50 years ( ), (c) 51 years and above ( )
3. Qualification: (a) HND ( ) (b) B.Sc ( ), (c) M.Sc. ( ) (d) Ph.D ( ) (e) MBA ( ) (f) Others ( )
4. Work Experience: (a) 1–10 years ( ), (b) 11– 20years ( ), (c) 21 years and above ( )

Section B: Use of Electronic Health Records by Health Professionals
Instruction: The statements in this section concerns use of electronic health records measures as applicable to your hospital. Please tick the appropriate choice that indicates your opinion. Using the four-point Likert-type-scale provided

Note: Strongly Agree (SA) =4 points, Agree (A) = 3 points, Disagree (D) = 2 points, Strongly Disagree (DS) = 1.

	Frequency of Use: To what extent do you agree/disagree with the following statements?	**SA 4**	**A 3**	**D 2**	**SD 1**
1	I use a telemonitoring platform from home environment to	4	3	2	1

	transfer blood glucose values to my diabetes professionals				
2	I send information about congenital heart disease to patients through smartphone	4	3	2	1
3	I send information about patients' healthy lifestyle through their email	4	3	2	1
4	Patients pass health records are accessed through the internet	4	3	2	1
5.	Majority of patients' records are stored electronically.				
	Purpose of Use: To what extent do you agree/disagree with the following statements?	**SA**	**A**	**D**	**SD**
5	There are ICT facilities to store patients' records in my department.	4	3	2	1
6	There is provision for uploading and downloading files almost immediately they are needed.	4	3	2	1
7	With ICT facilities, I can store all electronic records appropriately.	4	3	2	1
8	Storage facilities include hard disks, CDs, flash drive, external hard disks etc.	4	3	2	1
9	Record is kept with proper identification for easy future access.	4	3	2	1

Section C: Use of ICT Skills

Instruction: The statement in this section concerns ICT skills as observed by the health professionals. Please tick the appropriate choice that indicates your opinion using the four-point Likert scale provided below.

Always (SA) =4, Strongly Agree (A) =3, Strongly Disagree (SD) =2, Disagree (D) =1

S/N	**Items: Use of Microsoft Office tools**	**SA**	**A**	**DS**	**D**
		4	**3**	**2**	**1**
1.	Using copy and paste tools to duplicate or move information within a record.				

2.	Copying or moving a file or folder.				
3.	Organise computer files in folders and subfolders				
4.	Use a spreadsheet in key data to plot a graphs				
5	Create presentation with simple animation functions				
	Use of internet technologies				
8	Use internet to browse, download or upload information				
9.	Each office is equipped with computers and Internet connectivity				
10.	Access patents' record from the Internet				
11	Arranging of online meetings				
12	Distribution of patients records online such as notices of managements, minutes of meetings etc.				

Section D: Work environment of the selected Private Hospitals in Ibadan, Oyo State, Nigeria

The statement in this section concerns work environment of the health professionals in Private Hospitals Ibadan, Oyo State. Nigeria. Using the four-point Likert Scale provided below. Please tick the appropriate choice that indicates your opinion.

S/N	Please indicate your level of agreement with the following	SA 4	A 3	D 2	SD 1
	Behavioural Environment				
1	I am happy with my professional life.				
2	I am happy with my relationship with my boss.				
3	I don't need to worry about my finances because I am well paid at work.				
4	I don't procrastinate about the status of my work goals.				
5	I don't feel depressed with the nature of my work.				
	Physical Environment				
6	I am provided with the necessary work materials, tools & equipment.				
7	I understand and adapt to changes in the strategic and operational direction of my work				
8	I show foresight and imagination to see possibilities, opportunities				

	and trends				
9	I demonstrate and have desire to take advantage of opportunities to upgrade my skills				
10	Workload at my office is reasonable.				

Thank you for taking part in this study.

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Unne Primary School, Sasaro, Edo State, Nigeria	1978 – 1983
Ogah Memorial Grammar School, Idah, Kogi State , Nigeria	1988 1983 –
Ekugbe Mixed Secondary School, Ugboshi-Ele, Edo State, Nigeria	1993 – 1993
Kogi state polytechnic, Lokoja, Kogi State, Nigeria	1996 – 1998
University College Hospital, Ibadan, Oyo state, Nigeria	1998 – 2000
Obafemi Awolowo University Teaching Hospital Complex, Ile-ife, Osun State	2003 – 2005
Lead City University, Ibadan, Oyo State, Nigeria	2012 – 2015
Lead City University, Ibadan, Oyo State, Nigeria	2020 – Till Date

Educational Qualification obtained with Dates:

Primary school leaving certificate	1983
West Africa Senior School Certificate Examination	1993

Ordinary National Diploma in Accounting and Auditing	1998
Ordinary National Diploma in Health Records and Bio-Statistics	2000
Higher National Diploma in Health Information Management	2005
Bachelor of Science in Health Information Management	2015
Master of Science in Health Information Management	In View

Working Experience with Dates:

Jericho Nursing Home, Ibadan, Oyo State	2000 – 2002
Oni and Sons Children Hospital Ring Road, Ibadan, Oyo state	2002 – 2009
Staff Clinic, Secretariat, Ibadan, Oyo State	2009 – Till Date

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Signature Date

University Compliance Certification

This is to certify that this Thesis written by **Helen Folashade ADEOYE** with Matriculation No. **LCU/PG/001988** in the department of Information Management of the Faculty of

Communication and Information Sciences, Lead City University, Ibadan is in full Compliance with the approved University format and style.

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Signature Date