

**Information and Communications Technology Use, Work Ethics and Library
Users' Satisfaction in Public Universities in Edo State, Nigeria**

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Certification

This is to certify that Anthony Oboite SOLOMON with matriculation number LCU/PG/002426 carried out this research work titled “Information and Communication Technology Use, Work Ethics and Library Users’ Satisfaction in Public Universities, Edo State” in the Department of Information Management, Faculty of Communication and Information Science, Lead City University, Ibadan, Oyo State, for the award of Master Degree (MLIS) in Library and Information Science and that this has not been previously submitted.

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Dedication

This work is dedicated to God Almighty, the giver of life; and my family members, who supported me during this Programme.

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This thesis would not have been possible without the assistance and support from various universities and individuals who in one way or the other contributed to the completion of this work. The following university libraries rendered their support during the course of this work: John Harris (University of Benin) Library, Ambrose Alli University (AAU) Library and Edo University Library. I also appreciate the members of staff in all the above listed libraries for their patience and support during the data collection process for the completion of this study.

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Abstract

This study investigated the influence of ICT use and work ethics by librarians on library users' satisfaction in public universities in Edo State; the objectives were to identify the level of library users' satisfaction in these universities, examine the level of ICT use by librarians in these universities, examine the work ethics of these librarians, determine the influence of ICT use on these library users' satisfaction, the influence of work ethics on these library users' satisfaction, and the combined influence of ICT use and work ethics on these library users' satisfaction. The models adopted for the study were Expectancy-Disconfirmation Model, Technology Acceptance Model, and Theory of Deontological Ethics. The descriptive survey research design was adopted; and the study population was 12,400 library users, with a sample size was 388, while the simple random sampling technique was adopted. The instrument for data collection was the structured questionnaire, and data collected was analysed using descriptive and inferential statistics. Findings showed that library users were satisfied with service delivery of librarians, they perceived librarians as professionals who use ICTs and uphold high level of work ethics. Findings also showed that ICT use had a strong influence on library users' satisfaction ($R^2 = 0.448$; $F = 250.565$; $p = 0.001$); work ethics had a weak influence on library users' satisfaction ($R^2 = 0.222$; $F = 87.922$; $p = 0.001$); while ICT use and work ethics had a high combined influence on library users' satisfaction (Adj. $R^2 = 0.446$; $F = 125.698$; $p = 0.001$). The research concluded that library users rarely patronised the library despite the high ICT usage skills and high ethical standard of librarians. The research recommended that there is the need to ensure library users' satisfaction, while librarians embrace the use of ICTs and uphold high work ethics.

Keywords: library user satisfaction, information and communication technology, work ethics, expectancy disconfirmation, technology acceptance, deontological ethics.

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Table of Contents

Content	Page
Title page	
Certification	ii
Dedication	iii
Acknowledgement	iv
Abstract	v
Table of Contents	vi
List of Tables	x
List of Figures	xi
List of Acronyms	xii
Chapter One: Introduction	1
1.1 Background to the Study	1
1.2 Statement of the Problem	12
1.3 Aim and Objectives of the Study	13
1.4 Research Questions	13
1.5 Hypotheses	14
1.6 Significance of the Study	14

1.7 Scope of the Study	16
1.8 Limitation of the Study	16
1.9 Operational Definition of Terms	17
Endnotes	20
Chapter Two: Literature Review	23
2.1 Conceptual Review	24
2.1.1 Library Users' satisfaction in public university libraries in Edo State	24
2.1.2 Information and Communication Technology Use by librarians in public university libraries in Edo State	36
2.1.3 Work Ethics of librarians in public university libraries in Edo State	45
2.2 Theoretical Framework	55
2.2.1 Expectancy-Disconfirmation Model (EDM)	55
2.2.2 Technology Acceptance Model (TAM)	61
2.2.3 Theory of Deontological Ethics (TDE)	66
2.3 Review of Empirical Studies	69
2.3.1 Information and Communication Technology Use and Users' Satisfaction in public universities in Edo State	69
2.3.2 Work Ethics and Users' Satisfaction in public universities in Edo State	73
2.3.3 Information and Communication Technology Use, Work Ethics,	

and Users' Satisfaction in public universities in Edo State	77
2.4 Conceptual Model	80
2.5 Summary of Gaps in Literature Reviewed	82
Endnotes	87
Chapter Three: Methodology	95
3.1 Research Design	95
3.2 Population of the Study	95
3.3 Sample and Sampling Techniques	96
3.4 Description of the Research Instrument	99
3.5 Validity of Research Instrument	100
3.6 Reliability of the Research Instrument	101
3.7 Method of Data Collection	101
3.8 Method of Data Analysis	102
Endnotes	103
Chapter Four: Results and Discussion of Findings	104
4.1 Demographic Data Analysis	105
4.2 Presentation of Data	106

4.2.1 Research Questions	107
4.2.2 Hypotheses	115
4.3 Discussion of Findings	124
Endnotes	131
Chapter Five: Conclusion	133
5.1 Summary of Findings	133
5.2 Conclusion	134
5.3 Recommendations	135
5.4 Contribution to Knowledge	136
5.5 Suggested Areas for Further Research	137
Bibliography	139
Appendix: Questionnaire for Library Patrons	148
Bio-data	154
The University Compliance Certification	159
Plagiarism Similarity Index (Originality Report)	160

List of Tables

Table	Title	Page
3.1	Registered Library Users	96
3.2	Population of the Study: Estimated Actual Library Users	96
3.3	Sample Size	99
3.4	Cronbach's Alpha Coefficients	101
4.1	Questionnaire Return Rate	104
4.2	Demographic Representation of the Respondents	105
4.3	Level of Users' Satisfaction of Librarians in Public Universities in Edo State	107
4.4	Library Patrons' Perception of Level of ICT Usage by Librarians in Public Universities in Edo State	109
4.5	Library Patrons' Perception on the Work Ethics Practiced by Librarians in Public Universities in Edo State	111
4.6a-c	Summary of Regression Analysis for the influence of ICT use on library users' satisfaction of librarians in Public Universities in Edo State.	116
4.7a-c	Summary of Regression Analysis for the influence of work ethics on library users' satisfaction of librarians in Public Universities in Edo State.	119
4.8a-c	Summary of Regression Analysis for the influence of ICT use and work ethics on library users' satisfaction of librarians in Public Universities in Edo State.	122

List of Figures

Figure	Title	Page
2.1	Factors Affecting Work Ethics at Individual and Organizational Level	50
2.2	A model of Expectation-Disconfirmation Theory	61
2.3	Technology Acceptance Model	64
2.4	Relationship between Work Ethics and Users' Satisfaction	74
2.5	Conceptual Framework of Library users' satisfaction, ICT Use and Work Ethics	80

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List of Acronyms

Abbreviation	Meaning
AI	Artificial Intelligence
ALA	American Library Association
CEO	Chief Executive Officer
EDM	Expectancy-Disconfirmation Model
FAQ	Frequently Asked Questions
ICT	Information and Communications Technology
IFLA	International Federation of Library Associations and Institutions
IR	Infrared
LCU	Lead City University
LRCN	Librarians' Registration Council of Nigeria
NLA	Nigerian Library Association
OPAC	Online Public Access Catalogue
PG	Post Graduate
QR	Quick Response
RFID	Radio Frequency Identification
SADC	Southern African Development Countries
SMS	Short Message Service
TAM	Technology Acceptance Model

TDE Theory of Deontological Ethics

TV Television

WAP Wireless Application Protocol

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Chapter One

Introduction

1.1 Background to the Study

User satisfaction (or customer satisfaction) is a term frequently used in service rendering or finance or marketing. User satisfaction is measured by how products and services supplied by a company meet or surpass customer expectation. User satisfaction is measured by the number of customers, or percentage of total customers, who reported that their experience with a firm or its products, are useful in managing and monitoring their own businesses or meeting their own needs. User satisfaction is viewed as a key performance indicator within information rendering and business. In a competitive marketplace where businesses compete for customers and users of their products, user satisfaction is seen as a major differentiator and increasingly has become an important element of business strategy¹.

Users' satisfaction is ensured by efficient and effective service delivery. Service delivery entails the contribution to the welfare and common good of others. It is a useful labour that supplies some public good or public demand. To attain the level where users' satisfaction is guaranteed, services delivered must aim at being result-oriented, productive and making judicious use of scarce public resources in order to achieve optimum output that will be of benefit of all in society¹. Efficient and effective service delivery makes organizations to give due attention to every details like results, responsibilities and targets, because the slightest distraction can wade a customer or user off, pushing them to competitors². The implication is that service delivery is the act

organizations embark upon in order to achieve their set goals; these set goals can be to satisfy users, achieve an intended result, become more responsible or meet a set of targets. Users' satisfaction is paramount to the survival of any library in this century. Gone are the days when libraries pride themselves with the number of collections they had, without considering how many persons were benefitting from the collections. Over time, libraries changed focus from being collection-centred to user-centred. That is, libraries now pride themselves in the number of users they are able to satisfy or serve.

The whole idea of user satisfaction in the library is necessitated by the fact that library users are in need of timely and accurate information³. Users' satisfaction is becoming more sophisticated but the availability of affordable ICTs provides an increased chance to reach out to the library patrons⁴. The idea of user satisfaction being possible despite the sophisticated nature is brought about by the proliferation of ICTs that are also very sophisticated but relatively affordable. This however, does not come without some challenges, which could be inadequate local financial resources and over-reliance on conditional central government grants, inability to attract and retain sufficient trained and experienced staff, corruption, and nepotism⁵. Despite these challenges to service delivery, libraries still look for ways to render services and satisfy users because they are primarily storehouses of information resources for the development of human intellectual capacity, and as such, are motivated by several reasons for which they must render services. Thus, libraries will cease to be libraries the very moment they stop rendering services to the teeming patrons who are in need of information and are starving for lack of information.

Users' satisfaction is central to why libraries embark on various service deliveries, irrespective of the type of library or the type of users. To put differently, libraries can be

distinguished based on their types or based on their patrons and the type of services they render. Irrespective of these, one thing is certain, that libraries embark on service delivery and try to improve on the ways they render these services, so they can satisfy their teeming users. Libraries concentrate on users' satisfaction when they embark on information consulting to their users³. Just as students' satisfaction is a focal point for education institutions, so is users' satisfaction a focal point for libraries. This implies that as an educational institution's strengths and weaknesses can be measured by students' satisfaction, so can libraries' strength and weakness be measured by the satisfaction library patrons receive from services rendered by these libraries; noting again, that students mostly go to libraries with different information needs and expectations. For libraries to meet the needs of their users, they must consider being effective. Effectiveness will ensure that they are meeting their set targets and reaching their goals. Library effectiveness can be measured by user satisfaction, which is the emotional and personal feeling that the users derive from using the library products and services⁶.

Several factors have been found to influence users' satisfaction derived from effective service delivery in libraries. These factors include: availability of information resources, accessibility of information resources by users, technological adaptation, financial resources, lack of infrastructural facilities, lack of e-resources equipment, inadequate qualified librarians and erratic power supply⁷. It is one thing to be effective in delivering library services and satisfying library patrons, which is about meeting targets, but it is completely a different thing to be efficient. Efficiency entails meeting target at the most reduced cost. This means, a library service delivery system may be effective without necessarily being efficient. But the goal is for every library to be both effective and

efficient. Library service delivery will become efficient when there is transformational leadership style, which is about initiating changes, expectation and achieving higher performance.⁷ A sure way to achieve efficiency in service delivery is by considering the constructs of service delivery. It is necessary to pay attention to value creation opportunity for customers, not neglecting any single consumers⁸. This is particularly true for libraries as library patrons are all equally important, especially in a service oriented organization like the library. Libraries as service oriented organizations need to constantly apply ICTs to their day-to-day services.

The constructs of users' satisfaction are: user expectation, staff performance, and user disconfirmation of belief; which eventually leads to user satisfaction. This is as postulated by the expectancy disconfirmation theory. User expectations define the customer's anticipations about performance of products and services⁹. Expectation is of two categories. First, the customers have an initial expectation based on their previous experience with using specific product or service. Expectation of such customers who repurchase from a specific business is closer to reality. Second, the new customers without having a first-hand experience about performance and quality of products or services that they tend to purchase from a specific business for the first time⁹. The initial expectation of such customers consists of feedbacks that they receive from other customers, advertisement, and mass media. Staff performance is measured by customer's experience after using products or services that can be better or worse than customer's expectation.

Expectations, which are correlated with perceived performance, affect disconfirmation. If perceived performance meets or exceeds expectations (known as positive

disconfirmation), satisfaction ensues. If perceived performance falls short of expectations (known as negative disconfirmation), dissatisfaction ensues¹⁰. User disconfirmation refers to the judgments or evaluations that a person makes with respect to a product, service, or technology artifact. It is the difference between the customer's initial expectation and observed actual performance⁸. User disconfirmation is divided to three types including; positive disconfirmation, negative disconfirmation and simple disconfirmation. User satisfaction emanates from a positive disconfirmation. It arises when performance is greater than expectation. It is interesting to note that one may mistake repurchase for positive disconfirmation in the sense that people may continue to repurchase even without positive disconfirmation when they do not have alternatives to choose from. It is interesting to note that ICTs can be useful in improving positive disconfirmation among clients.

Technology is seen as any tool used to accomplish tasks. Technology is the application of knowledge to the practical aims of human life or to changing and manipulating the human environment. It includes the use of materials and resources, tools and techniques, and sources of power to make life easier or more pleasant and more productive. Normally, technological innovations are a product of the lack of man, necessitated by a desire to solve the impeding problems that besiege man. In other words, technology is the inventions of man that make man's life easier, more pleasant and more productive. In recent years, technology has become a critical part of human existence. It is used for almost everything, wrought from man's innovative ideas, and oftentimes, are invented to solve problems.

Information and communication technologies come in different types and shapes, and are used in all facets of human lives; and ICTs could be classed as crude/traditional and modern. ICT is a term that encapsulates everything that has to do with communication device or application like radio, television, network hardware and software, satellite systems, the Internet; radio frequency identification (RFID) which is a very important and advanced technology of the 21st century, used in libraries mainly for theft detection; block chain technology used for plagiarism detection, mobile devices ranging from cell phones to iPods, MP3 players to GPS systems, personal computers to iPads; as well as various services and applications associated with them^{11,12,13}. More sophisticated ICTs include robotics, artificial intelligence, data visualization. Without mincing words, everybody can tell some things technology can be used for.

Information and communication technologies use varies and depends on the purpose for which the technology was invented. As in other professions, librarians use ICT for a lot of routines tasks. It is easier to use technology for routine tasks that are repetitive; ICTs like robots can be used for repetitive tasks like shelving, shelf-reading, accessioning, book finishing. The mobile ICTs in libraries are used for mobile webs, where handheld devices and new high-speed wireless data networks make browsing the mobile internet a more compelling experience; the use of emerging ICTs in a library does not end with automation of all the routine operations and services, but are integrated into local, regional, national and even international networks, which basically grants wider access to information resources^{14,15}.

Technology usage has been entrenched in the very fibre of all businesses and industries such that it is not just a cost centre and a utility, but a core part of whatever business

people are into, even if the services or products they provide are not technological in nature¹⁶. This assertion becomes true as we see most parts of librarianship, even core aspects like cataloguing and classification being taken over by technological advancements. Libraries use one form of technology or another in all the library routines that exist in the library. ICT use allows organizations in general and libraries in particular to produce results instantaneously which are also more accurate; it also allows analytical monitoring of business processes¹⁷. Libraries are able to deliver faster and easier access to library resources without any geographical or time restrictions, making library resources more visible and useful to the users, hence not only providing new services or enhanced traditional services but also providing a more relevant service to their users. Undoubtedly, libraries and librarians have several reasons for which they apply ICT to their routines¹³.

The reasons for which librarians adopt ICT can be summed up into two: the perceived usefulness and perceived ease of use. While perceived ease of use is the degree to which somebody believes that adopting a technology will be easy in comparison with previous technologies, perceived usefulness on the other hand is the degree to which somebody adopting a technology believes that such technology will help to improve the performance of his/her work output. Librarians will adopt and use technology for their works once they have judged the technology using these variables of 'ease of use' and 'usefulness'¹⁸. The use of ICTs in libraries by librarians helps in facilitating dissemination of information to their users; this is actually the bottom line for which the librarian considers the variables of 'ease of use' and 'usefulness'⁴.

Librarians adopt ICTs, especially during the coronavirus pandemic in order to be able to disseminate on-the-go reference services to their users when they could not have physical access to the library and the library holdings¹³. This goes to show that libraries and librarians will go any level to adopt ICTs as long as these ICTs help them reach their users and serve their users better; since these libraries and the librarians exist to serve their users and render quality services to these users. Apart from ensuring that libraries and librarians use technology to render quality services, they also ensure that the materials that come into the library are as authentic as possible through block chain technologies, which are safe technologies that cannot be hacked into because of the security systems that accompany it. Libraries can use block chain technologies to detect plagiarism in library documents¹². Once the implementation of the block chain technologies for plagiarism detection is successfully achieved, libraries would have succeeded in curbing plagiarism to a large extent. However, for librarians to get to this level of using technology to as far as curbing plagiarized documents from entering the library, they must be disciplined; this discipline is often guided by some set of rules or codes known as work ethics.

Work ethics are the general principles that guide every profession; they are the set of rules and codes that guide the behaviours of professionals within a profession. Work ethics are the yardstick, so to say, that is used to measure whether a professional of any profession is keeping to the rules and regulations of the profession or whether such professional is acting contrary to the set standards. Work ethics are based on things that are considered as morally good or bad. Professional ethics are general principles of professional behaviour which should be followed by members of the profession in order

to act in an appropriate, moral way and to avoid the risk of misconduct¹⁹. Ethics concerns itself with moral principles that affect how people make decisions and lead their lives; basic ethical principles guide the development of standards for specific professions and group.

While there are general or universal ethics like ‘non-aggression principle’ which ‘prohibits aggression, or the initiation of force or violence against another person’; ethics are basically group specific. That is, what a group or profession considers as ethics may not be considered as ethics by another group or profession. There are several factors that influence whether professionals of a particular profession adhere to the work ethics of their profession. These can be categorized as internal factors and external factors²⁰. The internal factors are moral principles, passion towards work, emotional adjustment and self-value system; while the external factors are social cognition, emotional intelligence, situational wisdom and team-building attitudinal traits. Once good ethical behaviours are adopted and enforced, they facilitate better organizational performance²¹. Just as we have work ethics in other professions, there are work ethics guiding librarians in their profession.

Work ethics of librarians are those guidelines, codes and principles which guide librarians in the discharge of their professional duties. Library and information science professionals play an extremely important role in the society, due to their different capabilities in handling diverse information materials in a way that benefits everyone. However, in rendering quality services to the public, library and information professionals are expected to imbibe values such as honesty, integrity, transparency, accountability respectfulness, fairness, equity, justice; and a demonstration of sound

ethical knowledge and practice is a sine qua non for library and information science professionals²². Usually, codes of ethics for librarians are backed by law, but despite the fact that there are set of school library guidelines, not all schools adhere to them because of challenges like scarcity of professionals, and paucity of fund, among others²³. In Nigeria, librarians' work ethics are established by the Librarians' Registration Council of Nigeria (LRCN); and these codes include possessing the requisite qualification approved by the Council, being of good character, not being convicted of an offence involving fraud or dishonesty²⁴.

Librarians' Registration Council of Nigerian's code of ethics for librarians include their obligations toward the library users, the library profession, colleagues, other libraries, publishers, library suppliers and software vendors, documents and information, and society; and International Federation of Library Associations and Institutions (IFLA) provided its version to include the code of ethics for librarians being divided into: their relations with the community, library users, library and information resources, colleagues and profession, employer^{25,26}. From both LRCN and IFLA codes of work ethics for librarians, we see that there are several guidelines for librarians to always refer to when carrying out their professional duties; and these can be summarized as librarians' honesty, their quality in providing services, their ability to uphold privacy and secrecy of sensitive information, the ability to grant equal access to information, and the ability to be impartial in all their dealings. For librarians to work effectively and ensure that users are satisfied, they must constantly see the work ethics set for them as positive drivers for them; adherence to these codes are of primary importance, whether it comes from the

internal or external factors, because the main reasons for ethics are to create order and avert chaos.

The reasons why librarians, like any other professionals, adhere to their work ethics are because they have the moral obligations to uphold the tenets of their professional organizations. LRCN noted that code of conducts will help librarians, among many other things, in their daily discharge of duties as it will help to regulate professional behaviour in terms of safeguarding the interests of the community served, especially as they are engaged in the process of providing access to information²⁵. Despite the fact that there are work ethics guiding librarians, which also confers rights and privileges to them, there are some challenges militating against professional librarianship in Nigeria. Some of the challenges include lack of proper recognition of professional librarians in Nigeria, government apathy to professional librarianship, refusal of some professional librarians to adapt to the information age librarianship, inadequate funding for libraries and library activities in Nigeria, presence of political interference in the leadership of libraries²⁴.

Ethical principles are fundamental to the practice of librarianship and information science in Nigeria²². It guides the library and information professionals in discharging their ethical responsibilities to the public. Though there are slight differences in the ethical principles of associations and professional bodies like Nigerian Library Association (NLA), LRCN, IFLA, American library Association (ALA); however there is fairly wide agreement about what the principles are. For instance, principles of intellectual freedom and censorship, protection of users' right to privacy and confidentiality and recognition of intellectual property rights are upheld in librarianship and information science

profession²². What must be noted here is that work ethics coupled with the use of ICT have a way of affecting the satisfaction of library patrons.

1.2 Statement of the Problem

Library users' satisfaction should be derived in a seamless manner. The use of ICT by librarians in their routine tasks should be such that, guided by their work ethics, they should be able to honestly grant quality services in a way that all library users have equal access to library information, and librarians are impartial such that they keep issues of privacy and secrecy confidential. With the proliferation of ICTs in libraries, it is expected that librarians will be more efficient in the discharge of their duties; but either lack of adequate ICTs or negative attitude towards ICTs hampers the use of ICT for library users' satisfaction. With lack of supervision of the regulatory bodies, librarians do not take their work ethics seriously.

The importance of appropriate use of ICT, guided by the work ethics of librarians cannot be over flogged. The benefits are enormous. Library patrons stand to gain a lot from the libraries when they are rendered easy and efficient services leading to their satisfaction. Unfortunately, preliminary investigation suggests that library users are not satisfied with services rendered to them, as librarians in developing countries like Nigeria have not been able to maximally utilize these potentials in ICT for the purpose of rendering services to library users.

Many researchers have conducted studies on library users' satisfaction and factors that affect their satisfaction^{4,7,19,22,23,24,25,26}, while some of such researches have focused on ICT alone, some have focused on work ethics. Very limited number of researches have

tried to investigate the combined effects of ICT use and work ethics by librarians on library users' satisfaction. It is to this backdrop that this research seeks to investigate how ICT use by librarians and their work ethics can affect library users' satisfaction.

1.3 Aim and Objectives of the Study

The aim of this study is to investigate the influence of ICT use and work ethics by librarians on library users' satisfaction in Public Universities, Edo State. In an attempt to achieve this, objectives were developed, they are to:

1. identify the level of library users' satisfaction in Public Universities in Edo State;
2. examine the level of ICT use by librarians in Public Universities in Edo State;
3. examine the work ethics practiced by librarians in Public Universities in Edo State;
4. determine the influence of ICT use by librarians on library users' satisfaction in Public Universities in Edo State;
5. determine the influence of work ethics on library users' satisfaction by Librarians in Public Universities in Edo State;
6. ascertain the combined influence of ICT use and work ethics on library users' satisfaction by Librarians in Public Universities in Edo State.

1.4 Research Questions

The following research questions will guide the study;

1. What is the level of library users' satisfaction in Public Universities in Edo State?
2. What is the level of ICT usage by librarians in Public Universities in Edo State?

3. What are the work ethics practiced by Librarians in Public Universities in Edo State?

1.5 Hypotheses

The following hypotheses will be tested on a 0.05 level of significance.

H₀1: There is no significant influence of ICT use by librarians on library users' satisfaction in Public Universities in Edo State.

H₀2: There is no significant influence of work ethics by librarians on the library users' satisfaction in Public Universities in Edo State.

H₀3: There is no significant combined influence of ICT use and work ethics by librarians on library users' satisfaction in Public Universities in Edo State.

1.6 Significance of the Study

The study is useful to the under listed categories of people: librarians, library management, library users, regulatory bodies, researchers, government, lovers of knowledge.

The study helps librarians to understand how ICT use and work ethics can affect their users' satisfaction. The research will help librarians know which ICTs to adopt and for which purposes to adopt them. The research will also help librarians know the work ethics that pertain to users, and how these ethics are supposed to inform their users' satisfaction. Library management will be informed about the library users' satisfaction of librarians' service delivery. This information will help library management to make

decisions as regards library users' satisfaction, use of ICT and the ethical considerations of library staff.

The research is useful to library users; through it, library users will know how ICT use and work ethics by librarians influence their satisfaction. From the research, library users will come to know the ICT competencies as well as the professional work ethics that guide librarians. The study is useful to regulatory bodies. Librarians' Registration Council of Nigeria (LRCN) and Nigerian Library Association (NLA) will find useful tips from this research on how to legislate and regulate librarians in the ethical discharge of their duties to library users.

The study is useful to researchers, as it helps update their knowledge on the relationships between ICT use and work ethics by librarians and library users' satisfaction. It will provide them with insightful ideas on how services should be delivery, using ICT and guided by professional work ethics. The government will find this research useful, especially those who make policies concerning librarianship. The research will present them with useful knowledge on how library users' satisfaction by librarians can be influenced by the right use of ICT and by working in accordance with the professional work ethics laid down for library staff.

The research is helpful to lovers of knowledge and indeed the general public, especially when they seek general information on how library staff deliver services to library users, especially when it involves the use of ICT, or how the library staff are guided by their professional work ethics in users' satisfaction to their users.

1.7 Scope of the Study

The study is focused on information and communications technology use, work ethics and library users' satisfaction in public university libraries, Edo State. The dependent variable is the library users' satisfaction which will be measure by three metrics: library users' satisfaction, staff performance, and user disconfirmation. The independent variables are ICT use by librarians and work ethics of librarians. ICT use will be measured by two metrics: perceived ease of use and perceived usefulness; while work ethics will be measured by five metrics: honesty, quality service, privacy and secrecy, equal access to information, impartiality to users. The population of the study will include library users in public university libraries. In addition, the geographical scope of the study is Edo State.

Any variables other than library users' satisfaction, ICT use by librarians, work ethics of librarians are excluded from this study. Library users other than those from the public universities in Edo State are also excluded from this study.

1.8 Limitations of the Study

In the course of data collection, the researcher had some limitations. These included the fact that the data gathered is on the assumption that the respondents are digital natives who are conversant with the use of ICTs. It is however very possible that they may be born within the digital age but not good with this use of ICTs. This might have affected the responses they provided. Getting the respondents to respond to the questionnaire was difficult, as most of them complain of the time needed to respond to the questions.

Despite these limitations, the data gathered are still valid and useful for the research purpose.

1.9 Operational Definition of Terms

Users' satisfaction: The state or feeling of contentment that library patrons in public university libraries in Edo State derive when performance is greater than or equal to expectation. It is the feeling of contentment library patrons derive when performance is greater than or equal to expectation.

User Expectation: It is a feeling of hope and anticipation that library patrons in public university libraries in Edo State have towards receiving the best form of service from the library and librarians.

Staff Performance: This is the ability that librarians have in meeting the stated objectives of the library and meeting the expectation of the library patrons in public university libraries in Edo State.

User Disconfirmation: These are the judgments or evaluations that library patrons in public university libraries in Edo State make with respect to services they receive; it is the difference between the library patron's initial expectation and observed actual performance.

ICT use: This is the application of tools by librarians in public university libraries in Edo State to achieve a given task, in a way that it becomes easier to achieve that given task

Perceived Ease of Use: This is the belief that library users in public university libraries in Edo State have, that the use of ICT by librarians will not be difficult and will require minimal effort.

Perceived Usefulness: This is the belief that library users in public university libraries in Edo State have, that the use of ICT will by librarians will bring about effectiveness and efficiency and enhance job performance.

Work ethics: These are the principles and guidelines that librarians in public university libraries in Edo State are expected to adhere to in the discharge of their duties.

Honesty: This is the quality of librarians in public university libraries in Edo State in which they are being fair and truthful to users, working for users benefit.

Quality: This is the ability of librarians in public university libraries in Edo State to provide a highly effective research workspace, organization of collected and circulated resources.

Privacy and Secrecy: This is the ability of librarians in public university libraries in Edo State to be able to safe-keep the information of library users.

Equal Access: This is the ability of librarians in public university libraries in Edo State working to ensure no library user is excluded from having access to any information that they need, especially those who are disabled or socially disadvantaged.

Impartiality: This is the ability of librarians in public university libraries in Edo State treating everybody without discrimination.

Library user: A registered user of public university libraries in Edo State, who enjoys the benefits of all people that are permitted to, and have access to the library.

Librarians: Staff of public university libraries in Edo State who have achieved a formal training in librarianship, obtaining a minimum of a Bachelor in Librarianship.

Public universities: Universities owned by the government, whether Federal or State government.

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Chapter Two

Literature Review

This chapter reviews related works relevant to the present research, taking into consideration the different variables and how they are related and connected to the research questions and hypotheses of the present study, as stated earlier. The reviews of literature will syntheses available literature regarding information and communication technology use, work ethics and library users' satisfaction. This synthesis will aim at merging the conclusions of many different sources to explain the overall understanding of the variables, thus laying a foundation for the research objectives, research question and hypotheses.

Consequently, the review of related literatures will be made under the following headings, and sub-headings:

2.1 Conceptual Review

2.1.1 Library users' satisfaction in public university libraries in Edo State

2.1.2 Information and communication technology use by librarians in public university libraries in Edo State

2.1.3 Work ethics of librarians in public university libraries in Edo State

2.2 Theoretical Framework

2.2.1 Expectancy-Disconfirmation Model (EDM)

2.2.2 Technology Acceptance Model (TAM)

2.2.3 Theory of Deontological Ethics (TDE)

2.3 Review of Empirical Studies

2.3.1 Information and Communication Technology Use and Users' Satisfaction in public universities in Edo State

2.3.2 Work Ethics and Users' Satisfaction in public universities in Edo State

2.3.3 Information and Communication Technology Use, Work Ethics, and Users' Satisfaction in public universities in Edo State

2.4 Conceptual Model

2.5 Summary of Gaps in Literature Reviewed

Endnotes

2.1 Conceptual Review

2.1.1 Library users' satisfaction in public university libraries in Edo State

Service is the act of helping out in doing a work for someone or for the general public. Services could range from those unsolicited for and freely given, to those rendered at a fee. The services rendered in libraries and by librarians are often free of charge, as the library is seen as a social institution established to serve the information needs of the society¹. We should however note that many businesses and entrepreneurs render services for a fee, because they handle it from the profit making perspective. Whether a service is

solicited for or not, free of charge or paid for, a service is expected to make the recipient better off than before receiving such service, thus leading to the user's satisfaction^{2,3}.

Hence, we can say a service is such that when rendered, makes the lives of those receiving it to be improved. This is so because service contributes to the satisfaction of the recipients⁴. The government exists to make provision for the welfare and security of citizens². The government does this through formulation and implementation of policies, in a way of the delivery of public service, in a bid to satisfy the citizens. Governments, both local and central have to go out of the way to ensure that basic services are provided for the citizens⁴. Put differently, it is the duty of governments at all levels to provide the basic needs of citizens, and governments must not be found wanting in this responsibility.

This goes to show that the world goes round and people are satisfied because some other people are rendering essential services, whether or not they are solicited for and whether or not they are paid for. User satisfaction is rather an abstract construct and it is intangible; and the way we get to feel it is through making the service tangible⁵. This is done by translating organizational goals into different metrics and indicators; this can be seen in the form of user satisfaction.

User satisfaction has to do with the extent to which services provided are productive, and service providers make judicious use of scarce public resources to achieve optimum output for the benefit of the whole society. User satisfaction is closely linked to public service because public service exists to serve the purpose of users². By implication, user satisfaction is regarded as such only when the service provided meet the expectations of those who the services are rendered to. And it is believed that proper governance has a

significant role to play in effective service delivery in public institutions⁶. This goes to show that the success or otherwise of the user satisfaction of any public institution, like the library, is largely dependent on good governance.

With good governance, there will be proper budgetary allocation, judicious use of the allocated resources, and these will give rise to public institutions that are vibrant and capable of achieving their mission of rendering proper service delivery. But proper governance alone is not enough to ensure effective service delivery in public institutions; it also requires a balanced political, social and economic environment, where policy is dynamic and funding variation dictate the direction of service delivery⁷. This implies that the concept of proper governance can only be achieved when the political, economic and social environments are functioning the way they ought to function.

This functioning will be dependent on dynamic and varied approaches as different organizations will need to provide social services among growing community expectations; operating in a social and political minefield, and to sustain their enterprise, they engage in sector-wide collaboration with other key players in the service chain⁷. Broadly speaking, organizations that are into service delivery for the purpose of satisfying their clients are divided into two: those that are service-oriented organizations (non-profit) and profit-oriented organizations.

Service-oriented organizations (non-profit) are mainly government owned establishments. They offer services either free of charge or charge minimal fees to cover cost of operation, but for lack of effectiveness and efficiency by these government owned establishments, some profit-oriented organizations carve niches for themselves by rendering services at a

fee, with the aim of meeting customer satisfaction while making profit^{2,4}. Organizations that render non-profit services see the public as citizens rather than customers, showing that the government see it as a duty and responsibility to provide essential services to the citizens, rather than make profit off the citizens⁸.

A reason why this may be possible is because these citizens are tax-payers who already paid, directly or indirectly, for the services that government delivers to them at a no-profit margin². On the other hand, profit-oriented organizations would naturally see the public as customers or potential customers, because in the public, these organizations see an avenue to make profit while rendering services; thus providing a direct relationship with the customers, the customer or client has direct access to making private service providers accountable for the value of services received, making it possible for customers or clients to abandon patronage the moment they discover that the value derived is not commensurate with the money paid².

It is evident therefore that there is a contrast between the government motives and methods of service delivery; and those of the private, profit-oriented service providers. However, traits like effectiveness, and efficiency should be synonymous with user satisfaction, be it in the non-profit government establishments or the private profit-oriented institutions.

Effectiveness has to do with the capacity to produce a desired or successful result. It creates a positive image about the individual, group of people or institutions and thus helps to gain or regain public trust⁸. Effectiveness means setting the right goals and objectives, making sure that they are properly accomplished (doing the right thing), it is

measured by comparing the achieved results with target objectives⁵. Effectiveness in service delivery mean that the services delivered are the exact services the recipient intended to receive, thus leading to user satisfaction. To ensure that service delivery is effective, there must be a consensus between the providers and the receivers of the service⁸.

That way, the service provider provides what the service recipient needs, because they are in agreement with each other. Also, the service recipients receive the exact services they need because they are in touch with the service providers. Once there is a consensus between the service provider and the service receiver, effectiveness will increase because the services rendered will be the exact services needed. No doubt several factors could hamper the effectiveness of service delivery and present the satisfaction of users. These factors are globalization, economic liberation, neo application of information technology, emerging aspirations of the service holders, increasing workload, bureaucratic character, increasing corruption and some other irregularities⁹.

From the point of view of the researchers, some of the factors that affect effectiveness are influences that are external to the service provider/holder. This is so because through globalization the service provider gets influences from around the world; ICT makes it easier for the world to operate as a global village, causing the influence from one clime to affect people from another; even the aspirations of the service provider and the bureaucracy can grossly be influenced by external factors. This is not to say that there are no internal factors, or the service providers do not have any faults in the lack of effectiveness of service delivery, because those external influences affect the service

providers only with their consent⁴. A concept closely linked to effectiveness is efficiency; it is almost impossible to talk about one without the other.

Efficiency has to do with the capacity to produce a desired or successful result using the least resources. It has to do with resourcefulness. Efficiency means getting the most (output) from the available (input) resources (doing things right), it defines a link between process performance and available resources⁵. The principle of efficiency demands that processes, institutions and stakeholders produce results that meet the needs of the people, by means of minimum use of the resources at their disposal without unnecessary waste, delay or corruption, whilst taking the environment into consideration⁶. It therefore shows that though both terms are used together and sometimes used interchangeably, effectiveness and efficiency are not the same, and they mean different things.

This means that service delivery can be effective without necessarily been efficient. If a service delivery meets the objectives, it is regarded as been effective; but unless those objectives are met at the barest minimum use of resources, the service delivery cannot be said to efficient. Put differently, effectiveness deals with doing the right thing while efficiency deals with doing things right, satisfying your users or clients with the least possible cost implication⁵. Efficiency in libraries is hampered because of improper organization and preservation techniques of library resources¹⁰. Hence, a library that has its resources properly organized and also has operational modern preservation techniques will easily render efficient services to library users than another library that does not have its resources organized nor have operational modern preservation techniques.

While proper organization of information resources will lead to easy retrieval of information and information resources thus leading to prompt users' satisfaction; modern preservation techniques will ensure those information resources are available for the longest possible time, to ensure continued users' satisfaction by the librarians to the library users. Another reason why efficiency may be hampered is inability to have accompanying facilities needed in the users' satisfaction process. For instance, in the delivery of online service, in Uganda, most of the rural parts of the country where the local government district offices are located have a problem with internet connectivity and even those areas with connectivity, it seems very expensive for them. Furthermore, the bandwidth is always low (few can afford high bandwidth) to spur efficient online service delivery¹¹. Effectiveness and efficiency are closely related to user expectation, because service delivery can be judged effective or efficient only when it meets users' expectation.

User expectation is the consistency that users will hope to receive from the use of a product or service. Expectations of users will naturally lead to either satisfaction or dissatisfaction¹². That is, when the product or service meets or exceeds the expectations of the users that lead to satisfaction; while the users will be dissatisfied if their expectations are not met by the product or service. When user expectation is followed with a feedback, there is a possibility of improving on the product or service, changing the product or service completely or maintaining the current standard of the product or service^{12,13}.

That shows the importance of feedback in the whole user expectation paradigm; for, unless the users let the providers of a service know what they expect, they may never

derive maximum satisfaction from the services they receive. It is believed that user expectation can vary in relation to individual, cultural and contextual characteristics like age, gender, values, socio-economic background and experiences¹². The implication of this is that what someone may expect from a service provider can change as the person grows older; or what a person expects from a service provider may vary from what people of the opposite gender will expect from the same service provider; likewise the personal values or collective values held, the socio-economic background one is coming from and the experiences one has had can all affect the expectations one will have from a service provider.

Information about previous performance shapes users' expectations about future performance: high performance in the past leads to high expectations, and low performance leads to low expectations. These expectations then shape user satisfaction, along with the level of perceived performance at the time of experiencing the service in question...¹³. Which means, when service providers exceed users' expectations, it will lead to continued patronage, while falling short of user expectation will lead to stoppage of patronage.

Again, another broader view of expectations is distinguishing expectations about performance from expectations about goals; that is, what services should be provided, and how. Indeed, there are multiple ways for citizens to set a standard, which could be influenced by internal or external factors ranging from promotional claims, word of mouth, third-party information and product cues on the external side, and ease and vividness of recall on the internal side¹³. However, this is only possible when user

expectation is of the type that has no prior knowledge of the performance or quality of the service or product they intend to purchase for the first time.

Expectation is of two categories; first, the customers having an initial expectation based on their previous experience with using specific product or service. Expectation of such customers who repurchase from a specific business is closer to reality. Second, the new customers without having a first-hand experience about performance and quality of products or services that they tend to purchase from a specific business for the first time¹⁴. The initial expectation of such customers consists of feedbacks that they receive from other customers, advertisement, and mass media or any other external factors that can affect users' expectation. Nonetheless, user expectation helps to measure the effectiveness and efficiency of staff, because when user expectations are met, it is believed that staff performance is high.

Staff performance has to do with the ability of a staff to meet the stated objectives of the organization. Staff performance is closely linked to effectiveness and efficiency, in that a staff is said to perform highly when s/he meets the objectives of the organization (effectiveness) and meets those objectives with the smallest amount of resources (efficiency). Achieving higher staff performance would lead to effective and efficient service delivery¹⁰. This buttresses the idea that staff performance will remain abstract if not linked to effectiveness or efficiency vis-à-vis the objectives and the resources of the organization. Staff performance is measured using certain key performance indicators.

These key performance indicators are indices which management uses to know how the organization, through the employees, is performing¹⁵. Key performance indicators are

those indicators that focus on the aspects of individual performance and organizational performance that are most crucial to the present and future success of the organization. What are seen as key performance indicators would vary depending on the organizations, the services they are into or the type of ICT they use in trying to satisfy their users¹⁶.

The characteristics that key performance indicators must have are: they are non-financial, timely, Chief Executive Officer (CEO) focused, simple, team based, have significant impact and have limited dark side¹⁵. Non-financial means it must not be measured in monetary terms; timeliness entails that these indicators must be measured frequently, daily or weekly, because not measuring them frequently goes to show they are not 'key' indicators of performance; CEO focused means the CEO and senior management team must regularly act upon these indicators because the success of the organization depends on them.

Being simple means all staff understand the measures and what actions are required to correct any of them; being team based ensures that every member staff is carried along in the organization, no single staff is left out and none is overburdened; having significant impact means having major influence on the organization; and having limited dark side entails having the capacity to encourage appropriate behaviour, such that will benefit the organization. Important as staff performance is, it can be negatively affected; one of the factors that negatively affect performance is too much dependence of external agencies and institutions; this is mainly in government owned establishments⁸.

Other factors that negatively affect staff performance are lack of effective monitoring and supervision mechanism, lack of dedicated team of managers, unclear policy on staff

performance^{9,16}. In all, staff performance leads to user disconfirmation of belief, a judgement made by a user in comparison to the person's original expectation.

User disconfirmation of belief is the feeling of satisfaction or dissatisfaction that a user gets from using a product or service; it is like a two-sided coin. It could be positive disconfirmation of belief where the staff performance exceeds the user's expectations, leading to satisfaction; it is negative disconfirmation when the staff performance falls short of the expectations of the user, leading to dissatisfaction¹³. A third but rarely considered type of disconfirmation is the simple disconfirmation; it occurs when the staff performance equals the expectations of the users.

In simple disconfirmation, the users get exactly the type of product or service they hoped for, nothing more, nothing less¹⁴. Simple disconfirmation, like positive disconfirmation leads to satisfaction, such that the patronage of the user is assured, but negative disconfirmation will lead to dissatisfaction, such that the continuous patronage of the user cannot be guaranteed. The greater the value of disconfirmation is, the greater the difference between staff performance and users' expectations will be¹³. That is, when there is a higher value of positive disconfirmation, it means the performance of the staff far exceed the expectations of the user. In such a case, the desire for continued patronage will increase, showing that patronage is directly proportional to positive disconfirmation.

On the other hand however, when there is a higher value of negative disconfirmation, it means the expectations of the user far exceed the performance of the staff. In such a case, the desire for continued patronage will decrease, showing that patronage is inversely proportional to negative disconfirmation. User disconfirmation of belief is affected

mainly by user expectations and staff performance, while disconfirmation itself affects satisfaction¹³.

To put differently, what a user expects, whether it is from previous experience or from feedback received from other users, has the capacity or ability to affect disconfirmation, since disconfirmation will be judged based on the expectations; also the way the staff render their services will also affect disconfirmation, since disconfirmation will occur based on the judgement of the performance of the staff against the expectations of the user. Again, disconfirmation of belief will affect satisfaction, because positive disconfirmation will lead to satisfaction, and negative disconfirmation will lead to dissatisfaction.

User satisfaction is the positive feeling that comes from positive disconfirmation. It is the feeling that arises when performance is greater than or equal to expectation. Knowing what users expect will guide staff in improving their services and leads to users' satisfaction^{5,7,12,17}. This knowledge will guide managers of institutions to allocate the best resources to sections that are most in need of them. Of the key results indicators that are used to evaluate the performance of an establishment, customer satisfaction is pivotal to all others including net profit before tax, net profit on key product line, return on capital employed and employee satisfaction¹⁵. For profit to be made customers must be satisfied; same goes for employee satisfaction, as an aspect of employee satisfaction is hinged on monetary incentives which come from profits made that are dependent on customer satisfaction and continuous patronage.

While it is easy to conceptualize user satisfaction as dependent on service delivery because it arises from a positive disconfirmation where the expected experience is exceeded by the staff's actual performance, user satisfaction can also be influenced by other factors, even when the staff is performing at the best possible way. These include factors like personal background and social status, personal values, circumstances¹². Whether or not the judgement of user satisfaction is fair or full of bias and subjectivity, a way to generally improve on user satisfaction is by striving for effectiveness and efficiency; that is, by doing the right things the right way, by performing in the best possible manner while using the least resources, time and efforts⁴.

2.1.2 Information and communication technology use by librarians in public university libraries in Edo State

ICT is any tool or machine that when applied to accomplish a task, makes the task easier. It is the application of knowledge to solving the practical challenges of humans. ICT basically helps to ameliorate the sufferings and hardship of humans in society¹⁸. With the application of ICTs to daily routines, humans are able to easily navigate their activities with less effort and less stress. ICT has successfully permeated all facets of human endeavours, from healthcare to education, from commerce to tourism, from governance to users' satisfaction^{2,4,18,19,20}. That is to say, in our day to day activities, we make use of one form of ICT or another, either simple or sophisticated. These ICTs may range from simple machines like the mobile phones or complex ones like the mainframe computers, databases or the Internet²¹.

Irrespective of the complexity of these ICTs, a common feature is that they help to ease human burdens; they are human inventions that make life easier, more pleasant and more productive. No doubt that ICT offers tremendous advantages to those who apply them, making them have a competitive advantage over those who do not apply them, because it offers unlimited accesses to desired things²². To put differently, those who adopt and use ICTs will be better off than their counterparts who do not adopt nor use ICTs because those who use ICTs will exert lesser energy to accomplish tasks, they will need shorter time too and also, lesser resources in the long run. ICTs come in different shapes and perform different tasks.

ICT are devices that can broadly be divided into information devices and communication devices; while information devices are used to produce, generate, analyse information, communication devices are used to disseminate, transfer and storage information²¹. The merger of both information devices and communication devices gives rise to ICTs, which can perform the combined functions¹⁸. These ICTs can be integrated into any sphere of human lives and there are numerous ways in which they assist in improving human lives, and their potentials to generate, store, retrieve and convey information among humans can improve and sustain human lives¹⁸.

One place where ICTs are improving and sustaining human lives is in the education section, where we have blended teaching, especially when there was lockdown during the coronavirus pandemic²³; another aspect of human lives where ICTs have brought about significant improvement is in healthcare; this improvement is evident also in the commerce and banking industry^{18,24}. It has been noted that ICTs have brought significant

changes to our day to day life, as information plays an important role in our economic and social development as a society, especially in this information age and society¹⁹.

An information age is the age where people know the importance of information and an information society is a society where people know how to seek for needed information. In this information age and society, the use of ICTs are paramount and the awareness of the capabilities of these technologies and the eventual usage of them bring about the economic and social development in the society¹⁹. A special type of ICTs that seem to be having the most influence on humans today is the social media.

Social media is the second generation web. The first generation web is known as the read-only web or the web 1.0 where users are only able to consume the information on them, posted by the owners of the websites; social media is also known as web 2.0 because it is read-write web that allows users to be co-creators with the websites²⁵. That is, social media gives opportunities to consumers of information to also be creators, co-creators, editors and co-editors; to put differently, social media make it possible for information users to have a 'say' in the information they consume, not just receiving everything, hook, line and sinker. These social media or have the capacity to explode barriers to access imposed by geography, office hours (time)²⁶.

This implies that social media web gives people the ability to use them remotely, irrespective of where they are, even if they are over 5,000 miles away from who they are interacting with; social media web also gives people to opportunity to access services they intend to access regardless of the particular time of the day, that is, even when office hours have passed for the day, services can still be rendered with the aid of social media.

These technologies are useful in networking, which help people in gathering information from all over the world²⁷. This information so gathered from around the world will keep people well informed, having better alternatives to make informed decisions from. Whether the general technologies, or ICTs or more specifically, the social media technologies, they all have special purposes they are employed for and special ways they are used.

The use of each ICT will depend on the purpose(s) for which it was invented. In libraries, mobile ICT, for example, is used for on-the-go reference service; and mobile phones are enhanced by the network connections which provide ultra-speed connectivity to the data available in any corner of the world, and the major features of smart mobile phones include IR (Infrared) blaster, Bluetooth, cameras, desktop synchronization, email, QR (quick response) codes and near-field communication, web-enabled, phone as a modem, security^{21,28}. All these features of a modern (smart) mobile phone make it suitable for use in the library, both for on-the-go reference services and other activities in the library.

Another aspect of society where there is heavy deployment and use of ICTs is in the health sector. In Southern African Development Countries (SADC) States, mobile ICTs are creating unparalleled opportunities for ameliorating maternal health outcomes¹⁸. These mobile ICTs may be small in size but the marvel they wrought is certainly unfathomable, whether in the library, in healthcare or even in governance. The education sector is another aspect of modern society that has experienced a heavy deployment and use of ICTs.

It is the case that where there is learning or knowledge construction for man's relationship with society and his environment, there is a man-technology-teaching relationship²⁹. By implication, for man to relate with his environment well, he must learn about his environment, and learning about his environment is possible with some form of ICT or another; irrespective of the level of sophistication of the ICT employed in the process of learning about man's environment, there is at least an ICT employed in the process of learning or teaching about the environment.

ICT use in the education section, saw a greater level of involvement than ever before with the advent of the coronavirus outbreak. This is because the shift from offline education to emergency distance learning and online learning made teachers and even students to feel unprecedented pressure to use ICT²³. Since both teachers and students were expected to teach and learn remotely, they needed to know how to use ICT for these purposes. Hence, teachers began to adjust within the shortest possible time and students were required to adjust too, learning how to cope with online pedagogy³⁰.

This is particularly important so as to master how to use modern ICT for educational purposes since the teaching-learning process cannot be halted because of the lockdown orchestrated by the coronavirus. Besides, these ICTs that have been deployed into the education sector help both teachers and students to get information, explore various topics and contents, while students can also collaborate with their colleagues on projects using the Internet³⁰. This goes to show that the importance of ICTs in education transcends the coronavirus era. Evidence show that these ICTs have been employed in education even before the coronavirus era, but the need became more pronounced when

physical meetings and gatherings were no longer possible because of the lockdown²³. It is a known fact that libraries exist to serve the information needs of society.

Use of ICT in libraries has seen tremendous advancements as librarianship has not been left out in the development of the technology-driven world where ICTs permeate every facet of human lives. For example, a library management system that is based on radio-frequency identification (RFID) will allow a rapid transaction flow for the library and could help the library to improve on its instant and long term benefits of traceability and security as well as helping out with a more efficient reference service that is designed to achieve fast search references in the library³¹. The RFID-based library management system not only help to solve the problem of theft in tracing and security but also help in efficient users' satisfaction in the form of reference services; making the deployment of such library management system to be cost-effective as it serves multiple purposes.

In special libraries where their information needs are always on current and recent research discoveries, a main source of information is through journal subscriptions, but because of budget constraints, there is a gap between actual subscriptions and user requirements; but with the advent of ICTs, libraries are able to subscribe to electronic journals which are less expensive, which is partly because electronic publishing has seen an upsurge in this 21st century¹⁹. This is another way in which use of ICT in libraries is helping the libraries to achieve their aims easily, as the subscription to electronic journals at a cheaper rate gives the library funds for other things, also the electronic journals can be utilized more as their usage is not restricted by place, time or distance.

Another aspect where the use of ICTs becomes beneficial to the library is that when library users are able to use these ICTs themselves, they reduce the pressure on the librarians, thus the librarians will be able to use the time for other equally useful ventures within the library³². The usage of ICTs in the library has in a way helped to address the challenge between flexible budget and high expectations of library users²⁸. That is, since libraries are unable to get all the needed information resources and subscribe to all the journals, subscribing to databases, which are forms of ICTs, are cheaper, having wider coverage and more effective in the long run. With ICT use, libraries are able to checkmate intellectual fraud by applying blockchain technology in detecting plagiarism³³.

This plagiarism detection and prevention through blockchain is possible because blockchain is a circulated database that is intended to save the uprightness of things (documents) added to the database, such that they can be perused, yet not changed or damaged. Another very important service that is possible in the library only because of the use of ICTs is the mobile reference service; and libraries are gradually moving to the stage where reference services whether long term reference services or short term reference services, are almost completely done virtually with the aid of mobile ICTs²¹. Despite the numerous benefits that the use of ICTs offers to the library in particular and all human endeavours generally, the use of ICTs will not be possible unless these ICTs are first accepted.

ICT acceptance has to do with how users come to accept and use an ICT. The two main constructs of technology acceptance are perceived usefulness and perceived ease of use. Perceived usefulness is the perception an individual has concerning a technology's potential to enhance job performance³⁴. Perceived usefulness refers to the degree to

which a person believes that the use of a particular system (technology or software) would enhance his or her performance in carrying out specific jobs. Perceived usefulness goes beyond the adoption and use of ICT alone, it also affects customer loyalty and intention to repurchase³⁵. That is, for an automated sales system, customers are more likely to be loyal and come back for repurchase if the systems of purchase and service delivery are judged to be of value to the customer; so perceived usefulness spans more than the use of ICT but also in almost every parts of human life.

Humans will naturally want to adopt and use something if that thing gives them more for less. Perceived usefulness has the capability to affect the intention to reuse something and to affect post-purchase behaviour³⁶. That is, when something is perceived to be useful, the tendency to want to reuse it again will be high; also, after the purchase of something and its eventual usage, it is the degree of its usefulness that will determine the behaviour of the buyer, whether to buy again or not to buy again. Closely linked to the concept of perceived usefulness is that of perceived ease of use.

The technology acceptance model strongly asserts that the intention of users to adopt a new technology is highly dependent on perceived ease of use, which is the degree to which a person believes that using a particular system (technology or software) would be free of effort³⁷. Perceived ease of use has to do with the perception that learning to use and adopting the technology will not require more efforts and would not vary from other similar previously available technologies. Perceived ease of use has a direct effect on perceived usefulness but perceived usefulness does not affect perceived ease of use because perceived usefulness concerns overall impact of the use of technology on job

performance (both the process and outcome) while perceived ease of use pertains to the process of using technology^{34,37}.

This is because one of the ways of determining the usefulness of a technology is its ability to be used without effort; that is, if much effort is needed to be able to use a technology, then its usefulness because questionable, because it will be the case of giving more for less. People have a strong tendency to abandon using or adopting new ICTs when they feel that the ICTs are incredibly complex and incredibly difficult to learn, which will hinder people's intention to use or implement the ICTs in their lives³⁸.

This shows that the degree of perceived ease of use is proportional to users' interest, because the higher the level of perceived ease of use, the higher the customers' buying interest; when customers feel that a particular product understandable and easy to use, they tend to be interested in the product³⁹. The three (3) dimensions of perceived ease of use consist of a clear and understandable system, an effortless system, and an easy-to-use system; because perceived ease of use is part of the psychological factors of consumers to determine a person's level of confidence in using a system, such that s/he does not require hard work or more effort in making decisions³⁹. Accepting to use technology is affected by external factors like attitude and behavioural intention.

Attitude and behavioural intention are closely linked to perceived usefulness and perceived ease of use, in that, behavioural intent is determined by the attitude towards usage and the expected usage is quantified by perceived usefulness and perceived ease of use^{40,41}. This implies that an individual's attitude towards using an ICT is affected by the motivational factors that influence a given behaviour (behavioural intention), and the

expected usage is measured in terms of how useful the individual sees the ICT when it comes to solving problems, as well as how easy it is to use the ICT. Behavioural intention is defined as customers' desire to behave in certain ways in order to own, dispose of and use products and services while attitude is defined as an individual's negative or positive feelings toward the behavior in question^{24,37}.

Behavioural intention and attitude comprise the user's concepts of the good and evil of the particular ICT, and this includes both the perceived usefulness and perceived ease of use²⁰. It has been observed that the eventual acceptance of any ICT only becomes possible when there is a positive behavioural intention to use the ICT, because any system's (technology or software) success is dependent on how it is used by its target users^{23,41}. Conclusively, we have seen that perceived usefulness and perceived ease of use are largely affected by attitude and behavioural intention which eventually dictates whether an ICT is accepted or not. On a larger scale, to effectively and efficiently use ICT, the users must be guided by principles and ethics that are operational wherever they find themselves or use these ICTs.

2.1.3 Work ethics of librarians in public university libraries in Edo State

Ethics came from the Greek word 'ethos', which has to do with the special nature of the moral feelings and rules of a group of people. The word ethos is interpreted to mean attitude, personality, character and belief in something⁴². Ethics refer to a code of conduct that guides an individual in his/her dealings with others. It has to do with personal behaviours and morals⁴³. In other words, ethics deals with rules of behaviour based on ideas about what is morally good and bad; and with moral duty and obligation. To put

differently, ethics help an individual to know what is morally good and accepted in society as well as know what is morally bad and unacceptable in society. Ethics is society based. That is, what may be morally right and hence ethical in one society or social group may be immoral and hence unethical in another society or social group.

Ethics defines what is good for an individual as well as for society, and establishes nature of duties that people owe themselves and one another. Human beings have the ability, partly innate and partly acquired, to judge human actions as morally good or bad, right or wrong: even though “good/bad” and “right/wrong” do not mean the same thing for all, as they are subjective in nature⁴⁴. Ethics is a collection of moral values and norms that bind a community in terms of what is acceptable and what is not acceptable, being the basis of virtue ethics. Virtue ethics or ethics of virtue is a branch of ethics that assists in forming acceptable and positive behaviours in work place, thereby leading to high productivity through characters that are consistent with behaviours that emphasizes the individual’s personality as the crucial component of ethical thinking and duty assertiveness⁴⁵.

Applied ethics is another branch of ethics which has been further subdivided into medical ethics, business ethics, environmental ethics and the likes. Applied ethics consists of the analysis of specific, controversial and moral issues like abortion and euthanasia⁴⁶. Thus applied ethics is a growing interdisciplinary field which deals with ethical problems in different areas of society. In applied ethics, we have the ethical consideration of bioethics, where there are codes to guide researchers when they carry out researches on human. The events following World War 2 gave basis for the ethical codes of bioethics science.

The Nuremberg Code was the first international attempt to define standards of ethics in scientific research and the first document that unambiguously articulated the requirement of obtaining informed consent of the individual to undertake. The code contained 10 principles that researchers should follow during experiments on human beings. In addition, in response to the wartime experience, the World Medical Association developed a modern international version of the Hippocratic Oath, the Geneva Declaration, and later, in 1964, one of the most critical sets of ethical principles for medical research, the Helsinki Declaration, putting the welfare of research participants first⁴⁷.

Just as in the medical and bioethical science fields, there are codes of conduct or codes of ethics in every discipline and profession. Code of ethics represents an essential reference for every profession and professionals who must act fairly in his or her professional dealings. Nevertheless, the impact of the code of ethics depends on the level ethical reasoning of the professional concerned⁴⁸. Even though there are many codes of ethics for reference by many professions, at the time of implementation, most professionals are often left with their morals to handle situations that present them with conflicting interests; at some times, they may encounter issues that the code of ethics cannot resolve or does not cover, at those times, professionals are expected to make judgements based on their moral values, and these values may be driven by self-interest vision rather than a deontological one guided by professionalism⁴⁸.

For librarians, the code of ethics by the Librarians' Registration Council of Nigeria (LRCN) is to incorporate principles, values and standards of professionalism⁴⁹. These codes are like guidelines upon which librarians and other information workers are

expected to use as yardstick in measuring their relationships toward the community, the information users, the library and information resources, their colleagues and the profession, their employers⁵⁰. It also spells out the penalties for unprofessional conducts as well as librarians' obligations, rights and privileges⁵¹.

The code of ethics for librarians is detailed but what is lacking is implementation, as the awareness within librarians is low, the degree of practicability of many of the codes is questionable, and there are hardly any sanctions for erring members⁴⁸. The code of ethics or code of conducts is generally given to guide professionals on the field and out of the field, whenever they are discharging their professional duties. They are the work ethics that professionals of every profession adhere to in the cause of discharging their professional assignments.

Work ethics is believed to help individuals enjoy the moral benefits, inherent abilities, virtues or values there are therein in hard work and diligence⁵². Work ethics is the basic foundation upon which any organization that is interested in being responsible to their workers, customers, shareholders, competitors, laws and the larger society is built, because work ethics is the principle and practice of moral and good conduct in an organization which must be adhered to for the organization to be able to meet its objectives, mission and vision⁴³. Work ethics could be at an individual level and at an organizational level; and there are various factors that influence work ethics at the different levels, and the factors at the individual level are further divided into internal and external factors.

At the individual level, the internal factors that influence work ethics are moral principles, passion towards work, emotional adjustment and self-value system; while the external factors are social cognition, emotional intelligence, situational wisdom and team-building attitudinal traits. On the other hand, the factors that affect work ethics at the organizational level are motivational support, organizational value system and organizational culture⁵². These internal factors at the individual level are factors that come within the individual, they are factors that make the individual propels himself or herself in order to carry out the demands of his or her work; while the external factors are the factors that comes from the outside world, the environment in which the individual lives and works. The factors at the organizational level are factors that help the organization standout to its employees, its customers, its competitors and its shareholders, as well as the laws and the larger society.

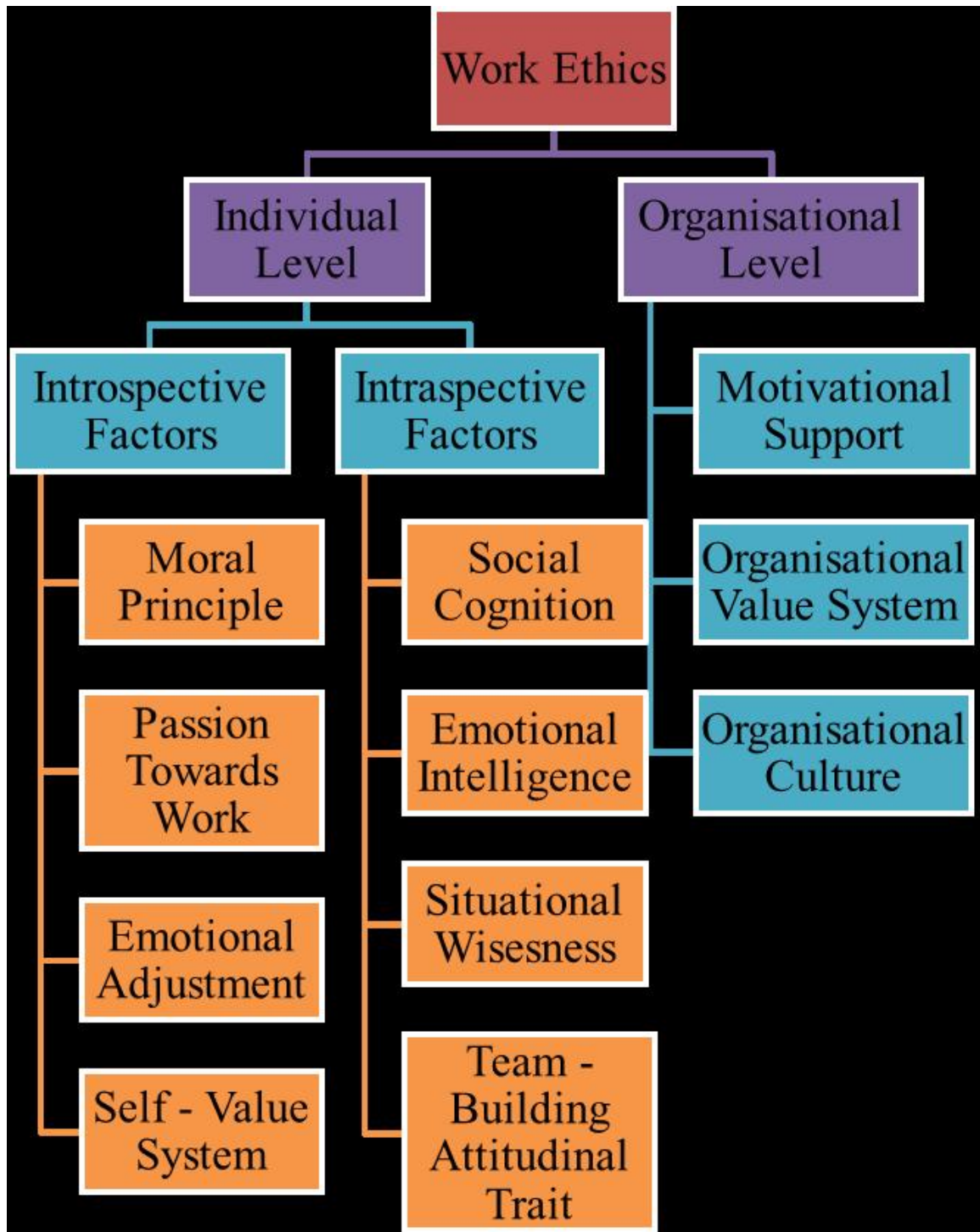


Figure 2.1: Factors Affecting Work Ethics at Individual and Organizational Level

Adopted from Huda (2020)

The work ethics of librarians and librarians as it relates to their duties towards the library users during service delivery have been adapted and codified as ‘honesty’, ‘quality’, ‘privacy and secrecy’, ‘equal access’, ‘impartiality’. Here, Honesty is codified as “always working to the benefit of the user, irrespective of the character of their work, respect the user and strive to learn about the user’s needs; helping users to access materials they search for, regardless of their content, carrier and access method involved; assuming the servant role toward users, treating all critique expressed by the users with respect and openness; immediately and honestly answer to all complaints”⁵⁰.

Honesty is seen as the suitability of word and behaviours, it is the conformity of words to factual events or the conformity of actions to applicable regulations⁵³. Honesty is the moral virtue that makes an individual fair and truthful, not changing even with changing circumstances. It is honesty that will make an individual to match words with behaviours or actions, match words with real events and match actions with the guiding principles. Honesty is an essential ingredient in all facets of human lives, be it in the academic world, business, politics, law and any other aspects of human endeavours. Unfortunately however, honesty is seen as lacking in today’s reality⁵⁴.

Because of the importance of honesty in society, only those who are honest are qualified to be public administrators since they are entrusted with public goods, not forgetting that the library is a public organization and the librarian, a public administrator; because people with a low level of honesty/humility tend to behave in a dishonest, manipulative, cheating, and pretentious way^{55,56}.

Quality is codified as “providing users with the best research/working conditions through the care taken of the high quality of research workspace, simple, understandable and

logical organization of collected and circulated resources, informational materials prepared, requests for information answered and projects implemented; care about the esthetic and functional value of their information institutions, appropriate work style and friendly atmosphere; care about the high quality of services they offer, striving to exhaust all possibilities of satisfying user needs; providing users with honest information on the full and actual scope of library services, the content of circulated collections and information resources, the quality of information tools employed and the possibilities of compensating limits to the available services through the cooperation of libraries and information centers”⁵¹.

Quality has to do with meeting customer expectations and satisfying their needs. So, if the perceived quality related to a product or service are equivalent to or exceeds the desired level, that product or service is considered as extraordinarily fine and of high quality; the opposite is true, when the perceived quality related to the product or service does not meet up with the desired level, the product or service is considered as not meeting the users’ expectations⁵⁷.

Privacy and secrecy is codified as “protecting and keeping secret all information concerning users, their interests and their personal data, using them only for the purposes defined by the law. Librarians and information professionals ensure to the users the freedom and privacy of using circulated/accessible resources”⁵¹. For the library, privacy could be likened to when a user uses a particular sensitive document in the library, and the librarians keep the identity of the user anonymous, while secrecy could be likened to a situation where a known user approaches the library, but the information needs of the user are kept from going out to the general public. Both privacy and secrecy are very

essential in the library because once they are compromised, they may never be restored again, and the broken trust may never be repaired again; therefore, it is very important to take privacy and secrecy issues in account when designing any system, the library inclusive⁵⁸.

Hence, all hands must be on deck to continually strive to improve on the privacy, reliability, secrecy, storage and performance of any system, whether automated or manual⁵⁹. These go to show the importance of privacy and secrecy in all sphere of life as long as it deals with humans and their personal and sensitive information; and as such one cannot really ever overemphasize privacy and secrecy. Providing privacy and secrecy is necessary to ensure confidentiality⁶⁰. When people know that their identity is safe and their information is secure, they will have confidence in a system and freely relate with such system.

Equal access is codified as “understanding and respecting the fact that not all users are equally capable of receiving information and using the library; striving to equalize chances of such users, working with particular care to the benefit of the disabled and socially disadvantaged and supporting cultural (ethnic, national, religious, etc.) minorities; contributing to the process of children and youth education, striving to develop their information needs and reading culture; striving to provide users with clear, well-known information on the rules and regulations concerning the use of libraries and information centers, they avoid informal solutions that result in the creation of covert privileges; attempting to offer their services to as many users as possible, yet they are entitled to refuse those who do not comply with the accepted principles, violate the rules or make other users feel uncomfortable”⁵⁰.

Equal access has to do with equity in dealing with everybody or every entity such that none is excluded or disadvantaged because of their socioeconomic or health situation. Equity sees everybody as equally important. A major obstacle to equal access is the feeling of superiority and importance⁶¹. Curbing this obstacle lies in the hands of those responsible for the distribution of whatever needs to be distributed; in the case, those responsible for the distribution are the librarians and librarians, and what needs to be distributed in information.

Impartiality is codified as “in all their professional activities librarians and information professionals must strive to remain unbiased and avoid any tendentious evaluation”⁵¹. Impartiality is considered so important in any public organizations that in bureaucratic decision making, it has been considered a theoretical tenant for determining quality in government and governance⁶². That is, any government or its officials that is considered partial in its dealings is automatically considered unqualified to govern. This shows the enormity of importance placed on impartiality. Impartiality has been seen as a necessary condition for justice⁶³.

By implication, nobody can claim to be just or practice justice without first practicing impartiality. Impartiality entails fairness and being unbiased in dealing with people; impartiality emphasizes formal equality in the procedural process, where everybody is given equal consideration when they seek any service; which is about treating people equally regardless of differences in race, gender, and other socio-demographic characteristics⁶². An impartial librarian will dedicate same time and energy to different people or groups when they approach the library for any service.

2.2 Theoretical Framework

2.2.1 Expectancy-Disconfirmation Model (EDM)

Expectancy Disconfirmation Model (also commonly known as Expectation theory) is the most widely accepted theory concerning customer satisfaction processes. The theory was propounded by Richard L. Oliver in 1977 and further developed in 1980. The model was originally developed in consumer behaviour research, and the main idea of the model is that satisfaction or dissatisfaction is a function of both referent and perceived performance; typically, expectation, provide referent against which people asses performance¹³.

The theory holds that satisfaction/dissatisfaction results from a customer's comparison of performance (of a product or service) with predetermined standards of performance. According to the view, the predetermined standards are the customer's predictive expectations. Three possible outcomes of the comparison are possible. Positive disconfirmation occurs when performance is perceived to be better than the predetermined expectations; in this scenario, customer is delighted. Zero disconfirmation occurs when performance is perceived to be exactly equal to expectations; customers are likely to be satisfied. Finally, negative disconfirmation occurs when performance is lower than expectations; of course, negative disconfirmation leads to dissatisfied or unhappy customers. The theory involves four primary constructs: user expectations, staff performance, user disconfirmation of beliefs, and user satisfaction.

i. User Expectations

Expectations refer to the attributes or characteristics that a person anticipates or predicts that will be associated with an entity such as a product, service, or technology artifact. Expectations are posited to directly influence both perceptions of performance and disconfirmation of beliefs, and are posited to indirectly influence post-purchase or post-adoption satisfaction by way of a mediational relationship through the disconfirmation construct. That is, performance and disconfirmation of beliefs have a way they influence the expectations of the client, especially when it is a post-purchase or post-adoption satisfaction. In this case the client's expectations can be said to lead to high satisfaction when the client has alternatives to patronize but still decides to patronize you. Pre-purchase or pre-adoption expectations form the basis of comparison against which the product, service, or technology artifact is ultimately judged.

User expectations are the anticipations that users have towards a product, towards a service or towards a digital good. These anticipations of users vary greatly from user to user, depending on their needs, tastes, experiences; and these expectations cover a wide spectrum. For instance, a user's expectation will differ for two products or services, say an app and a website, or between a librarian and a firefighter. User expectations are also influenced by issues like design/display such as the way a library displays its information or the way an app is designed, ease of access/navigation, user guidance. There are basically three types of user expectations and these affect how users perceive the use of a product or service.

Entrenched Expectations: Entrenched expectations are result from consistently using a product or service over a long period of time; and they are often unconscious. Users get used to specific interactions, navigation structures, and functionalities from previous experiences. For example, if library users visit a library they expect to see the Circulation desk at the entrance because they have internalized this through the use of many libraries. These entrenched expectations are also related to the layout, design, and performance of the product or service, or at least to the basic characteristics of products and services known to them.

Formative Expectations: Formative expectations are expectations which result from the experience of users. Users are familiar with individual aspects of product or service and they know what they can do with them. Users develop an awareness of their needs and require products and services to satisfy these requirements.

On-Off Expectations: On-off expectations are always linked to a single product or service and to the time and place of use. The overall functionality of the product or service has an effect on current expectations. Users know very well why they opted for a product or service and what they would like to find in it. Any breaks in this perception generate certain user reactions if their expectations are not fulfilled; and they leave the product or service in this case.

ii. Staff Performance

Staff performance is how a staff fulfills the assigned duties of their role, completes required tasks and behaves in the workplace. Performance refers to a person's perceptions of the actual implementation of the objectives of a product, service, or

technology artifact. Measurements of performance include the quality, quantity and efficiency of work. According to expectation confirmation theory, perceptions of performance are directly influenced by pre-purchase or pre-adoption expectations, and in turn directly influence disconfirmation of beliefs and post-purchase or post-adoption satisfaction. Perceived performance is also posited to indirectly influence post-purchase or post-adoption satisfaction by way of a mediational relationship through the disconfirmation construct.

For staff performance to be positive and productive it must have certain traits like the 'quality of work' which deals with accuracy, thoroughness and competence in work done; 'quantity of work' which deals with productivity level, time management, ability to meet deadlines in work assigned; 'job knowledge' which entails skills and understanding in the work involved in; 'work relationships' which includes the ability to work with others, and communication skills. Through staff performance and the customer's experience after using products or services that can be better or worse than customer's expectation, the customer can make informed decision whether to retain patronage or otherwise. Both kinds of customers who have first-hand experience or do not have such an experience will use purchased products or offered services for a while and can realize actual quality of presented products or services by the business. Information about previous performance shapes clients' expectations about future performance: high performance in the past leads to high expectations, and low performance leads to low expectations. These expectations then shape clients satisfaction, along with the level of perceived performance at the time of experiencing the service in question.

iii. User Disconfirmation of Beliefs

Disconfirmation is the difference between expectation and performance. Disconfirmation of beliefs refers to the judgments or evaluations that a person makes with respect to a product, service, or technology artifact. These evaluations or judgments are made in comparison to the person's original expectations against the actual performance. When a product, service, or technology artifact outperforms the person's original expectations, the disconfirmation is positive, which is posited to increase post-purchase or post-adoption satisfaction. When a product, service, or technology artifact underperforms the person's original expectations, the disconfirmation is negative, which is posited to decrease post-purchase or post-adoption satisfaction (i.e., to increase dissatisfaction).

To put differently, it means that disconfirmation of beliefs can be positive or negative. When customer's perceived performance over the quality of specific product or service is higher than the customer's expectation or desire, the positive disconfirmation will occur. That is, positive disconfirmation (better performance than expected) results in satisfaction. Likewise, when customers perceive the performance is worse than what they expected or desired about the quality of specific product or service, the negative disconfirmation will happen. Positive disconfirmation leads to the customer's satisfaction and negative disconfirmation means perceived performance of products or services could not attract the customer satisfaction. That is, negative disconfirmation (worse performance than expected) results in dissatisfaction.

By implications therefore, people patronize a product or service by the presumption based on their expectations, attitudes and intentions. This is applicable whether or not

these people are patronizing the product or service for the first time or they are making a re-order.

iv. User Satisfaction

Post-purchase or post-adoption satisfaction refers to the extent to which a person is pleased or contented with a product, service, or technology artifact after having gained direct experience with the product, service, or artifact. Expectation confirmation theory posits that satisfaction is directly influenced by disconfirmation of beliefs and perceived performance, and is indirectly influenced by both expectations and perceived performance by means of a mediational relationship which passes through the disconfirmation construct.

For any organization that sells products or renders services, be them fee-based or free, user satisfaction is crucial for their survival because it goes to show that the customer base likes what the organization is doing. Higher customer satisfaction would naturally lead to higher customer retention, higher lifetime value, and a stronger reputation for a brand. When users are satisfied with a product or service, they will remain loyal to that brand, make re-purchase even in the midst of alternatives, and even go out of their way to help introduce the product or service to other potential users.

An easy way to know the level of users who are satisfied with a product or service is to determine how happy customers are with the product or service. This can be done through simple survey, and the results can help to determine how best to improve the product or service, or to completely change such a product or service.

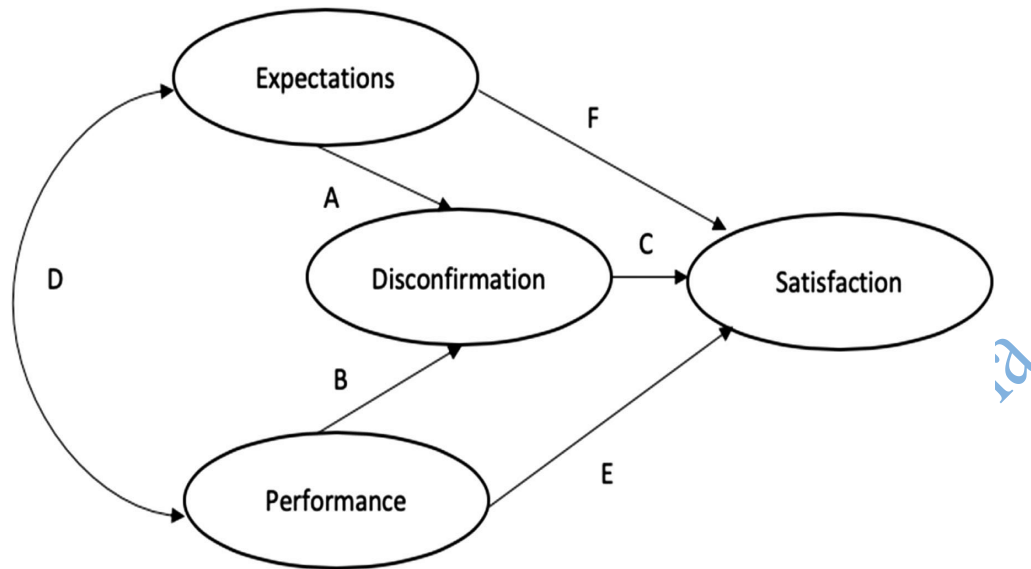


Figure 2.2: A model of Expectation-Disconfirmation Theory

Adopted from Zhang, et al. (2022)

The Expectancy-Disconfirmation model is useful to this research because it gives a clue to what affects users' satisfaction during a service delivery process, taking into account the four constructs of user expectations, staff performance, user disconfirmation of beliefs, and user satisfaction. It is necessary that librarians know what affects users' satisfaction in service delivery and thus try to meet up with the demands of library users.

2.2.2 Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) is an information systems theory that models how users come to accept, to adopt and to use a technology, using rational behaviour theory⁴⁰. Technology Acceptance Model was developed by Fred D. Davis in 1989. Many technology acceptance models have been established since but the one by David (1989) is seen as the most influential model because it has several empirical evidences²². The model looks at the factors that influence the acceptance of technology by an individual or

a group. Technology acceptance model examines the variables that are possible antecedents of managerial beliefs, attitudes, and use of information technology.

The primary objective of TAM was to shed light on the processes underpinning the acceptance of technology, in order to predict the behaviour of and provide a theoretical explanation for the successful implementation of technology. The practical objective of TAM was to inform practitioners about measures that they might take prior to the implementation of systems. To fulfill the objectives of the theory, several steps were carried out. Davis embarked on the development of the model of technology acceptance by framing the processes mediating the relationship between information systems characteristics (external factors) and actual system use. The model was based on the Theory of Reasoned Action, which provided a psychological perspective on human behaviour and was missing in the information systems literature at that time.

The second step was to identify and define variables and validate measures that would highly correlate with system use. Based on prior empirical literature on human behaviour and the management of information systems, multi-item scales for perceived ease of use and perceived usefulness were developed, pre-tested, and validated in several studies. It was hypothesized that the two constructs were fundamental determinants of user acceptance. An individual's decision to perform certain behaviour is the result of the analysis of the benefit that they expect to receive from the behaviour compared to the effort/costs they put in to perform the behaviour. This means that the use of the information system is determined by an evaluation of the trade-off between the perceived usefulness of the system and the perceived difficulty of using it.

The main constructs of the model are ‘Perceived Usefulness’ and ‘Perceived Ease of Use’.

Perceived Usefulness

Perceived usefulness was defined as the individual's perception of the extent to which the use of a given technology improves performance. The conceptualization of this construct stemmed from the concept of outcome judgement, which refers to an individual's expectation of a positive outcome triggering behaviour. Perceived usefulness was operationalized based on evidence confirming the effect of system performance expectancy on system usage.

The perceived usefulness examines the degree to which a person believes that using a particular technology will enhance his or her job performance. This means that a person will use a technology once s/he is convinced that the technology will enhance his or her job performance whether or not the technology is perceived to be useful for what they to do.

Perceived Ease of Use

Perceived ease of use was defined as the degree to which a person believes that using a particular system is free of effort. This construct was derived from the self-efficacy concept, which refers to a situation-specific belief about how well someone can execute actions for the prospective task. It was suggested that self-efficacy had a predictive role in decision-making about ICT use.

The perceived ease of use examines the degree to which a person believes that using a particular technology would require minimal effort. That is, if the technology is easy to

use then the barriers are conquered; if the technology is not easy to use and the interface is complicated, no one will have a positive attitude towards it.

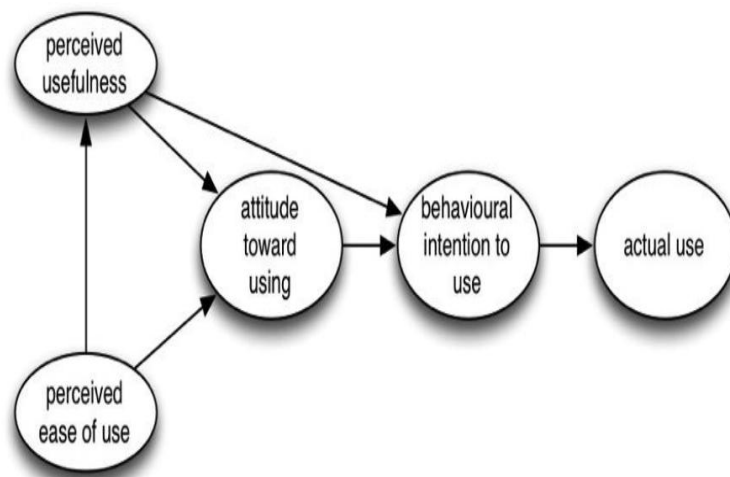


Figure 2.3: Technology Acceptance Model

Adopted from Rahman, et al. (2022).

According to TAM, technology acceptance is a three-stage process, whereby external factors (system design features) trigger cognitive responses (perceived ease of use and perceived usefulness), which, in turn, form an affective response (attitude toward using technology/intention), influencing use behaviour. TAM represents the behaviour, as the outcome predicted by perceived ease of use, perceived usefulness and behavioural intention. Perceived ease of use and perceived usefulness capture the expectations of positive behavioural outcomes and the belief that behaviour will not be labour-consuming.

The model stresses that the perceived ease of use and usefulness are further influenced by external factors. The actual usage of the system is the end-point where people use the

technology after they have been convinced about the usefulness and ease of use of the technology. A factor that leads people to use the technology is behavioral intention. The behavioural intention (BI) is influenced by the attitude (A) which is the general impression about the technology⁶⁴.

There are several criticisms of TAM. TAM has been widely criticized, despite its frequent use, leading the original proposers to attempt to redefine it several times. Criticisms of TAM as a 'theory' include its questionable experimental value, limited explanatory and predictive power, insignificance, and lack of any practical value. TAM is criticized as a theory that has diverted researchers' attention away from other important research issues and has created an illusion of progress in knowledge accumulation. Furthermore, the independent attempts by several researchers to expand TAM in order to adapt it to the constantly changing information technology environments have led to a state of theoretical chaos and confusion.

In general, TAM focuses on the individual user of a computer, with the concept of 'perceived usefulness', with extension to bring in more and more factors to explain how a user 'perceives' 'usefulness', and ignores the criticisms that are essentially social processes of information systems development and implementation, without question on where more technology is actually better, and the social consequences of information systems use. It is argued that the framework of 'perceived usefulness' and 'perceived ease of use' overlooks other issues, such as cost and structural imperatives that force users into adopting the technology. A recent analysis and critique of TAM claim that, together, TAM and TAM2 account for only 40% of a technological system's use.

Perceived ease of use is less likely to be a determinant of attitude and usage intention according to studies in telemedicine, mobile commerce, and online banking.

However, the model is relevant to this research because of the integration of technology and constant introduction of new technology driven services in libraries. It is important for librarians to understand the factors that determine the acceptance and use of ICTs in librarianship.

2.2.3 Theory of Deontological Ethics (TDE)

Immanuel Kant is considered the father of the theory of deontological ethics. He was a philosopher of the 18th century⁶⁵. In moral philosophy, deontological ethics or deontology is the normative ethical theory that the morality of an action should be based on whether that action itself is right or wrong under a series of rules, rather than based on the consequences of the action. It is sometimes described as duty-based, obligation-based, or rule-based ethics. In this terminology, action is more important than the consequences⁶⁶. Kant claims that the only thing that is truly good in itself is a good will, and a good will is only good when the 'willer' chooses to do something because it is that person's duty, that is, out of respect for the law. A person has a good will when he 'acts out of respect for the moral law'. People 'act out of respect for the moral law' when they act in some way because they have a duty to do so. Thus, he defines respect as 'the concept of a worth which thwarts my self-love'. Kant argued that since the only absolutely good thing is a good will, the single determining factor of whether an action is morally right is the will or motive of the person doing it. If they are acting on a bad maxim, e.g. 'I will lie', then their action is wrong, even if some good consequences come

of it. Kant's is of the view that people should act only according to that maxim by which they can also will that it would become a universal law; act in such a way that they always treat humanity, whether in their own person or in the person of any other, never simply as a means, but always at the same time as an end; and every rational beings must so act as if they were through their maxim always legislating members in a universal kingdom of ends.

There are two main groups of deontological theories in the literature: rule deontology and act deontology.

i. Rule Deontology

Rule deontology argues that in all situations people ought to be guided by a set of predetermined rules or principles, thus, the action is judged to be ethical or unethical as compared to the rules themselves, not by the consequences of that action. Kant formulated an ultimate moral standard he called it “the categorical imperative”. Yet, he sets up two distinctive foundations for this moral principle. The first ground for this principle as demonstrated by Kant in his metaphysics of morals: which goes like this: “*Act only according to that maxim by which you can at the same time will that it should become a universal law*”.

This foundation explains the procedure for considering whether an action is morally acceptable and right or morally unacceptable and wrong. When we are regarding a specific action, we ought to ask what rule we would be following if we were to do it. Then we ought to ask whether we are willing for that rule to be followed by everyone and at all times (this would make it a universal law in the pertinent sense). An action will be

morally permissible if the rule is consistent with the statements of being accepted as a universal law, then the rule might be followed. Nonetheless, if we would not be willing for everyone to follow that rule then the action is morally inadmissible. This illustrates the centrality of the virtue of our rationality with regards to the moral law. Rationality requires consistency, and it would not be consistent to take an action based on a maxim that we would not be willing for everyone to follow as well. Moreover, Kant believed that consistency requires that we interpret moral rules as having no expectations. Thus, Kant endorsed an entire set of prohibitions, covering a whole range of issues from lying to suicide.

ii. Act Deontology

According to act deontology, people are obligated to act toward others in a specific way simply because they are human beings. There is a duty or responsibility to take in account other people's dignity and rights no matter what are the consequences so that the focus is on the moral value embedded in the act per se. This can be understood in Kant's second foundation of the categorical imperative, which says: "*Act so that you treat humanity, whether in your person or in that of another, always as an end and never as a means only.*" This implies that since we are rational beings, our reason envisages ends and leads us to achieve these ends through different means. This categorical imperative formulation argues that as rational beings we are ends in ourselves but not means for others. Consequently, we are persons, not things. Our value is unqualified and categorical, not partial or dependent on the needs or desires of others. Hence, according to act deontology, we have to respect other people's dignity and their unconditional value by always treating them as ends in themselves and never as just means.

Kant's theory of deontological ethics that focuses on the motive rather than the consequence of an action is useful to this research as it helps to understand the reasons why librarians practice the work ethics they practice. The theory helps to shed light into the reasons why librarians will choose to abide, or otherwise, by the codes of ethics that guide their practices.

2.3 Review of Empirical Studies

2.3.1 Information and Communication Technology Use among Librarians and Users' Satisfaction in public universities in Edo State

For effective users' satisfaction in libraries, one form of ICT or another must be applied. This has become necessary because information which is a product of research and its management in information-bearing contents like books, journals and other media output have presented great challenges for library practices and information professionals in particular¹. For the effective use of ICTs, individuals must have a positive attitude towards ICTs; and librarians' attitude towards computers is a major factor that affects the successful use of ICTs in libraries⁶⁷.

To handle the challenge posed by the plethora of information and information resources, the information scientists whose work is information manipulation need to identify and have the proper ICT facilities relevant to their desired operations; that is facilities that will enhance effective users' satisfaction for librarians and the library generally. Some of these facilities the researchers identified to be computer system, the Internet, Fax machine, the Online Public Access Catalogue (OPAC), Email, Scanners, Printers Mobile phone with WAP (Wireless Application Protocol) and Reprographic machines¹.

The advantages of ICTs in Nigerian University Libraries to include the provision of timely, accurate and efficient information services, as these ICTs have been able to break the barrier of location or proximity to the library¹. On the components of ICTs used in academic libraries, the researchers observed that there are three (3) ITCs components: content (highly trained librarians), delivery mechanism (communication gadgets like broadband connectivity, fibre optic lines, table TV, Satellites link, free and open software programmes and equipment) and front end infrastructure (computer and its accessories, network resources and facilities)¹.

And librarians mainly use computers, telephone and printers as the ICT tools for information service delivery and these are used on daily basis to render service⁶⁷. Research has shown that there is a remarkable moderately strong positive relationship between the availability of automated library and service delivery of librarians in Federal University libraries in South-South Nigeria; and a remarkable perfectly strong positive relationship between accessibility of automated library and service delivery of librarians in Federal University libraries in South-South Nigeria¹. However, the major factors influencing the formation of attitude towards ICTs are peer opinion and knowledge of ICT availability⁶⁷.

Among the many library services that can change the library and the library operations, mobile reference is one of the foremost that has affected library services²¹. Three (3) major characteristics that make the mobile ICT stand out are: location-based services, personally networked devices and ubiquitous connectivity; making it easy for reference services to increasingly move to the mobile interface where most transactions will be

done virtually, without the need to be physically present, thus removing the barrier of geographical location²¹.

The researcher has identified five (5) steps that are necessary in implementing a mobile library service: identify the framework for integrating mobile reference services in a library environment; need analysis; mobile infrastructure and availability of staffing; resource identification; and implementation. And the available mobile reference services are: short range or ready reference services, these reference services can be answered immediately or in a moment, and they are the most commonly asked reference questions in mobile referencing; long range reference services, these reference services take hours, days or weeks to complete; email reference services; mobile library website, mobile library app; mobile FAQ database; mobile SMS; Instant messaging; Chatbot; Real-time live web-reference; Online pathfinders; Mobile reference services for disabled persons; Mobile referral services (collaborative network)²¹.

The benefits of using mobile ICT in service delivery in the library are that they are user friendly; they offer personalized services; they save time; they eliminate geographical restrictions, thus allowing users access them from anywhere; they offer multi-respond services, where many people can be attended to at the same time, thus saving users' waiting time; they offer active user participation; they allow scalability, where the library can opt for more ICT as it grows and expands; they offer quick feedback²¹. Another benefit of using ICTs in library for service delivery is that they could help prevent plagiarism. This is possible through the use of the blockchain technology. Though blockchain is a technology mainly concerned with digital currencies like bitcoin, its principle of uprightness over a generally circulated database, in spite of it being openly

accessed, can be brought to bear in preventing plagiarism in the library and in the world of publishing generally³³.

In recent times, the ICTs that are helping libraries in users' satisfaction are artificial intelligence (AI). The adoption of artificial intelligence can improve library services and provide access to accurate information that can drive growth and development in the society⁶⁸. This is particularly true as there has not been any aspect of the library and its operations where one form of ICT or another has not been applied with tremendous gains, be it in cataloguing or classification, library user education, digital preservation of library materials, development of institutional repositories, facilitating research⁶⁹.

With ICTs like artificial intelligence, some of the problems associated with users dissatisfaction are eradicated; artificial intelligence has provided solutions for such problems like proper shelving of books and other information materials for easy retrieval, acquisition and processing (cataloguing and classification) of library materials⁶⁸. With the application of ICTs in libraries, users' satisfaction has expanded and taken a new dimension, with the inclusion of electronic information devices like electronic books (e-books) and e-journals⁶⁹. Generally, ICTs in libraries help to maximise time, tackle stressful, complex and cumbersome tasks that humans struggle with^{68,69}.

On the challenges to implementing ICTs in library users' satisfaction process, the first consideration is unavailability and inadequacy of these ICTs⁷⁰. Other challenges include poor electricity supply, unfavourable government policies, financial uncertainty and high cost of implementation of such ICTs, lukewarm attitude towards the suffering of library

users, lack of internet accessibility, low level of awareness of sophisticated ICTs like artificial intelligence, fear of job loss for librarians in the developing countries^{68,69}.

2.3.2 Work Ethics among Librarians and Users' satisfaction in public universities in Edo State

There is no gainsaying that users' satisfaction is impacted by work ethics. This is because the question of what is right or wrong, good or bad is such a critical issue that every society grapple with it⁷¹. A standard ethical culture helps to build direction and guidance in various areas, resulting to a united, harmonious and dedicated employee force that will eventually affect service delivery and users satisfaction in the organization.

The subject matter of ethics is moral values and moral values are about how people ought to behave in terms of their commitment to work and their team, since ethics are those morally permissible standards of conduct that each members of a particular professional group want every member to follow^{71,72}. Ethics in the workplace addresses the fundamental issues of a public administrator's duties as a steward that has been entrusted with the public goods; ethics means moral justification and consideration when making decisions and taking actions when working to provide daily general services of government and nonprofit organizations⁷¹.

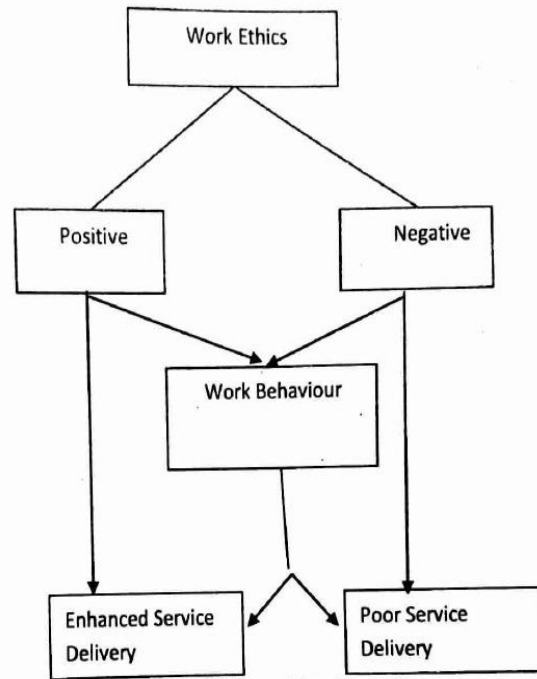


Figure 2.4: Relationship between Work Ethics and Users' Satisfaction

Adopted from Aluko and Adesopo (2015)

Work ethics can broadly be classified into positive work ethics and negative work ethics, and they both affect users' satisfaction of the clients: organizations that practice the positive work ethics like honesty, dependability, efficiency, team work, positive work habit, humility, initiative, are most likely to easily enhance users' satisfaction, attain organizational financial and economic goals; organizations where the negative work ethics like absenteeism, lateness, withdrawal and behaviour that lead to corporate inequality, are practiced, the result is always users' dissatisfaction⁷¹.

Though it is subjective to define what good work ethics really is, however, employers know what they require from their employees, certain traits that if missing render the employee unfit for the job, and some of these traits are honesty, personal integrity, responsibility, optimism, self-motivation, team player, trustworthiness, reliability,

productivity, dedication, cooperation, good character, quality, discipline⁷³. It has become important to imbibe good work ethics, especially in public organizations, because these often nonprofit organizations may have employees who are not driven by passion for the job and thus portray very negative attitudes, even to the extent of monetizing the services that were supposed to be rendered for free^{72,73}.

There are certain factors that predispose an employee to unethical behaviours, and they are broadly subdivided into individual variables, organizational practices and environmental factors: the individual variables are those personal experiences and background that affect employee orientation and perception to work and eventually their compliance to work ethics, and the family needs, both financial and otherwise, contribute significantly to the individual variables; organizational practices can be such that they violate the psychological contract they entered with their employee, by failing to pay salaries and entitlement, and lack of promotion; environmental factors that predispose employees to unethical behaviours are in the contexts of competing organizations which may make some organizations do unethical things in order to carve a niche for themselves, government laws and regulations if not effectively applied can encourage corrupt practices, social norms and values where some societies celebrate ill-gotten wealth⁷¹.

Codes of ethics are given to guide members of a profession in the discharge of their professional duties. For library and information science professionals, their codes of ethics are given to guide them in the discharge of their professional duties in order to ensure that there is a facilitation of access to information for all, for personal

development, for education, for cultural enrichment, for economic activities and informed participation in and enhancement of democracy²⁴.

Librarians are the link between information seekers and the information they seek, and thus occupy a privileged position which however comes with responsibilities. That this privileged position may not be abused, it becomes necessary to ensure that librarian and information professionals carry out their duties of users' satisfaction bearing in mind that ethical standards must be maintained¹⁹. To legally practice as a librarian in Nigeria and be allowed to render information service, the individual must register with the Librarians' Registration Council of Nigeria (LRCN), must possess the minimum qualification approved by the Council, be of good character, and must not have been convicted of an offence involving fraud or dishonesty, amongst others²⁴. The aim of these basic requirements are to ensure that the individual is on a good standing, both educational and character wise, to be able to render quality and trustworthy service to information users.

Understanding some of the specific roles of registered librarians and information professionals in Nigeria will enhance understanding of the necessity for the basic requirements for registration as a certified member of LRCN. These specific roles include but not limited to: provision of information to the Nigerian citizens, because professional librarians are information experts in this information age, providing accurate, timely and relevant information; promotion of education and educational activities, through contribution to the enhancement of teaching and learning in all cadres of education; preservation of societal culture, through artifacts, relics, arts and crafts, realia, poetry, poems, folklore, painting, sculpture, just to mention a few; promotion of reading culture among children, youths and adults, through book reading clubs, readers' advisory and

self-learning abilities; sensitizing people on the relevance of library through seminars, conferences and other related programmes²⁴. All these go to show that library and information professionals really need to be guided by certain standard codes because of the enormous work in their hands.

2.3.3 Information and Communication Technology Use, Work Ethics, and Users' Satisfaction in public universities in Edo State

During service delivery of whatever sought, one angle to look at the use of ICT could be from the ethical considerations of the safety of the individual who discharges such services; with ICT they are able to render remote services and thus reduce their predisposition to danger. Some professions like social work started with face-to-face service delivery to people who had social and environmental challenges, which predisposes these social workers to danger of attack from mobs around the neighbourhood, but the advent of ICT in service delivery for social workers reduces their physical contact with their patients, thereby reducing their risks of being attacked also^{74,75}.

There is no gainsaying saying that ICT is like a double edged sword that has its advantages as well as numerous disadvantages, hence the need to curtail ICT and keep it under checkmate because ICT can threaten individual autonomy, violate privacy rights and directly harm individuals financially and physically, ICTs can also be morally contentious by forcing deep reflection on personal values and societal norms⁷⁶.

For effective and efficient users' satisfaction in the 21st century, the use of ICT is a sine qua non; and using these ICTs requires adhering to guidelines that are necessary to curb abuse. These guidelines or codes are the ethical considerations, first in the use of ICTs

themselves and secondly in users' satisfaction, with or without ICTs. Some of the ethical considerations in the use of ICTs in users' satisfaction in libraries are to guide against plagiarism, identity theft and invasion of privacy, health implication on the constant use of computers, computer related crime, causing digital divide, security problem, copyright infringement, safety of information, accuracy of information, equity in accessing information, gender equality, exposure to sexual predators, cyber bullying, censorship⁷⁷.

Ethical considerations during the use of ICTs for users' satisfaction in libraries investigates the ethical issues arising from the development and application of information technologies and working in line with the laid down ethics for user satisfaction; and information ethics as it relates to the use of ICT for users' satisfaction is mainly concerned with who should have access to what information, and advances in ICT have made the general population more informed about these ethical considerations⁷⁸.

No doubt ICTs are making it easier for librarians to achieve the purpose for which libraries were established, that is the provision of knowledge base resources and meeting the information needs of the library user, necessary for decision making⁷⁸. The use of ICTs is seen in all routines of the library like acquisition, cataloguing, classification, shelving, digitization, loan services, charging and discharging services; and all these are for the sole purpose of delivering quality and timely service to the library users.

In using these ICTs to deliver services to library patrons, librarians ought to consider that they must use them in a way that does not violate the ethical codes of conducts that guide librarianship as a profession. Also, they must ensure that the use of ICT enhances, not

limits, their ethical delivery of services to the library clientele^{77,78}. It is wise to say therefore that users' satisfaction is enhanced and made effective with the use of ICT; and made efficient when adhering to ethical codes of conduct for the particular profession and individual belongs to.

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2.4 Conceptual Model

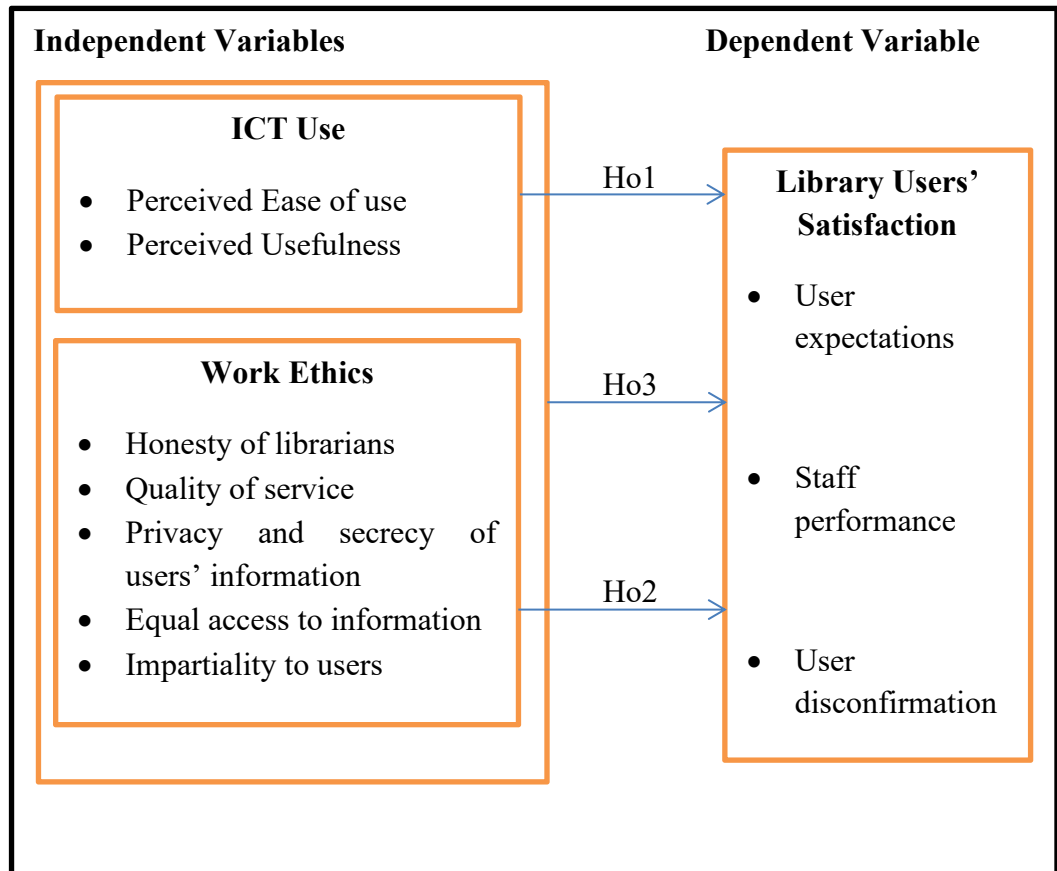


Figure 2.5: Conceptual Model of Library Users' satisfaction, ICT Use and Work Ethics

Source: A. O. Solomon (2022)

The metrics for Users' Satisfaction were gotten from The Expectancy-Disconfirmation Model (EDM). The theory was developed by Richard L. Oliver in 1977¹³. The theory has four metrics which were all adopted.

The metrics for ICT Use were gotten from The Technology Acceptance Model 1 (TAM 1). The theory was developed by Fred D. Davis in 1989^{22,40}. The theory has two metrics which were all adopted.

The metrics for Work Ethics were gotten from Literatures because The Theory of Deontological Ethics (TDE) did not give any metrics for good ethics, but only stated the characteristics of what should be accepted as ethics. Hence the metrics for Work Ethics were adapted from the Ethical Codes of the Librarians' Registration Council of Nigeria (LRCN) and the International Federation of Library Associations (IFLA)^{50,51}. Though the Codes for Librarians, both for Nigerians (LRCN) and the world body (IFLA), have many sections, the section that was used for the metrics of the research is the one that centres on the relationship between librarians and the library users.

The complete schedule of the sections is presented below for the purpose of clarity:

Section 1: Librarians and Information Professionals toward the community

Section 2: Librarians and Information Professionals toward the users

Section 3: Librarians and Information Professionals toward the library and information resources

Section 4: Librarians and Information Professionals toward their colleagues and profession

Section 5: Librarians and Information Professionals toward the employer

Section 6: Final Resolutions

From the above, it becomes glaring that the metrics adapted for the Work Ethics used in the present research are gotten from Section 2 of the schedules.

2.5 Summary of Gaps in Literature Reviewed

To ensure a vast and appropriate coverage of existing literature that were available on the subject matters as they relate to the Thesis, no fewer than 78 literatures were reviewed for this Thesis for the Conceptual Reviews on Users' Satisfaction, ICT Use and Work Ethics; as well as the Theoretical Frameworks of Expectancy-Disconfirmation Model, Technology Acceptance Model and Theory of Deontological Ethics; and the Empirical Reviews on Users' Satisfaction and ICT Use, Users' Satisfaction and Work Ethics, and Users' Satisfaction, ICT Use and Work Ethics. The literatures that were reviewed on Users' Satisfaction ranged from library and information science profession to the world of business and commerce, to the field of management, to healthcare and to government. The literatures that were reviewed on ICT Use covered areas like library and information science profession, web development, information technology, commerce and business, education and healthcare, tourism, technology, social media and energy. The literatures reviewed on Work ethics ranged from works in library and information science profession to works in government, business, education, Islam, as well as works in medicine, auditing, psychology, public administration, computer science, philosophy, medicine and health. Others areas covered by the literature reviews are public universities and social works.

Despite the vastness of the existing literatures that were reviewed, not many of them dwelt on the issue of users' satisfaction in librarianship, as most of them focused on users' satisfaction in other fields of endeavour; and those that discussed on users' satisfaction in librarianship do so in the light of how users' satisfaction is affected by either ICT use or work ethics alone, not investigating how both ICT use and work ethics affect users' satisfaction in librarianship. The only work that directly dwelt on the three variables of users' satisfaction, ICT use and work ethics studied how ethics impact on use of ICT and users' satisfaction, not exactly how this research intends to study the variables⁷⁷. This shows that there is a gap in the existing literature on how ICT use by librarians and work ethics of librarians affect the service delivery of these librarians to the library patrons.

Again, to understand the variables in the Thesis and how they relate with other variables, the reviewed literatures covered variables that include service delivery, students' satisfaction, user service, customer satisfaction, innovation, citizens satisfaction, library service delivery, use of ICT, social work ethics, reference services, plagiarism detection, usage of e-resources, maternal health, sustainability, revolutions in academic libraries, course presentation, repurchase intention, technological teaching, virtual tourism, post-purchase behaviour, technology acceptance, application of ICT skills, intent to purchase, purchase intention, use of social media, intention to use, library management systems, use of artificial intelligence, social integration, use of web 2.0 tools, adoption of artificial intelligence, implementation of artificial intelligence, radio frequency identification (RFID), library service quality, privacy, secrecy, preserving identification, vaccines access, public service quality, impartiality, noisy environment, equal access, functional

computation, motivation, interpersonal relationship, honesty, positive emotion, ethics, decision, life in the womb, bio-ethical issues, industrial relations, organizational development, perceived usefulness, perceived ease of use, social influence, mobile ICT, blockchain technology, resources constraints, information ethics compliance, service quality, ICT integration, decentralised healthcare.

Though the literatures that were reviewed cover vast area of subjects and dwelt on many variables, a close look at the variables show that though these variables have been extensively researched on, they were researched on within domains that for the most part, are outside librarianship as only 23 of the 78 literatures focused on library and information science or related fields. As such, this research work intends to try to expand the frontiers of existing knowledge of users' satisfaction, ICT use and work ethics within the field of library and information science; as well as also try to find out if the research discoveries will hold true of the discoveries of other researches in those other fields or disciplines. This will help to either corroborate or meaningfully critique the findings of such researches.

On the methodologies used for the reviewed literature that are within the domains of librarianship, some researches adopted theoretical reviews^{17,22,44,68,69,78}, dwelling mainly on the analysing existing literatures to create new knowledge. Some other researches adopted the empirical research methods; among these empirical researches, some were qualitative in nature^{8,49,55,70,75}. However, others empirical researches were quantitative^{1,10,31,32,57}. Only one of the researches adopted triangulation method, where the research used both qualitative and quantitative methods¹⁹. In the same vein, among those researches that were outside the domains of librarianship, some adopted the theoretical

research method^{2,4,14,22,60,74,76}. Similarly, some researches outside librarianship adopted the empirical method, of which some were qualitative^{8,55,75}. Other researches outside the domain of librarians were quantitative^{9,12,18,20,34,35,37,48,71}. One research adopted the experimental research method⁵⁴. And only one adopted a triangulation method, in which the research adopted both qualitative and quantitative for different focus groups⁷³.

Looking at the methodologies adopted for the literatures that were reviewed within the domains of library and information science, it becomes clear that there is paucity of researches that has adopted the triangulation method in seeking for information about the users' satisfaction of librarians. As a matter of fact, only one study adopted that method of triangulation, and that study was not even conducted in Africa, but in faraway India in Asia. This current study hopes to adopt the triangulation method, where it will seek quantitative data from the librarians themselves who render services to the patrons, and also seek quantitative data from the library patrons who are been rendered services in the library by the librarians; such that the data from the library patrons will help check mate the responses from the librarians. On the research methods adopted by the researches outside the domains of library and information science, it was also observed that the method of triangulation was adopted only for one of the researches, thus making it easier to believe that this method of triangulation is rarely used in most researches within Africa.

A general look at the reviewed literatures show that most of the literatures that are available on the variables of concern, users' satisfaction, ICT use and work ethics, are literatures from other continents rather than Africa; and those within the clime of Africa dwelt more on other fields outside librarianship, as only 12 researches within Africa centred on librarianship. This limitedness of literature within library and information that

focus on the variables of users' satisfaction, ICT use and work ethics has necessitated this research.

Conclusively, this research has become necessary because of the gaps in existing literatures brought about by either the field of coverage, scope of coverage, the methods adopted or the variables studied; as there are no researches that have attempted to research on how both ICT use and work ethics influence users' satisfaction within the library workforce. In view of the above backdrop of the available literatures, this research seeks to investigate the influence of ICT use and work ethics on users' satisfaction of librarians, limiting the geographical scope to Public Universities in Edo State.

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Chapter Three

Methodology

3.1 Research Design

The descriptive survey research design was adopted for this work. This is because the survey research is capable of providing numeric or quantitative description of trends, attitudes and opinions of a population by studying a sample of that population; allowing for the use of questionnaires or structured interviews for data collection, with the intention of generalizing the findings from a sample to a population.

The research was a cross sectional survey because it generated one-time-only data for the purpose of describing and explaining the observed phenomena.

3.2 Population of the Study

The population of the study consisted of the 12,400 actual library patrons who were recipients of the library services. The population details are given in **Table 3.1** which shows the total number of registered library users and **Table 3.2** which shows the total number of registered users who actually use the library.

Table 3.1: Registered Library Users

University Library	Registered Library Users
John Harris (University of Benin) Library	30,000
Ambrose Alli University Library	20,000
Edo University Library	1,200
Total	51,200

Source: University Librarians' Offices in Selected Institutions, 2022¹

Table 3.2: Population of the Study: Actual Library Users

University Library	Actual Library Users
John Harris (University of Benin) Library	7,000
Ambrose Alli University Library	5,000
Edo University Library	400
Total	12,400

Source: University Librarians' Offices in Selected Institutions, 2022¹

3.3 Sample and Sampling Techniques

The sampling techniques adopted for this study is the **simple random sampling technique**, this is because it allows researchers to make generalisations about a specific population and leave out any bias. The sample size will be calculated using a formula^{2,3}:

$$n = \frac{N}{1 + N * (e)^2}$$

Where: n is the Sample Size

N is the Population = 12,400

e is the acceptable error limit = 0.05

$$n = \frac{12400}{1 + 12400 * (0.05)^2}$$

$$n = \frac{12400}{1 + 12400 * (0.0025)}$$

$$n = \frac{12400}{1 + 31}$$

$$n = \frac{12400}{32}$$

$$n = 387.5$$

$$n \cong 388$$

Using the above formula, the sample size for the library patrons of 12,400 will be **388**.

To ensure equal representation of the three institutions, the sample size for each institution is gotten, using the formula given in the below³:

$$a = \frac{\Delta}{N} * n$$

Where: a is the sample size for each institution

Δ is the population of each institution

Thus, the sample size for each institution is given as:

John Harris (Uniben) Library

$$a = \frac{7000}{12400} * 338$$

$$a = 0.565 * 338$$

$$a = 219.22$$

$$a \cong 219$$

Ambrose Alli University Library

$$a = \frac{5000}{12400} * 338$$

$$a = 0.403 * 338$$

$$a = 156.36$$

$$a \cong 156$$

Edo University Library

$$a = \frac{400}{12400} * 338$$

$$a = 0.032 * 338$$

$$a = 21.32$$

$$a \cong 13$$

Table 3.3: Sample Size

University Library	Population	Sample Size
John Harris (University of Benin) Library	7,000	219
Ambrose Alli University Library	5,000	156
Edo University Library	400	13
Total	12,400	388

Source: Bacon-Stone, 2022³

3.4 Description of the Research Instrument

The instrument to be used in collecting data for this study is a structured questionnaire.

The questionnaire is divided into four distinct sections as follows:

Section A: Demographic Information. The section has items designed to collect the demographic data of the respondent. It has items such as Name of Library and gender.

Section B: Library Users' Satisfaction. This section is adopted from the Expectancy-Disconfirmation Theory. The statements cover items on user expectation, staff performance and user disconfirmation. It has items such as "I expect librarians to be at their best performance", "My needs are often met and exceeded by the librarians", "The performance of librarians often exceeds my initial expectations". All the items were measured using a 4-point Likert scale as 4 = Very High; 3 = High; 2 = Low; 1 = Very Low.

Section C: Use of ICT in the Library. This section is adopted from the Technology Acceptance Model. The statements cover items on perceived ease of use and perceived

usefulness. It has items such as “I perceive that librarians find it easy to use ICT to answer my queries”, “I perceive that using ICT will enable librarians to accomplish tasks more quickly”. All the items were measured using a 4-point Linkert scale as 4 = Very High; 3 = High; 2 = Low; 1 = Very Low.

Section D: Work Ethics Practiced by Librarians. This section is adopted from the Theory of Deontological Ethics. The statements cover items on Honesty of Librarians, Quality Service, privacy and secrecy of users’ information, equal access to information, and impartiality to users. It has items such as “I perceive that the librarians always work to my benefit”, “I perceive that librarians try to remain unbiased in all their professional activities””. All the items were measured using a 4-point Linkert scale as 4 = Strongly Agree; 3 = Agree; 2 = Disagree; 1 = Strongly Disagree.

3.5 Validity of Research Instrument

The questionnaire for this study was subjected to scrutiny from the Project Supervisor, and experts in the field of librarianship, within and outside Lead City University. The corrections and suggestions of both the Project Supervisor and the experts were effected and these improved the quality of the questionnaire. The corrections included proper use of grammar and tenses, and the arrangement of the variables.

Thereafter, the Departmental Committee for Thesis also scrutinized the instruments, before approval. All these were to ensure face validity and construct validity of the instruments, in order to standardize them and make them more adequate for the study, and reducing the element of bias that may arise from the instruments.

3.6 Reliability of the Research Instrument

To test the reliability of the instrument, it was subjected to collecting data for a pilot survey, using library patrons in Delta State University Library, Abraka, Delta State. The Cronbach's Alpha coefficient was used to determine the reliability coefficients of the instrument. The results are presented below in Table 3.4.

Table 3.4: Cronbach's Alpha Coefficients

Variables	Coefficient
Service delivery	0.84
ICT use	0.92
Work ethics	0.91
Overall Scale	0.89

Source: Researcher's Field Survey Result (2023)

Table 3.4 showed that the research instrument is reliable and suitable to solicit for the required information from the research respondents.

3.7 Method of Data Collection

Data collection was through the use of questionnaire. The instrument was administered physically with the aid of two research assistants who were trained within two days, in order to understand the aims of the research. The questionnaire titled "Questionnaire for Library Patrons" was administered to the library users in the three public university libraries in Edo State.

3.8 Method of Data Analysis

The Data Analysis was done using descriptive statistics and inferential statistics. Descriptive statistical tools involving simple percentages presented in tables were used to analyse the demographics of the respondents. For the 3 research questions, descriptive statistical tools of mean and standard deviation were used to analyse the data collected. Inferential statistical tool of linear regression was used to test hypotheses 1 to 3 at a significance level of 0.05. Statistical Package for the Social Sciences (SPSS) Version 29 was used for the analysis.

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Endnotes

¹ University Librarians' Offices in University of Benin, Ambrose Alli University and Edo University, 2022

² J. W. Creswell, *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, (4th ed.). California: **Sage**, 2014.

³ J. Bacon-Stone, *Introduction to Quantitative Research Methods*. Victoria: **University of Hong Kong**, 2022.

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Chapter Four

Results and Discussion of Findings

This study investigated information and communication technology use, work ethics and library users' satisfaction in public universities, Edo State. This chapter is divided into the following sections and sub-sections:

4.1 Demographic Data Analysis

4.2 Presentation of Data

4.2.1 Research Questions

4.2.2 Hypotheses

4.3 Discussion of Findings

Table 4.1 Questionnaire Return Rate

University Library	Number Distributed	Number Returned
John Harris (University of Benin) Library	219	189 (86.3%)
Ambrose Alli University Library	156	111 (71.15%)
Edo University Library	13	11 (84.62%)
Total	388	311 (80.15%)

Source: Researcher's Field Survey Result (2023)

Table 4.1 presented the return rate of the total number of questionnaire distributed across the three public universities in Edo State. The questionnaire was an online form sent to the library patrons through their students' WhatsApp Group Chats in the different

universities. A total of 388 copies of the questionnaire were filled but only 311 were duly filled and found usable for analysis, giving a response rate of 80.15%. Table 4.1 also shows that 189 of the respondents are from John Harris (Uniben) Library; 109 are from Ambrose Alli University Library; and 13 are from Edo University Library.

4.1 Demographic Data Analysis

Descriptive statistics of tables and percentages were used for analysing the demographic data of the research respondents.

Table 4.2: Demographic Representation of the Respondents

		Frequency	Percentage (%)
Library	John Harris (Uniben) Library	189	60.77
	Ambrose Alli University Library	109	35.05
	Edo University Library	13	4.18
	Total	311	100
Gender	Females	155	49.8
	Males	156	50.2
	Total	311	100

Source: Researcher's Field Survey Result (2023)

Table 4.2 showed the libraries and gender of the respondents. The Table showed that 189 (60.77%) of the respondents are from John Harris (Uniben) Library; 111 (35.69%) of the respondents are from Ambrose Alli University Library; and 11 (3.54%) of the respondents are from Edo University Library.

According to the gender of the respondents, the Table showed that 155 (49.8%) of the respondents are females; while 156 (50.2%) of the respondents are males.

4.2 Presentation of Data

Descriptive statistics and inferential statistics were used to analyse the data on the research objectives as collected from the respondents. For the 3 research questions, descriptive statistical tools of mean and standard deviation were used to analyse the data collected. Inferential statistical tool of linear regression was used to test hypotheses 1 to 3 at a significance level of 0.05. SPSS (Statistical Package for the Social Sciences) Version 29, released on 13 September, 2022, was used for the analysis

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4.2.1 Research Questions

Research Question One: What is the level of library users' satisfaction of librarians in Public Universities in Edo State?

Table 4.3 Level of Users' Satisfaction of Librarians in Public Universities in Edo State

Library Users' Satisfaction						
User Expectation <i>I expect...</i>	VH (%)	H (%)	L (%)	VL (%)	Mean	S.D.
too much from the librarians.	154 (49.5%)	103 (33.1%)	54 (17.4%)	0 (0%)	3.32	0.75
the librarians to be at their best performance.	245 (78.8%)	66 (21.2%)	0 (0%)	0 (0%)	3.79	0.41
the librarians to provide all the possible services of a library	227 (73%)	84 (27%)	0 (0%)	0 (0%)	3.73	0.44
Staff Performance	VH (%)	H (%)	L (%)	VL (%)	Mean	S.D.
My needs are often met and exceeded by the librarians	54 (17.4%)	257 (82.6%)	0 (0%)	0 (0%)	3.17	0.38
I have high expectations from the librarians because they have always met my needs.	128 (41.2%)	135 (43.4%)	48 (15.4%)	0 (0%)	3.27	0.71
Librarians spend less time and resources in meeting my needs (efficiency).	42 (13.5%)	155 (49.8%)	144 (36.7)	0 (0%)	2.77	0.67
User Disconfirmation	VH (%)	H (%)	L (%)	VL (%)	Mean	S.D.
The performance of librarians often exceeds my initial expectations.	64 (20.6%)	157 (50.5%)	90 (28.9%)	0 (0%)	2.92	0.70
I am likely to continue using the library even when there are alternative options.	90 (28.9%)	143 (46%)	78 (25.1%)	0 (0%)	3.04	0.74
Librarians go out of their way to meet my needs.	112 (36%)	109 (35.1%)	90 (26.9%)		3.01	0.80

Source: Researcher's Field Survey Result (2023)

Criterion Mean: 2.5

Table 4.3 presented the mean and standard deviation for the overall level of library users' satisfaction of the library patron. This table is divided into three parts: user expectation, staff performance, and user disconfirmation. For user expectation, we see that the means and (standard deviations) of the three items are 3.32 (0.7352), 3.79 (0.4095) and 3.73 (0.4447) respectively. This shows that there is high user expectation from the library patrons in public university libraries in Edo State.

Again, for staff performance, the mean and (standard deviations) of the three items are 3.17 (0.3794), 3.27 (0.7081) and 2.77 (0.6704) respectively; showing that the library patrons in public university libraries in Edo State believe that librarians are performing highly in their professional duties and service delivery.

Lastly, the table showed, on user disconfirmation, the means and (standard deviations) for the three items are 2.92 (0.6998), 3.04 (0.7352) and 3.01 (0.8041) respectively. These revealed that there is a positive user disconfirmation of the library patrons in public university libraries in Edo State; this shows that library patrons in public universities in Edo State are satisfied with the services rendered by librarians in these university libraries.

Research Question Two: What is the level of ICT usage by library patrons in Public Universities in Edo State?

Table 4.4 Library Patrons' Perception of Level of ICT Usage by Librarians in Public Universities in Edo State

ICT Use						
Perceived Ease of Use	VH(%)	H (%)	L (%)	VL(%)	Mean	S.D.
<i>I perceive that...</i>						
the librarians find it easy to use ICT to answer my queries.	224 (72%)	87 (28%)	0 (0%)	0 (0%)	3.72	0.45
the librarians find it easy to employ ICT to do what they want to do.	102 (32.8%)	209 (67.2%)	0 (0%)	0 (0%)	3.33	0.47
the librarians' interactions with ICTs are clear and understandable.	193 (62.9%)	118 (37.9%)	0 (0%)	0 (0%)	3.62	0.49
it is easy for the librarians to become skilful at using most ICTs.	247 (79.4%)	64 (20.6%)	0 (0%)	0 (0%)	3.79	0.40
the librarians find it easy to use ICTs generally.	93 (29.9%)	124 (39.9%)	94 (30.2%)	0 (0%)	3.0	0.78
Perceived Usefulness						
<i>I perceive that using ICT will...</i>						
enable librarians to accomplish tasks more quickly.	275 (88.4%)	36 (11.6%)	0 (0%)	0 (0%)	3.88	0.32
improve job performance of librarians.	293 (94.2%)	18 (5.8%)	0 (0%)	0 (0%)	3.94	0.23
increase productivity of librarians.	175 (56.3%)	136 (43.7%)	0 (0%)	0 (0%)	3.56	0.50
enhance the librarians' effectiveness on the job.	230 (74%)	81 (26%)	0 (0%)	0 (0%)	3.74	0.44
make it easier for librarians to do their job.	245 (78.8%)	12 (3.9%)	54 (17.3%)	0 (0%)	3.61	0.77

Source: Researcher's Field Survey Result (2023)

Criterion Mean: 2.5

Table 4.4 showed the mean and standard deviation for the library patrons' perception of level of ICT usage by librarians. This table is divided into two parts: perceived ease of use and perceived usefulness.

For perceived ease of use, there were five items, and their mean and standard deviations showed that the library patrons have the perception that the librarians in public university libraries in Edo State find it easy to adopt and use ICTs in the discharge of their professional duties. The means and (standard deviations) of the five items are 3.72 (0.4496), 3.33 (0.4702), 3.62 (0.4860), 3.79 (0.4049) and 3.0 (0.7767) respectively.

For perceived usefulness, there were five items, and their mean and standard deviations showed that library patrons have a positive perception that the librarians in public university libraries in Edo State adopt and use ICTs for their professional duties because they perceive that these ICTs are useful to their overall service delivery. The means and (standard deviations) for the five items under perceived usefulness are given as 3.88 (0.3205), 3.94 (0.2339), 3.56 (0.4969), 3.74 (0.4396) and 3.61 (0.7656) respectively.

Research Question Three: What are the work ethics practiced by Librarians in Public Universities in Edo State?

Table 4.5 Library Patrons' Perception on the Work Ethics Practiced by Librarians in Public Universities in Edo State

Work Ethics						
Honesty of Librarians I perceive that the librarians...	SA (%)	A (%)	D (%)	SD (%)	Mean	S.D.
always work to my benefit.	95 (30.5%)	204 (65.6%)	12 (3.9%)	0 (0%)	3.27	0.52
respect me and strive to learn about my needs.	124 (39.9%)	175 (56.2%)	12 (3.9%)	0 (0%)	3.36	0.56
help me to access materials I search for, regardless of their content, carrier and access method involved.	142 (45.6%)	115 (37%)	54 (17.4%)	0 (0%)	3.28	0.74
assume the servant role toward me, treating all critique I express with respect and openness; immediately and honestly answer to all complaints.	124 (39.9%)	109 (35%)	78 (25.1%)	0 (0%)	3.12	0.79
Quality Service I perceive that the librarians...	SA (%)	A (%)	D (%)	SD (%)	Mean	S.D.
provide me with the best research/working conditions.	181 (58.2%)	130 (41.8%)	0 (0%)	0 (0%)	3.58	0.49
provide me with high quality of research workspace with logical organization of collected and circulated resources.	78 (25%)	179 (57.6%)	54 (17.4%)	0 (0%)	3.08	0.65
care about the esthetic and functional value of the library.	166 (53.4%)	145 (46.6%)	0 (0%)	0 (0%)	3.53	0.50
strive to exhaust all possibilities to satisfy my needs.	136 (43.7%)	81 (26.1%)	94 (30.2%)	0 (0%)	3.14	0.85

provide me with honest information on the full and actual scope of library services.	166 (53.4%)	145 (46.6%)	0 (0%)	0 (0%)	3.53	0.50
Privacy and Secrecy of Users' Information <i>I perceive that the librarians...</i>	SA (%)	A (%)	D (%)	SD (%)	Mean	S.D.
protect and keep all information concerning me, my interests and my personal data secret.	136 (43.7%)	175 (56.7%)	0 (0%)	0 (0%)	3.44	0.50
use my information only for the purposes defined by the law, like policy decisions and implementation.	126 (40.5%)	185 (59.5%)	0 (0%)	0 (0%)	3.41	0.49
ensure that I have the freedom and privacy of using circulated/accessible resources.	96 (30.8%)	191 (61.4%)	12 (3.9%)	12 (3.9%)	3.19	0.68
respect my right and dignity without prejudice to race, gender, religion, tribe, physical characteristics, age, place of origin, etc.	60 (19.2%)	227 (73%)	12 (3.9%)	12 (3.9%)	3.08	0.62
Equal Access to Information <i>I perceive that the librarians...</i>	SA (%)	A (%)	D (%)	SD (%)	Mean	S.D.
understand and respect the fact that not all library users are equally capable of receiving information and using the library.	151 (48.5%)	124 (39.9%)	24 (7.7%)	12 (3.9%)	3.33	0.78
strive to equalize chances of library users who are not equally capable of receiving information and using the library.	72 (23.2%)	239 (76.8%)	0 (0%)	0 (0%)	3.23	0.42
work with particular care to the benefit of the disabled and	205 (65.9%)	106 (34.1%)	0 (0%)	0 (0%)	3.66	0.48

socially disadvantaged and supporting cultural (ethnic, national, religious, etc.) minorities.							
strive to provide me with clear, well-known information on the rules and regulations concerning the use of libraries and information centers.	268 (86.5%)	42 (13.5%)	0 (0%)	0 (0%)	3.87	0.34	
attempt to offer services to as many library users as possible.	165 (53.1%)	86 (27.7%)	2 (0.6%)	58 (18.6%)	3.15	1.12	
Impartiality to Users <i>I perceive that the librarians...</i>	SA (%)	A (%)	D (%)	SD (%)	Mean	S.D.	
try to remain unbiased in all their professional activities.	247 (79.4%)	62 (19.9%)	1 (0.3%)	1 (0.3%)	3.78	0.44	
try to avoid making any tendentious evaluation that may cause any arguments.	181 (58.1%)	127 (40.8%)	1 (0.3%)	1 (0.3%)	3.7	2.35	
do not receive or ask for gifts or gratification for themselves or for others in rendering services to me.	163 (52.4%)	148 (47.6%)	0 (0%)	0 (0%)	3.52	0.50	
Source: Researcher's Field Survey Result (2023)				Criterion Mean: 2.5			

Table 4.5 showed the mean and standard deviation for the library patrons' perception of the work ethics practiced by librarians. This table is divided into five parts. They are honesty of librarians, quality service, privacy and secrecy of users' information, equal access to information, and impartially to users.

For honesty of librarians, there were four items; and the means and (standard deviations) for each are 3.27 (0.5232), 3.36 (0.5555), 3.28 (0.7429) and 3.12 (0.7935) respectively.

All the means clearly showed that they are above the criterion mean of 2.5. Thus, the

means and standard deviations show that the library patrons in public university libraries in Edo State believe that librarians are honest librarians.

For quality service, there were five items, and their means and (standard deviations) are 3.58 (0.4940), 3.08 (0.6479), 3.53 (0.4997), 3.14 (0.8507) and 3.53 (0.4997) respectively. These showed that the library patrons in public universities in Edo State believe that librarians in these universities render quality services to the library patrons.

For privacy and secrecy of users' information, there were four items, and their means and (standard deviations) are 3.44 (0.4969), 3.41 (0.4917), 3.19 (0.6826) and 3.08 (0.6173) respectively. Again, these means and standard deviations showed that the library patrons in public university libraries in Edo State perceive that the librarians in these libraries uphold the ethics of keeping private and secret, all information that pertains to the library users.

For equal access to information, there were five items, and their means and (standard deviations) are 3.33 (0.7806), 3.23 (0.4225), 3.66 (0.4748), 3.87 (0.3423) and 3.15 (1.1244) respectively. These showed a positive perception from the library patrons in public university libraries in Edo State on librarians as it relates to them allowing everyone have equal access to information as the needs arise. However, the last item there that states that 'I perceive that the librarians attempt to offer services to as many library users as possible' shows that 58 (18.6%) of the respondents Strongly Disagree, and 2 (0.6%) of the respondents Disagree with the above statement; thus showing the high value of standard deviation.

For impartiality to users, there were three items, and their means and (standard deviations) are 3.78 (0.4420), 3.7 (2.3506) and 3.52 (0.5002) respectively. These showed that the library patrons in public university libraries in Edo State perceive that librarians in these libraries are impartial in their discharge of duties and rendering of services to library patrons.

4.2.2 Hypotheses

H₀1: There is no significant influence of ICT use by librarians on library users' satisfaction in Public Universities in Edo State.

In order to test this null hypothesis one, simple linear multiple regression analysis was used. In the analysis, the values of library users' satisfaction were regressed on the values of ICT use. The data for ICT use (independent variable) were generated by summing the responses of all the variable items while the data for library users' satisfaction (dependent variable) were generated by adding responses of all items used to measure the variable. The regression test results are presented in Tables 4.6a-c below.

Tables 4.6a-c Summary of Regression Analysis for the influence of ICT use on library users' satisfaction of librarians in Public Universities in Edo State.

a. Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.669 ^a	.448	.446	.32074

a. Predictors: (Constant), ICT Use by Librarians

b. Dependent Variable: Library User Satisfaction

b. ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	25.776	1	25.776	250.565	<.001 ^b
	Residual	31.788	309	.103		
	Total	57.564	310			

a. Dependent Variable: Library User Satisfaction

b. Predictors: (Constant), ICT Use by Librarians

c. Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.101	.211		-.477	.633
	ICT Use by Librarians	.920	.058	.669	15.829	<.001

a. Dependent Variable: Library User Satisfaction

Source: Researcher's Field Survey Result (2023)

Tables 4.6a-c presented the results of the regression analysis for the influence of ICT use on library users' satisfaction in public university libraries in Edo State. Table 4.6a presented a model summary which establishes how the model equation fits into the data.

The R^2 was used to establish the predictive power of the study's model. From the results, ICT use has a strong positive statistically significant relation with library users' satisfaction in public university libraries in Edo State ($R = 0.669, p < 0.05$).

The coefficient of determination (R^2) of 0.448 showed that ICT use explained 44.8% of the variations in library users' satisfaction in public university libraries in Edo State, while the remaining 55.2% variations in library users' satisfaction is explained by other exogenous variables different from ICT use under examination. This result suggests that ICT use influences 44.8% of library users' satisfaction in public university libraries in Edo State.

Table 4.6b presented the results of ANOVA (overall model significance) of regression test which revealed that ICT use has a significant influence on library users' satisfaction in public universities in Edo State. This can be explained by the F-value (250.565) and low p-value (0.001) which is statistically significant at 95% confidence interval. Hence, the result posited that **ICT use by librarians in public university libraries in Edo State influenced library users' satisfaction.**

Also, Table 4.6c presented the results of regression coefficients. It revealed that at 95% confidence level, a unit change in ICT use will lead to a 0.92 increase in library users' satisfaction in public university libraries in Edo State; given that all other factors are held constant.

On the strength of this result ($R^2 = 0.448; F = 250.565; p = 0.001$), this research rejected the null hypothesis one (H_01) which states that there is no significant influence of ICT use on library users' satisfaction in Public Universities in Edo State.

H₀2: There is no significant influence of work ethics by librarians on the library users' satisfaction in Public Universities in Edo State.

In order to test this null hypothesis two, simple linear multiple regression analysis was used. In the analysis, the values of library users' satisfaction were regressed on the values of work ethics. The data for work ethics (independent variable) were generated by summing the responses of all the variable items while the data for library users' satisfaction (dependent variable) were generated by adding responses of all items used to measure the variable. The regression test results are presented in Tables 4.7a-c below.

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Tables 4.7a-c Summary of Regression Analysis for the influence of work ethics on library users' satisfaction of librarians in Public Universities in Edo State.

a. Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.471 ^a	.222	.219	.38082

a. Predictors: (Constant), Work Ethics of Librarians

b. Dependent Variable: Library User Satisfaction

b. ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.751	1	12.751	87.922	<.001 ^b
	Residual	44.813	309	.145		
	Total	57.564	310			

a. Dependent Variable: Library User Satisfaction

b. Predictors: (Constant), Work Ethics of Librarians

c. Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.518	.184		8.261	<.001
	Work Ethics of Librarians	.504	.054	.471	9.377	<.001

a. Dependent Variable: Library User Satisfaction

Source: Researcher's Field Survey Result (2023)

Tables 4.7a-c presented the results of the regression analysis for the influence of work ethics on library users' satisfaction in public university libraries in Edo State. Table 4.7a presented a model summary which establishes how the model equation fits into the data.

The R^2 was used to establish the predictive power of the study's model. From the results, work ethics has a weak positive statistically significant relation with library users' satisfaction in public university libraries in Edo State ($R = 0.471$, $p < 0.05$).

The coefficient of determination (R^2) of 0.222 showed that work ethics explained 22.2% of the variations in library users' satisfaction in public university libraries in Edo State, while the remaining 77.8% variations in library users' satisfaction is explained by other exogenous variables different from work ethics under examination. This result suggests that work ethics influences 22.2% of library users' satisfaction in public university libraries in Edo State.

Table 4.7b presented the results of ANOVA (overall model significance) of regression test which revealed that work ethics has a significant influence on library users' satisfaction in public universities in Edo State. This can be explained by the F-value (87.922) and low p-value (0.001) which is statistically significant at 95% confidence interval. Hence, the result posited that **work ethics by librarians in public university libraries in Edo State influenced library users' satisfaction.**

Also, Table 4.7c presented the results of regression coefficients. It revealed that at 95% confidence level, a unit change in work ethics will lead to a 0.504 increase in library users' satisfaction in public university libraries in Edo State; given that all other factors are held constant.

On the strength of this result ($R^2 = 0.222$; $F = 87.922$; $p = 0.001$), this research rejected the null hypothesis two (H_02) which stated that there is no significant influence of work ethics on library users' satisfaction of librarians in Public Universities in Edo State.

H₀₃: There is no significant combined influence of ICT use and work ethics by librarians on library users' satisfaction in Public Universities in Edo State.

In order to test this null hypothesis three, simple linear multiple regression analysis was used. In the analysis, the values of library users' satisfaction were regressed on the values of ICT use and work ethics. The data for ICT use and work ethics (independent variables) were generated by summing the responses of all the variable items for ICT use and work ethics while the data for library users' satisfaction (dependent variable) were generated by adding responses of all items used to measure the variable. The regression test results are presented in Tables 4.8a-c below.

Do Not Copy, Lead City University, Nigeria

Tables 4.8a-c Summary of Regression Analysis for the influence of ICT use and work ethics on library users' satisfaction of librarians in Public Universities in Edo State.

a. Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.670 ^a	.449	.446	.32079

a. Predictors: (Constant), ICT Use by Librarians, Work Ethics of Librarians

b. Dependent Variable: Library User Satisfaction

b. ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	25.870	2	12.935	125.698	<.001 ^b
	Residual	31.695	308	.103		
	Total	57.564	310			

a. Dependent Variable: Library User Satisfaction

b. Predictors: (Constant), ICT Use by Librarians, Work Ethics of Librarians

c. Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.120	.212		-.566	.572
	ICT Use by Librarians	.872	.077	.634	11.291	<.001
	Work Ethics of Librarians	.057	.060	.053	.952	.342

a. Dependent Variable: Library User Satisfaction

Source: Researcher's Field Survey Result (2023)

Tables 4.8a-c presented the results of the regression analysis for the influence of ICT use and work ethics on library users' satisfaction in public university libraries in Edo State. Table 4.8a presented a model summary which establishes how the model equation fits into the data. The Adj. R^2 was used to establish the predictive power of the study's model. From the results, ICT use and work ethics have a strong positive statistically significant relation with library users' satisfaction in public university libraries in Edo State ($R = 0.67, p < 0.05$).

The coefficient of determination (Adj. R^2) of 0.446 showed that ICT use and work ethics explained 44.6% of the variations in library users' satisfaction in public university libraries in Edo State, while the remaining 55.4% variations in library users' satisfaction is explained by other exogenous variables different from ICT use and work ethics under examination. This result suggests that ICT use and work ethics influence 44.6% of library users' satisfaction in public university libraries in Edo State.

Table 4.8b presented the results of ANOVA (overall model significance) of regression test which revealed that ICT use and work ethics have a significant influence on library users' satisfaction in public universities in Edo State. This can be explained by the F-value (125.698) and low p-value (0.001) which is statistically significant at 95% confidence interval. Hence, the result posited that **ICT use and work ethics by librarians in public university libraries in Edo State influenced library users' satisfaction.**

Also, Table 4.8c presented the results of regression coefficients. It revealed that at 95% confidence level, a unit change in ICT use will lead to a 0.872 increase in library users'

satisfaction in public university libraries in Edo State; given that all other factors are held constant; and a unit change in work ethics will lead to a 0.057 increase in library users' satisfaction in public university libraries in Edo State; given that all other factors are held constant.

On the strength of this result (Adj. $R^2 = 0.446$; $F = 125.698$; $p = 0.001$), this research rejected the null hypothesis three (H_{03}) which stated that there is no significant combined influence of ICT use and work ethics on library users' satisfaction of librarians in Public Universities in Edo State.

4.3 Discussion of Findings

The aim of this study was to investigate the influence of ICT use and work ethics by librarians on library users' satisfaction in public universities in Edo State. This section discussed the findings of this study in relation to past studies conducted. The findings are discussed according to the stated research questions and hypotheses.

From the demographic data, 189 (60.77%) of the respondents were from John Harris (Uniben) Library; 111 (35.69%) of the respondents were from Ambrose Alli University Library; and 11 (3.54%) of the respondents were from Edo University Library. Again, from the data on the respondents' demography, we see that 49.8% of them are females while the other 50.2% are males.

Research question one identified the level of library users' satisfaction in public universities in Edo State. The results revealed that there is a high level of user expectation from the librarians, there is a high level of librarians' performance in discharging their professional duties, and there is a high level of user disconfirmation. Thus, these showed

that there is a high level of library users' satisfaction in the overall service delivery of librarians in public university libraries in Edo State. This goes to show that despite the reduced patronage to the library by registered library users in public university libraries in Edo State, the few who visit and use these libraries are satisfied with the services they receive from the librarians.

Studies have attempted to identify whether or not library users are satisfied with the use of libraries, especially with a decline in library patronage. Findings showed that for librarians to satisfy library users, they must be at their best professional level, rendering quality services at all times¹. Also, to guarantee library users satisfaction in the services they receive, librarians who are the service providers must regularly strive to exceed the expectation of the library users, because satisfaction is derived solely from the difference between users' expectation and their ultimate experiences².

Research question two examined the level of ICT use by librarians in public universities in Edo State. Findings from the study revealed that the library patrons have the perception that the librarians in public university libraries in Edo State find it easy to adopt and use ICTs in the discharge of their professional duties; also, the findings showed that library patrons have a positive perception that the librarians in public university libraries in Edo State adopt and use ICTs for their professional duties because they perceive that these ICTs are useful to their overall service delivery. This showed that the library users have a high level of perception that librarians have a high level of usage of ICT in the discharge of their professional duties. This is influenced by the librarians' perceived ease of use and perceived usefulness of these ICTs.

Researches have tried to investigate on the variable of ICT use by librarians, as well as try to understand the reasons behind the adoption or otherwise of these ICTs by librarians. Research showed that there is an increased usage of mobile communication technologies, which is influenced by the increasing popularity of these mobile devices, hence their suitability for librarians to use them for on-the-go reference services³. Findings also showed that with the use of technologies in libraries, plagiarism detection is possible with the use of blockchain technologies⁴. Also, researchers have increasingly shown and accepted that the use of ICTs are influenced mainly by the perceived ease of use and the perceived usefulness of these technologies to the would-be users^{5,6}.

For research question three, it examined the work ethics practiced by librarians in public universities in Edo State. Results from the research showed that the library patrons have the perception that the librarians in public university libraries in Edo State are honest in their dealings with library patrons. The library patrons also believe that the librarians render quality services to library patrons. On the issue of privacy and secrecy of library users' information, findings showed that the library patrons perceive that the librarians uphold the ethics of keeping all information that pertains to the library users private and secret. On allowing equal access to information, the library patrons believe that librarians allow everyone have equal access to information as the needs arise. Also, for impartiality to users, the library patrons perceive that librarians in these libraries are impartial in their discharge of duties and rendering of services to library patrons.

Studies have attempted to identify the work ethics of librarians and whether these librarians practice these work ethics or not. Research showed that librarians who uphold their professional practices would bring something unique and meaningful to their

libraries⁷. Findings showed that if any professional is to gain sustainable progress of self-growth and organizational growth, one has to have a proper system of ethics and a strong value system both at the individual and organizational levels⁸. Nonetheless, research showed that the sense of self-esteem, dignity, honour, service and moral rectitude of librarians via the code of ethics is low⁹. This negates the findings of this research. The implication of this low sense of ethics would mean a negative effect on service delivery.

Hypothesis one determined the influence of ICT use by librarians on library users' satisfaction in Public Universities in Edo State. Findings from the study revealed that ICT use has a strong positive statistically significant relation with library users' satisfaction in public university libraries in Edo State.

Studies have tried to explore the usefulness of ICT on library users' satisfaction, as a deviation from the traditional modes of service delivery to library users. Despite the slow adoption and use of artificial intelligence (AI) in developing countries like Nigeria for effective service delivery in academic libraries, the eventual adoption and use of these AI in academic libraries for service delivery in Nigeria is setting a new level of efficiency and effectiveness in library service delivery¹⁰. Some of the challenges faced by developing countries like Nigeria in adopting and using AI are financial uncertainties, job loss, and technological disadvantage.

Also, it has been posited that the efficiency and effectiveness of any library operations and services regardless of the size, type, and user community, is determined by the success with which the library is able to provide and satisfy its diverse users' information needs in a timely and accurate manner; and the incorporation and advancement of

information and communication technologies (ICTs) have assured the actualization of timely and accurate service delivery¹¹.

Hypothesis two determined the influence of work ethics by librarians on the library users' satisfaction in Public Universities in Edo State. Findings from the study revealed that work ethics has a weak positive statistically significant relation with library users' satisfaction in public university libraries in Edo State.

Researches have attempted to explore how work ethics of service providers influences the satisfaction of end users of such services. Findings showed that when other variables are kept constant, work ethics are determinants of service delivery, either significantly or insignificantly. Data showed that when workers exhibited positive work ethics, service delivery was 58.9% significant; also, when workers exhibited negative work ethics, service delivery was 64% insignificant¹².

Findings on the effect of organizational ethics on service delivery of employees in the public sector showed that organizational ethics have 53.2% of the variability in service delivery, that is, organizational ethics has a statistically positive and significant influence on service delivery in the public sector of Nigeria. This suggests that an increase in organizational ethics will lead to a significant increase in service delivery¹³.

A research on good work ethics and service delivery in public universities in the South-South region of Nigeria, showed that there is a positive and moderate correlation between good work ethics and service delivery in public universities; accounting for 26.1% of the variance in service delivery in public universities¹⁴.

Hypothesis three determined the combined influence of ICT use and work ethics by librarians on library users' satisfaction in Public Universities in Edo State. Findings from the research revealed that ICT use and work ethics have a strong positive statistically significant relation with library users' satisfaction in public university libraries in Edo State.

Studies have tried to examine the combined influence of ICT use and work ethics can affect user satisfaction. A study on ethical standards for social workers' use of technology: emerging consensus, revealed that with increased use of technology by social workers, and adherence to their professional codes of ethics would lead to better and improved service delivery to their clients. These ethical considerations include knowledge on emerging ethical standards like licensing and regulatory statutes and regulations, professional codes of ethics, and practice guidelines¹⁵.

A research conducted on consideration for integrating technology into social work practice: a content analysis of nine professional social work association's codes of ethics, posited that if social workers are to be effective in their services to their clients, they cannot rely solely on their professional codes in this technology driven society without incorporating technology into their professional practices and search for relevant information through multiple sources¹⁶.

Findings on information ethics compliance and service delivery by librarians in universities: a review, showed that as librarians struggle to comply with the information ethics of who should access what information, they cannot downplay the effects on information and communication technologies in actualizing the goal of information ethics

compliance as a means to an end, which is ultimately to enhance service delivery to library users¹⁷.

Research conducted on ethical issues influencing the use of ICTs for library service delivery in Nigerian universities: a case of Delta State university library, Abraka, showed a significant relation between ethical issues and the extent of use of ICTs for service delivery in university libraries. It shows a positively statistically significant correlation of 64.5% of variance for ethical issues and extent of use of ICTs on service delivery in university libraries¹⁸.

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Chapter Five

Conclusion

5.1 Summary of Findings

The data from the findings show that the respondents are evenly distributed with reference to their gender, as 49.8% are females and 50.2% are males. This shows that the library users in public university libraries in Edo State are not significantly different in terms of their gender.

There is a high level of user expectation from the librarians, high level of librarians' performance, and high level of user disconfirmation. Showing that there is a high level of library users' satisfaction in the overall service delivery of librarians in public university libraries in Edo State.

Library patrons in public university libraries in Edo State have the perception that the librarians in these libraries find it easy to adopt and use ICTs in the discharge of their professional duties; as well as perceive that these ICTs are useful to the librarians' overall service delivery. This is influenced by the librarians' perceived ease of use and perceived usefulness of these ICTs.

The library patrons in public university libraries in Edo State have the perception that the librarians in these libraries are honest, render quality services, keep all information that pertains to the library users private and secret, allow everyone have equal access to information as the needs arise, and are impartial in their discharge of duties and rendering of services to library patrons.

Findings from the study reveal that ICT use by librarians has a strong positive statistically significant relation with library users' satisfaction in public university libraries in Edo State.

There is a weak positive statistically significant correlation between work ethics of librarians and library users' satisfaction in public university libraries in Edo State.

Findings also show that ICT use and work ethics by librarians have a strong positive statistically significant relation with library users' satisfaction in public university libraries in Edo State.

5.2 Conclusion

This research survey has investigated the influence ICT use and work ethics by librarians on library users' satisfaction in public university libraries in Edo State. Library users visit the library because they are satisfied with the service delivery librarians render to them, showing that their initial expectations were exceeded. The fact that library users' expectations are exceeded by librarians and they are satisfied with the services rendered to them could be a reason why library patrons perceive that librarians find it easy to adopt and use ICTs for their professional duties. These patrons also perceive that librarians in public university libraries in Edo State uphold a high work ethical standard.

Among the variables of ICT use, work ethics and library users' satisfaction, there is a strong positive correlation between ICT use and library users' satisfaction; a weak positive correlation between work ethics and library users' satisfaction; and a strong positive correlation between ICT use, work ethics and library users' satisfaction, showing

that ICT use and work ethics, both separately and combined, have effects on library users' satisfaction.

Conclusively, library users rarely patronise the library, despite the fact that librarians have high ICT usage skills, and uphold high ethical standard; and the positive correlation between ICT use and work ethic on library users' satisfaction.

5.3 Recommendations

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

- i. There is a need to ensure library users' satisfaction so that they will regularly yearn to visit and use the libraries;
- ii. Librarians should endeavour to embrace the use of ICTs. This can be achieved by library management collaborating with the university management to constantly up-skill in their use of ICT in order to always render high quality services to library patrons;
- iii. Librarians should uphold high work ethical standards in order to remain relevant in the information rendering business, thus rendering effective and efficient services to the library patrons always.
- iv. Librarians should be encouraged to go form trainings in order to improve their skills in the use of emerging ICTs as these ICTs regularly come with updated versions and new technologies;
- v. Librarians should regularly uphold high work ethical standards. Librarians' regulatory bodies, LRCN and IFLA, should make the librarians' operational code

of conduct handy and readily available for librarians to always consult and use as guide.

- vi. Librarians should strive to acquire proficiency in the use of ICTs and also thrive to uphold high ethical standards in their work, as both have influence on their overall service delivery to library users.

5.4 Contribution to Knowledge

This study has made conceptual, empirical and theoretical contribution to knowledge. The conceptual contribution of the study can be seen in the meticulous review of literature which has been able to contextualize concepts such as library users' satisfaction, information and communication technology use, and work ethics.

From the theoretical point of view, the study has been able to integrate expectancy-disconfirmation theory to library users' satisfaction in the Nigerian context. The study has also developed a unique conceptual model that can be adopted by other researchers conducting similar studies.

Empirical evidences show that there is the influence of ICT use by librarians, work ethics of librarians and the combined effect of ICT use and work ethics on library users' satisfaction.

This research has been able to investigate the combined influence that use of ICT and the work ethics of librarians have on the library users' satisfaction based on service rendered to them. Prior to this research work there have been researches that investigated the influence of ICT use on library users' satisfaction, where the researches focused on how the use of ICT can help librarians to become more effective and efficient in rendering

services to library users. Some other researches have surveyed the influence librarians' work ethics has on library users' satisfaction, focusing on how librarians can improve their service delivery by upholding the ethical codes of librarianship. But this research is unique in that it has focused on how both variables of ICT use and work ethics of librarians influence library users; satisfaction of the services they receive.

Also, this research has contributed to knowledge by looking at the research from the perspectives of library patrons, rather than librarians themselves. Most researches of this nature often take the path of investigating from the librarians' perspectives, how the use of ICT and work ethics can influence their service delivery. But in the uniqueness of this research, it has provided insight into what library users perceive when it comes to satisfying their information needs as it pertains to librarians using ICTs and upholding librarians' code of conducts when rendering services.

Again, this research has contributed to knowledge by providing insight into how librarians in public university libraries in Edo State use ICTs and observe their work ethics when they render services to library patrons, as no such research has been conducted in this part of the world before.

5.5 Suggested Areas for Further Research

Though conscious efforts have been made by the researcher to ensure validity and reliability of the data collected and analysed, no research can claim comprehensiveness. Thus, this research is suggesting the following areas for further research in order to complement the findings of this research.

- i. Information and communication technology use, work ethics and library users' satisfaction in private university libraries in Edo State.
- ii. Information and communication technology use, work ethics and library users' satisfaction in public university libraries in South-South Nigeria.
- iii. Use of information and communication technologies, work ethics and service quality of librarians in academic libraries in Nigeria.
- iv. Technology use, work ethics and service delivery of librarians in polytechnic libraries in Edo State.
- v. Technology use, work ethics and service delivery of librarians in school libraries in Edo State.

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Appendix

Questionnaire for Library Patrons

Dear Respondent,

I am a Postgraduate Student of Lead City University, Ibadan; working on '**Information and Communication Technology Use, Work Ethics and Library users' satisfaction in Public University Libraries, Edo State**'. Kindly provide responses to the questions on this questionnaire. It will take about 10 minutes. Your responses will be used for research purposes only. Thank you in anticipation.

Researcher

Section A: Demographics

1. Name of Library:

John Harris Library () Ambrose Alli University Library () Edo University Library ()

2. How frequent do you visit the library?

Daily () Once a Week () Once a Month ()

3. How long do you stay in the Library on each visit?

Below 1 hour () 1 – 2 () 3 – 4 () Above 4 hours ()

4. Gender: Female () Male ()

Section B: Library Users' satisfaction

For the following set of questions, VH= Very High, H=High, L=Low, VL=Very Low.

	Library users' satisfaction				
A	To what extent do you agree with the following statements on User Expectations? <i>I expect...</i>	VH	H	L	VL
1	too much from the librarians.				
2	the librarians to be at their best performance.				
3	the librarians to provide all the possible services of a library.				
B	To what extent do you agree with the following statements on Staff Performance?	VH	H	L	VL
1	My needs are often met and exceeded by the librarians				
2	I have high expectations from the librarians because they have always met my needs.				
3	Librarians spend less time and resources in meeting my needs (efficiency).				
C	To what extent do you agree with the following statements on User Disconfirmation?	VH	H	L	VL
1	The performance of librarians often exceeds my initial expectations.				
2	I am likely to continue using the library even when there are alternative options.				
3	Librarians go out of their way to meet my needs.				

Section C: Use of ICT in the Library

For the following set of questions, *VH= Very High, H=High, L=Low, VL=Very Low.*

	ICT Use	VH	H	L	VL
A	To what extent do you agree with the following statements on Perceived Ease of Use? <i>I perceive that...</i>				
1	the librarians find it easy to use ICT to answer my queries.				
2	the librarians find it easy to employ ICT to do what they want to do,				
3	the librarians' interactions with ICTs are clear and understandable.				
4	it is easy for the librarians to become skilful at using most ICTs.				
5	the librarians find it easy to use ICTs generally.				
B	To what extent do you agree with the following statements on Perceived Usefulness? <i>I perceive that using ICT will...</i>	VH	H	L	VL
1	enable librarians to accomplish tasks more quickly.				
2	improve job performance of librarians.				
3	increase productivity of librarians.				
4	enhance the librarians' effectiveness on the job.				
5	make it easier for librarians to do their job.				

Section D: Work Ethics Practiced by Librarians

For the following set of questions, SA= Strongly Agree, A= Agree, D=Disagree, SD= Strongly Disagree.

	Work Ethics				
	Honesty of Librarians <i>I perceive that the librarians...</i>	SA	A	D	SD
1	always work to my benefit.				
2	respect me and strive to learn about my needs.				
3	help me to access materials I search for, regardless of their content, carrier and access method involved.				
4	assume the servant role toward me, treating all critique I express with respect and openness; immediately and honestly answer to all complaints.				
	Quality Service <i>I perceive that the librarians...</i>	SA	A	D	SD
1	provide me with the best research/working conditions.				
2	provide me with high quality of research workspace with logical organization of collected and circulated resources.				
3	care about the esthetic and functional value of the library.				
4	strive to exhaust all possibilities to satisfy my needs.				
5	provide me with honest information on the full and actual scope of library services.				
	Privacy and Secrecy of Users' Information	SA	A	D	SD

	<i>I perceive that the librarians...</i>				
1	protect and keep all information concerning me, my interests and my personal data secret.				
2	use my information only for the purposes defined by the law, like policy decisions and implementation.				
3	ensure that I have the freedom and privacy of using circulated/accessible resources.				
4	respect my right and dignity without prejudice to race, gender, religion, tribe, physical characteristics, age, place of origin, etc.				
	Equal Access to Information <i>I perceive that the librarians...</i>	SA	A	D	SD
1	understand and respect the fact that not all library users are equally capable of receiving information and using the library.				
2	strive to equalize chances of library users who are not equally capable of receiving information and using the library.				
3	work with particular care to the benefit of the disabled and socially disadvantaged and supporting cultural (ethnic, national, religious, etc.) minorities.				
4	strive to provide me with clear, well-known information on the rules and regulations concerning the use of libraries and information centers.				

5	attempt to offer services to as many library users as possible.				
	Impartiality to Users <i>I perceive that the librarians...</i>	SA	A	D	SD
1	try to remain unbiased in all their professional activities.				
2	try to avoid making any tendentious evaluation that may cause any arguments.				
3	do not receive or ask for gifts or gratification for themselves or for others in rendering services to me.				

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University of Port Harcourt, Port Harcourt 2018

Ambrose Alli University, Ekpoma 2012 – 2016

Publications:

A. International Journal

Omigie, C. A., Krubu, D. E. and **Solomon, A. O.** (2023). Exploring artificial intelligence for records and archival management system (AI-RAMS) for Nigerian public organizations. *International Journal of Library Science & Education Research*, 29(8) 125 – 134. <https://www.cambridgenigeriapub.com/2023/10/06/intl-journal-of-library-science-education-research-cjlsr-vol-29-8/>

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B. Local Journal

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C. Chapter in a Book

Krubu, D. E., **Solomon, A. O.** and Adeniran, A. V. (2021). Ethical and legal issues in information use. IN *Trends in Modern Librarianship* by Ifidon, E. I and Krubu, D. E. (Eds.)

D. Book of Abstracts

Solomon, A. O. and Adeyeye, S. V. (2023). Information and communication technology use and users' satisfaction in public universities in Edo State. *Book of Abstracts of Lead City University Postgraduate Multidisciplinary International Conference, Ibadan, Nigeria, 16 – 19 October.*

Iheagwam, S. N. and **Solomon, A. O.** (2023). Information technology in transformational education: Challenges to implementation and way forward. *Book of Abstracts of the School of Education 2023 Biennial National Conference, Federal College of Education Abeokuta, Nigeria, 24 – 28 April*

Ehikhamenor, F. A. and **Solomon, A. O.** (2017). Information Seeking Behaviour of Medical Doctors in Irrua Specialist Teaching Hospital. *Book of Abstracts of the 1st Int'l Conference of the National Association of Women Academics (NAWACS), Ambrose Alli University Chapter, Ekpoma, Nigeria, 2nd - 5th May.*

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Solomon, A. O. and Adeyeye, S. V. (2023). Information and communication technology use and users' satisfaction in public universities in Edo State. A Paper presented at the *Lead City University Postgraduate Multidisciplinary International Conference, 16 – 19 October.*

Iheagwam, S. N. and **Solomon, A. O.** (2023). Information technology in transformational education: Challenges to implementation and way forward. A Paper presented at the *School of Education 2023 Biennial National Conference, Federal College of Education Abeokuta, 24 – 28 April.*

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Transformational education and value re-orientation for sustainable development. Biennial National **Conference** of the School of Education, Federal College of Education Abeokuta, 24 – 28 April, 2023.

E-library management – Extending modern technology to libraries. **Workshop** organized by Centre for Public Service Productivity and Development, 13th – 15th December, 2022

Emerging Trends and Technologies in Library and Information Services. 8th **Conference** of Certified Librarians in Nigeria at the Public Service Institute of Nigeria, Abuja. 22nd – 26th November, 2021

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This is to certify that this thesis by Anthony Oboite SOLOMON with Matric No; LCU/PG/002426 in the Department of Information Management, Lead City University, Ibadan, is in FULL compliance with the approved university format and style.

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