INFORMATION SHARING AMONG ACADEMICS IN TERTIARY INSTITUTIONS IN KATSINA STATE

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A THESES SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF DEGREE OF MASTER IN INFORMATION SCIENCE

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OCTOBER 2010

DECLARATION

I declare that this thesis entitled Information Sharing Among Academics in Tertiary Institutions in Katsina State – Nigeria has been written by me under the supervision of Professor Zakari Muhammad and Professor Tijjani Abubakar. No part of the thesis was previously presented for the award of any degree or diploma in any other University. All cited literatures are acknowledged by means of bibliography.

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CERTIFICATION

This thesis entitled "Information Sharing Among Academics in Tertiary Institutions in Katsina State, Nigeria by Abdu Sani Fari meets the regulation governing the award of the degree of Master of Information Science of Ahmadu Bello University, and is approved for its contribution to knowledge and literary presentation.

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DEDICATION

This research work (thesis) is dedicated to my dear parents Alhaji Abdu Fari and Hajiya Sa'adatu (Turai), their love, encouragement and prayer has made me what I'm today.

ACKNOWLEDGEMENT

Praise be to Allah, the Almighty, for His complete guidance throughout the course of my academic pursuit and for making this work a reality. I acknowledge with great pleasure and gratitude the assistance rendered to me by my able supervisors, Professor Zakari Muhammad and Professor Tijjani Abubakar who read and criticized constructively the different sections of the manuscripts. May Almighty Allah reward them abundantly.

My unreserved thanks goes to all the lecturers of the Department of Library and Information Science, ABU, Zaria (Prof. Umar Ibrahim, Prof. Ekoja, Dr K A Sanusi, Dr K A Momoh, Mal. Abu Yusufu, Mal. Baba Aduku, Mal. A. A. Lemu, Mr Ezra Gbaje and Mal. M. Hayatu for their support during the course of my programme and for their help, encouragement and guidance. My appreciation also goes to my friends and course mates for the cordial relationship and understanding that existed between us during our stay, special thanks to Umar Lawal Gade and Alhaji Tijjani Madobi.

However the intellectual aspect of this research would not be complete without humbly registering my gratitude and appreciation to my host and affectionate friend Umar Babangida Dangani for his patience and understanding and to the entire Abdu Fari family.

Highly appreciated is the love, caring, understanding and prayers of my beloved wife Hauwa(Maijidda) and my children Sa'adatu, Fadimatu, Halimatu and Aminatu.

ABSTRACT

This study was undertaken on information sharing among academics in tertiary institutions in Katsina State. Six (6) research questions were raised and enswered, four (4) hypotheses were also formulated and tested at a 0.05. the research questions sought to find out the type of information academics share, their reasons for sharing, pattern of sharing, frequency of sharing, the type of ICTs used for information sharing and effect of sharing information on their teaching, research, self development and community service. Survey research design was adopted for (he study. Proportionate stratified random sampling was used in selecting the sample size of 30% (234) from a population of 780. Questionnaire was used for data collection and data collected from the research questions were analyzed using frequencies count pie chart and histogram, whiile Null hypotheses 1, 2, 3 were tested and analyzed using one way ANOVA. Null hypotheses 4 was analyzed using PPMC. The research discovered among other things that the predominant qualification of the academics is First Degree; that majority of the academic are in the humanities; academics use information for teaching, research, self development and community service through conference, workshops and seminars; academics share information on writing semiar, workshop and conference papers; academics preferred sharing pattern is collaboration in conducting research, joint article publication and co-authorship in book publishing; information sharing keeps them abreast of knowledge in their field, enhances their productivity, more exposure and wider collaboration; academics most frequently used ICTs are computers, E-mail, radio, television, flash drive and blog; the academics differ significantly in the type of information they share and their reasons for sharing; academics do not differ in their pattern of information sharing. The research concludes that ICTs knowledge and application in information sharing is a must for successful academic carrier and to survive in the 21st century and beyond. It is in this regard that the research recommended that, awareness and sensitization forums be formed between and among academics on the importance of information sharing, modern and enough ICT facilities be provided to academics to motivate them appreciate and embrace their usage, more funds should be allocated to academic institutions to enable them respond to the ever changing demands of the information age and ***for*** *compilance on the latest trends in information sharing.*

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LIST OF ABBREVIATIONS

The followings are the full meanings of abbreviations used in the study

1. ANOVA - Analysis of Variance
2. ABU - Ahmadu Bello University, Zaria
3. CD-ROM - Compact Disc Read Only Memory
4. EDP - Electronic Data Processing
5. FCEK - Federal College of Education Katsina
6. HUKPOLY - Hassan Usman Katsina Polytechnic
7. ICT - Information and Communication Technology
8. IS - Information System
9. LAN - Local Area Network
10. PPMC - Pearson Product Moment Correlation
11. SMS - Short Message Service
12. UMYU - Umaru Musa Yar'adua University
13. UNESCO - United Nations Education, Science and Cultural Organization
14. WAN - Wide Area Network
15. CSCW - Computer Supported Collaborative Work

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Information is an indispensable resource to individuals and corporate groups especially in the ever widening complexity of our modern society. Information can be described as explicit knowledge, which has meaning and can be clearly understood. Whereas knowledge could be regarded as volumes of required and relevant information that is capable of effectively changing the way we think, work and relate with others. Organizations including academic institutions depend on the collection of information pertaining to the purpose for which they operate. Curtis (1999) stated that information is a vital element for technological, educational, social and economic change. It, however, poses several challenges to individuals in all works of life, such as students, employees, academics and citizens of all types.

The current information overload (availability of information in different varieties, formats and sources) requires people to validate and assess information to know its reliability. Recognizing its importance, information is increasingly sought in an increasing number of situations by an increasing number of people (Ugah, 2000). This has increased the volume of available information. The advancement of knowledge is

made possible through research by scholars in all fields coupled with the fusion and fragmentation of disciplines and knowledge.

In addition, there are thousands of other information packages, e.g., journals, magazines and newspapers being turned out by an ever-expanding publishing industry. The electronic media also produce vast volumes of information. The growth of knowledge is related to the growing number, size, and diversity of information transfer packages such as books, journals, technical reports, etc. The implication is such that no researcher is any longer able to lay hands on all materials published in his own field of study. Even if that were possible, the volume would be enormous.

Information is certainly a vital element for creativity and innovation, a basic resource for learning and human thought, a key resources in creating more knowledgeable citizens, a factor that enables citizens to achieve better results in their academic lives, and important resource for national socio-economic development (Byerly and Brodie, 1999). (Gray and Perry, 1975) observed that to be well informed implies three conditions: the information must exist in a suitable form, we must know that it exists, and we must know how to find and use it. Therefore, unless we are aware of the availability of information, we often believe that it does not exist, or, its need does not arise.

Academic activities, governance, public service, industry and commerce would not take place without regular flow of up-to-date, relevant and timely information. This is why academic institutions, with the required technological capability are developing systems for collecting, managing and sharing information through networking. In the new information environment, information is not only used in an effective and ethical way but also in understanding the economic, legal and social issues surrounding its sharing and usage.

The academic needs information about current research and development activities and their socio-economic implications in their field of specialization and in peripheral fields. He needs particular item of information essential to his day-to-day work. He needs information which helps him to find and to check through all of the relevant information existing on a given subject to determine the current state of the art in that field or problem.

Information Sharing

The term "information sharing" has a long history. Traditionally, information sharing is referred to as exchange of data between a sender and receiver. The information exchange is implemented via dozens of open and proprietary protocols message and file formats.

The four primary information sharing design patterns are sharing information one-to-one, one-to-many, many-to-many, and many-to-one. The technologies for meeting the four designed patterns are evolving and they include blogs, wikis, tagging, and chat. etc. As technology advances, information sharing platforms provide controlled vocabularies, data harmonization, data stewardship policies and guidelines, standards for uniform data as they relate to privacy, security, and data quality. (Wikipedia, 2009).

There are a number of reasons for information sharing. These include to:

- Enhance productivity among members
- Facilitate easy and quick information accessibility
- Promote familiarisation and strengthen relationship among members
- Enhance the sharing of ideas between and among members
- Save cost and time which would have been incurred by individuals
- Bring about efficiency and avoidance of duplication of efforts
- Increase effectiveness and specialisation among members
- Bring about up-to-datedness among members in their fields of interest

One of the benefits of sharing is achieving a common purpose by bringing together professionals with common interests. Sharing stimulates new ideas and innovations; it also promotes understanding between professionals thereby facilitating the sharing of valuable information that provide academic support towards achieving desired objective. Olabisi (2004) observed that in modern days many academics, scientists and technologists obtain much of their information from colleagues during face-to-face conversations, telephone calls, and correspondences. In addition, they also acquire much information in more formal ways such as at national, regional, local and technical meetings.

Academics stand to increase their productivity by intellectual intercourse, particularly with their colleagues within their specialised areas as well as by those outside it (Abalaka, 1991). Therefore, research results communicated have the advantage of being accessible and assessable to objective findings of other colleagues.

Information and Communication Technology (ICT) Facilities in Tertiary Institutions in Nigeria

Nigeria is one of the developing countries in the world endowed with a vast array of natural and human resources. Nigeria is the largest black nation in the world and the most populous African nation with about one hundred and fifty million (150,000,000) people, according to

the 2006 population census. Nigeria has, along ago, embraced and integrated ICT into all activities towards achieving the desired outcome in governance, agriculture, industry, politics and, especially, in education. It is crucial for all nations to migrate into the application and usage of ICT in order to compete in the global race among the league of nations towards attainment of millennium development goals. Nigeria is not left behind in the quest for quicker, easier, advanced, efficient and effective ways of improving the lives of its populace through the application of ICT.

ICT facilities are described as all the facilities available for the identification, generation, processing, storage, packaging, preservation, conservation and transfer of information regardless of time and distance constraints. These facilities are very much available, accessible and usable in Nigeria, especially, in the tertiary institutions of learning for the purpose of teaching, learning and research. The availability of computers, internet facilities and services, telecommunication facilities, mobile phones, storage devices (discs, cassettes etc), cameras, projectors etc. information transfer is made easier and faster. The use of ICT has had profound effects on the economy, production, services and the society as a whole; and its areas of application includes education,

healthcare, commerce, publishing, manufacturing, finance, and banking (Hanna et al, 1995).

The provision of ICT facilities in Katsina State is very much a priority as government is investing largely in the area of procurement of equipment and staff training through seminars, workshops towards improving the basic hands-on skills, equipment handling as well as providing facilities like laptops personally to academics on subsidized rate. In some of the institutions in the state like the Umaru Musa Yar'adua University (UMYU), Isa Kaita College of Education (IKCOE), internet connectivity is also free in the offices. The UMYU library is, even, equipped with e-library facilities that can accommodate one hundred and fifty users at a time.

1.2 Statement of the Problem

Academic environment is characterised by learning, teaching and research. Thus, research is a continuous process usually built upon earlier discoveries and findings aimed at achieving positive results and reliable outcomes. Hence, researchers do not always work in isolation. In order to avoid duplication of research effort, academics communicate and share information which allows professional scrutiny of every bit of data generated among them. This explains why information sharing is

inevitable among academics in their quest for effective and efficient information access.

Information and communication technology (ICT) is a vital tool for effective and efficient information sharing as it oils the speedy, remote, and timely communication process. Online information sharing through the Internet provides the golden opportunity for academics and researchers to communicate and share results of their research findings. This, in essence, provides an environment for steady and accelerated flow of information among them. Researchers establish relationships with other colleagues in order to avoid duplication of efforts and to checkmate publishing of works that show ignorance of relevant facts or new discoveries.

However, this researcher observed that the majority of academics in Nigeria do not adequately exploit the opportunities of information sharing. By implication, academics in Nigeria and the study area in particular could be lagging behind in their quest for improved teaching, learning and research thereby subsequently slowing their professional growth as some of them may not fulfil their promotion requirements. As a result of these circumstances, one may speculate whether academics do share information at all; could it be that the right type of information is not usually shared? Or could it be that the frequency of information

sharing among academics is not significant? Or could it be that appropriate ICTs are not exploited for information sharing among academics in tertiary institutions in Katsina State in particular. It is against this background that this study was designed to examine the information sharing among academics in tertiary institutions in Katsina State.

1.3 Research Questions

This study sought to answer the following research questions:

1. What type of information do academics in tertiary institutions in Katsina State share?
2. Why do academics in tertiary institutions in Katsina state share information?
3. How do academics in tertiary institutions in Katsina state share information?
4. How often do academics in tertiary institutions in Katsina State share information?
5. What type of information and communication technologies (ICTs) are used for information sharing by academics in tertiary institutions in Katsina state?

1.4 Hypotheses

The research tested the following hypotheses:

Ho1. There is no significant difference in the type of information shared by academics in tertiary institutions in katsina state.

Ho2. There is no significant difference in the reasons of information sharing among academics in tertiary institutions in Katsina state.

Ho3. There is no significant difference in the pattern of information sharing among academics in tertiary institutions in Katsina state.

Ho4. Information sharing among academics in tertiary institutions in Katsina state has no significant effect on their teaching, research, self development and community service.

1.5 Objectives of the Study

The objectives of the research were to:

1. Identify the type of information shared among academics in tertiary institutions in Katsina State
2. Find out the reasons for information sharing among academics in tertiary institutions in Katsina State.
3. Identify the various ways/avenues used for information sharing among academics in tertiary institutions in Katsina State.

4. Determine the extent to which academics in tertiary institutions in Katsina State share information.
5. Identify the type of ICTs used for information sharing among academics in tertiary institutions in Katsina state.
6. Determine the effect of information sharing on the teaching, research, self development and community services of academics in tertiary institutions in Katsina state.
7. Proffer suggestions for improvement in information sharing among academics in Katsina state.

1.6 Basic Assumptions

The assumptions for this study were that:

1. Efficient and effective information sharing among academics in tertiary institutions in Katsina state would enhance teaching and research.
2. Inefficient and ineffective information sharing among academics in tertiary institutions in Katsina state would hamper teaching and research.

1.7 Significance of the Study

This study would be significant in a number of ways.

It will help to reveal the extent to which academics in tertiary institutions in Katsina state share information. Its findings will lead to improvement of information sharing by academics in the state. It will highlight the past and present state of the art in information sharing generally. Improvement of information sharing among academics in tertiary institutions in Katsina state will lead to better utilization of information for the fulfilment of research objectives in the state. Hence the academics will be enhanced and more productive.

This research will also help in designing information sharing network in academic institutions. It will also be useful to academics and management of academic institutions. In addition it will serve as an important knowledge contribution in the area of information sharing aspect of librarianship and information science.

1.8 Scope and Limitation of the Study

This study was to assess the information sharing among academics in tertiary institutions in Katsina state.

There is one (1) state university, one (1) private university, one (1) federal college of education, one (1) state college of education, one

(1) state college of legal and general studies and one (1) state polytechnic with a total academic staff enrolment of 1,041. It should be noted that as at now, there is no federal university in the study area. The subjects of the study were the academic staff in these six (6) institutions

The study was limited to higher institutions within the boundaries of Katsina state of Nigeria because of financial constraint, limited time for the research to be carried out presented and defended, proximity, and other logistic problems.

1.9 Operational Definition of Terms

The explanation of some terms used in this research are as follows:

Academics – A faculty member that is called lecturer, professor, etc in tertiary institutions that undertake teaching and research functions.

Information – Interpreted symbols and symbol structures that reduce both uncertainty and equivocality over a defined period of time.

Communication – Transfer of knowledge, information or idea.

Information Sharing – Exchange of information, idea and knowledge between individuals, groups or organizations.

ICT – This embraces computers, telecommunications and software systems that aid the organizations, transmission, storage and utilization of information.

Network – established communication ties among two or more individuals or groups.

Research work – Scientific investigations.

Teaching activities – Lecturing, supervision and assessment of students by the academics.

Sharing – Having or using something in common with other people.

Tertiary Institutions – All educational institutions within the boundaries of Katsina State that awards a minimum of Diploma/NCE.

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CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.0 Introduction

This chapter presents and discusses literature relevant to the study. The discussion was done under the following sub-headings:

- The concept of information
- Information and its relevance in the society
- Information sharing
- Information sharing among academics
- Access and use of academic information
- Network and Networking
- ICTs in information sharing

2.1 The Concept of Information

Information is an essential resource for individual growth and survival. Thus, there is often the need for individuals to obtain timely and relevant information. An informed mind is an enriched mind and if one is not informed, he will be deformed. Every rational person needs some form of information for his/her day-to-day existence and well-being. This is why Mohammed (1998) posited that "There is no doubt in the fact that

information is a vital tool for socio-political, economic and cultural development. Its provision, in any society for that matter, must be based on predetermined techniques of collection, acquisition and organization as a function of identified needs of the audience, the choice of the most appropriate medium of communication, the real functions and potentials of the information (recorded and oral) as well as the level and type of education (formal and informal) of the people.

Information is certainly a vital element for creativity and innovation. It is a basic resource for learning and as an expression of human thought. It is a key resource in creating more knowledgeable citizens; a factor that enables citizens to achieve better results in their academic lives. It is also an important resource for national socio-economic development (Byerly and Brodie, 1999).

Defining information Aguolu, (2000) stated that it is "Message of human experience, what is transmitted, a signal, or a stimulus and assumes a response in the receiver, and therefore, possesses response potentials". Okee (2005) opined that "Information is power; and accumulated knowledge leads to national development. Thomas Jefferson argued that the people are capable of governing themselves if they have adequate education and if they have adequate information". Womboh (2002) Viewed information as a processed data that could be

safely used for decision making or a natural phenomenon which is abstract but could be manifested or represented in various physical formats".

Citing Pauline Atherton of Syracuse University, Ferdinand (1994) appreciated the importance of information when she outlined the following as the roles of information:

(i) Improving the capacity of a country to take advantage and know-how achieved elsewhere.

(ii) Providing wider knowledge base for the solution of problems.

(iii) Making for the rationalization and systematizations of a country's research and development efforts in the light of knowledge already available.

(iv) With information, new alternatives and approaches are provided to the solutions of technical problems and options for minimizing future one.

(v) Information is indispensable in decision-making.

"Adequate information can increase our awareness, revise our reason; educate people, accelerate progress and provide the source data required for the solutions of our increasingly complex economic, scientific and social problems" (Aguolu 1984). Radford (1978) defined information as recorded experience that is, or can be used in decision

making. Information therefore is that which adds to our awareness or understanding of some topics, problems or events. Information is also perceived as fact, intelligence, data, news or knowledge. It is therefore a social constant that is all around us and a basic ingredient for human endeavour. King and Palmoure (1981) defined information as the act of informing; it can be thought of as the contents of a message that is conveyed and assimilated by person who receives the message. Such conveyed information usually results in some decisions, actions or behavioural changes or adds to one's knowledge. Hence, in this context the concept of information is viewed from its utility function. This is because it results in a reaction by the user.

Information is "any activity of an individual that is undertaken to identify a message that satisfies a perceived need" (Krikelas 1983). The popular perception of information revolves around the meaning and content conveyed by the information transaction. Information is sought and provided on the assumption that the person receiving it will be better informed. This perception is by no means confined to the general public as the examples of education and library services will confirm. Because, their primary function is to disseminate information. Among the information scientists, information is perceived as the written or spoken

surrogate of knowledge, and as the result of data processing, (Farradane, 1979) and (Hayes, 1960)

2.2 Information Provision and its Relevance in the Society

Information is undoubtedly a valuable resource for development in our complex modern society. We live in a society that is said to be information driven, where the success and or otherwise of our day-to-day activities are strongly determined by how informed we are in executing these processes. The society needs information for effective decision making in all sectors such as education, economy, governance, healthcare etc., this information is packaged in disparate formats. The use of information is indispensable to individual, society, groups and authorities. Information is regarded as a vital resource comparable to other natural resources, indeed, a strategic weapon for development. Provision and accessibility to accurate information at the right time and to the right users is important in the growth and development of any society. Today, one of the parameters for categorizing a country as "developed" or "underdeveloped" has come to be the extent to which it develops its information systems at various operational levels to achieve its socio-economic and political objectives.

Information is "Message of human experience, that is, what is transmitted, a signal, or a stimulus and assumes a response in the

receiver, and therefore, possesses response potentials" (Aguolu 2000). Okee (2005) on the other hand asserted that, "Information is power; and accumulated knowledge leads to national development. Thomas Jefferson argued that the people are capable of governing themselves if they have adequate education and if they have adequate information". Information is therefore a critical resource to the growth and development of any individual, group or nation.

There is an increasing desire or awareness of information from individuals, groups, organizations and nationalities for policy making, planning and other strategic reasons. Therefore, for professionals and practitioners in all works of life to keep tract of developments in their various disciplines or groups and as well contribute their quota to such developments, they have to be provided with well-packaged current information that is managed, shared and distributed on regular basis.

2.3 Information Sharing

Information Sharing is a process of establishing a network for communicating ideas and knowledge between individuals, groups and communities for effective achievement of common goals. Information sharing in the form of consulting and informal communication is a widely recognized phenomenon in information science literature. Allen (1997) pointed out the significance of scholars' communication networks. Crane

(1972) developed the concept of invisible colleges and showed that the most productive members in these networks have more social ties, influence and visibility than those who are less productive. Stoan (1991), among others, found that the amount of scholars' contacts with other researchers is the strongest predictor of their publication efficiency. Sonnenwald and Liewrouw (1997) found that communication behaviour and success in collaboration in project teams correlates positively with perceived individual effectiveness and project performance.

Studies on scholarly information seeking have long since established that researchers in most fields prefer informal information sources and channels over formal searches, as the use of informal sources saves time and energy. Seldén (2001), for instance, characterized socially oriented information seeking as typical for senior social scientists having a long information seeking career and a great deal of social capital, and formally oriented searching is typical for junior researchers with shorter information seeking careers and less social capital. Previous literature on scholars' information seeking indicates that information sharing is as omnipresent a method of information acquisition in academic environments as information encountering (studied by Erdelez, 1997). These methods have rarely been taken as objects of analysis in their own right. Information sharing practices have usually been described with distinctions such as the use of person vs.

documentary sources, formal vs. informal channels, and social vs. technical searching. These distinctions seem to be oriented towards explaining why scholars do not always use the document retrieval systems designed to assist them, describing aspects of scholars' information seeking that are important from the viewpoint of information professionals. These distinctions may not adequately capture the actual social, networked, and collective practices of scholars in seeking, finding, and using information.

In information science literature, information seeking has mainly been analyzed as private labour, although information acquisition and filtering can be, and often is, undertaken as a collective and collaborative effort. In social network studies, studies on team collaboration, and studies on computer-supported collaborative work (CSCW), theories have been developed of the interaction between different groups - for instance, designers and users, that can be fruitfully applied also in information seeking research. The aim of CSCW is to assist in designing knowledge creation and sharing tools for distinct "communities of practice" (Van House et al, 1995). This kind of viewpoint shifts from individuals to communities of practice was originally a concept developed by Lave and Wenger (1991) or communities of sharing Rioux (2000) will enrich information behaviour research. In CSCW, all types of information exchanges are often of equal analytic importance because

the aim is to assist in the creation and dissemination of organizational knowledge. Information sharing in the academic research community can take the following forms:

I. sharing information about relevant documents,
II. sharing relevant documents,
III. sharing information about the contents of relevant documents,
IV. sharing information about novel and efficient ways of finding relevant documents or information sources.

2.4 Information Sharing Among Academics

Information sharing is an activity that dominates a significant part of academic routines. Hence, the success or otherwise of any academic or research findings is largely determined by the extent at which the researchers are involved in gathering relevant, up-to-date and effective information through sharing among colleagues and the outside world. This is why Gamble (2002) postulated that if you are able and willing to share with most, if not all, the members of your group, you can be said to occupy a central position in the group. Hence, in contrast if you relate to only one person or a few people in your group, you occupy a peripheral position. Thus, it is the group's sharing path opened to members that determines the effectiveness of their interaction. In conjunction with this, Newman (2000), in his study, found a number of

interesting properties of information sharing, such that scientific communities seem to constitute a small world. Information sharing among professionals especially in the field of science is a desirable element for productivity. That is why scientists in developed countries as observed by (Olabisi, 1985) deliberately establish information sharing network in order to facilitate their significant breakthrough and to be productive in the field of science. Abalaka (1991) also opined that the scientists stand to increase their productivity by intellectual intercourse, particularly with their colleagues within their specialized areas and by those outside it. In his study, he found that 90.8% of scientist scholars in A.B.U., Zaria belong to one or more professional associations.

Meadows (1974) observed that a study in the early sixties of how U.S. chemists spent their time find that 16.5 hours per week were devoted to information sharing. The information being shared falls essentially into two possible categories. It may consist either of factual data (e.g. the boiling point of a particular compound) or of conceptual information (e.g. the cause of particular observed phenomenon).

Any group's ability to accomplish its task is related to the interactions among its members. Therefore, to achieve desirable results it is crucial for members of an academic environment to share with each other, feel free to express their ideas and findings to all members,

thereby having an opportunity to receive feed backs and constructive criticisms in order to avoid duplication of efforts and keep up-to-date in their fields, Aduku (1998) observed that a knowledge of what other scientist are doing can be of enormous benefits in stimulating thoughts and provoking new ideas.

Charles (1971) pointed out that a developing country needs adequate flow of information through all levels of the society. This denotes that information is needed to enable people to play an active part in modern life. It is needed in the society to regulate tension, free people from ignorance, and bring them together in order that they can participate in programmes that will enhance the development of the society. This emphasizes that Information sharing is indeed a crucial aspect in education, which is also the basis for academics. Education is the pristine essence of learning, which makes us permanently able and disposed to benefit ourselves and other members of the society in the use we make of such learning. It is a cumulative process of the development of intellectual skills, habits, attitude and values, all of which form our various outlooks and dispositions to life generally.

2.5 Access and Use of Academic Information

Information is a vital commodity in academics; its use is largely determined by its availability and accessibility, its use also differs ultimately by individuals and societies. Thus, in order to adequately meet the needs of the intended users, emphasis must be placed on the preference of both the sender and the user of the information.

However, it is necessary to device and maintain an aid which will help in locating information in this era of information explosion. Information generation may be unnecessary unless it is made accessible to people that need it. Bukland (1988) opined that there are six barriers to overcome to enable information access to be achieved. These are;

1. Identification – a suitable source needs to be identified;
2. Availability – the inquirer needs to be able to inspect the source or a copy of it;
3. Price to user – the toil and trouble of acquiring it must be acceptable to the user;
4. Cost to the provider – what has to be expended by the provider of the information
5. Cognitive access – the sufficient expertise of the enquirer to understand it;

6. Acceptability – the reluctance of the enquirer to accept a particular source as credible.

Thus, each one of the dimensions constitutes a type of barrier to access. Hence each one must be satisfied if access is to be effected.

It is crucial to properly store, retrieve, and make information available in usable form for utilization. As King and Palmour (1981) postulated that the ultimate value of any information should be thought of in terms of uses being made of it and the subsequent impact it has on the users.

Blagden (1981) stated that "information is an essential part of a nation's resources and access to it is one of the human rights". He further stressed that information is not only a national resource, vital for scientific and economic progress, but also a medium of social communication. However, access to information is a function of its availability. This is consequently dependant on the predisposition of the society. Although individuals and societies create or generate information independently and collectively, access to this information can only be achieved when the originators recognise the right of access to it by others and as such package it in a form that will ease its accessibility.

Even though access to information is considered as a right, its provision should be relevant considering the needs and preferences of

the end users. Thus, every piece of information sent has its target audience as intended by the sender/source. Ehikhamenor (2003) in his study of the use and non use of the internet facilities by the Nigerian University scientist, observed that although the internet culture is creating a new scientific communication system with new facilities that are competing with, and might replace, the present printed information sources. The scientists are still heavily dependent on printed information sources e.g. journals, indexes and abstracts. Aguolu (1984) explained that the level of current bibliographical sources might hinder access to specific information required by experts. He further stressed that good access to information will enhance research. Thus, reliable access to recorded knowledge is necessary to meet teaching and research requirements.

2.5.1 Problems Hindering Access and Use of Information

Experts have identified various obstacles to information access and use. Uhegbu (2002) identified five: economic, social, environmental, occupational, and infrastructure. Etim (2000) listed seven problems including physical infrastructure, technical, and managerial capabilities, of such among others.

However, lack of awareness, inaccessibility, information explosion, bibliographic obstacles, environment, poor infrastructure,

declining budgets and rising costs, costs for users, staff attitude towards users, and crime are some of the obstacles discussed in this chapter.

2.5.1.1 Lack of Awareness

Information seekers and users may not know about the resources available. The role of libraries has not always been made clear to information seekers, particularly in developing countries as identified and discussed by scholars. Some libraries and librarians have concentrated on traditional resources and services, which may in itself be an obstacle to information access and use (Ologbonsaiye, 1994).

Information access and use can only flourish in a society that appreciates the need for it and where government recognizes that information is the key to national growth and prosperity. Aboyade (1982) observed that even the highly-educated lack awareness of the crucial role that information plays.

2.5.1.2 Inaccessibility

A library's success depends upon the availability of information resources. It is not enough that they are available, or even bibliographically accessible; they must be physically accessible to those who need them. The growth of knowledge, especially in science and technology have turned attention to the problem of bibliographical or intellectual access to recorded knowledge.

There are generally two kinds of failure in library use: stock failure and reader's failure. The former is a library's failure to acquire or produce the material needed by the patron. The reader's failure has two aspects: bibliographical and physical. The bibliographical aspect involves the reader's inability to find the item sought in the library catalogue. The physical aspect is the failure to locate the materials housed in the library. Reasons for inaccessibility have been identified by Aguolu and Aguolu (2002). They are:

- Users do not know precisely what they want; if they do, they cannot articulate their needs accurately to the library staff.
- The bibliographic or intellectual access to the content of the library is inadequate owing to poor indexing system in the library catalogue or of the library collection itself.
- The circulation policy of the library is inefficient, shelving methods are inadvertent, and guides to the library arrangement are lacking.
- Unnecessary physical and administrative barriers are imposed upon the use of the library material by the library management.

Failure to locate on the shelves what has been bibliographically identified in the library catalogue is a common frustration and a challenge to library management. This can be because there is no indication on the library catalogue that an item is lost, sent to the bindery

for repairs, weeded, or stolen. Items may be miss-shelved. Library staff may have removed materials for their private use or that of their relatives, friends, and associates. Other significant variables are discussed by Aguolu (2002). Those included restrictive circulation policies and an inefficient loan system, among others.

2.5.1.3 Information Explosion

The explosion of information is obviously a challenge to libraries. Recognizing its importance, information is increasingly sought in an increasing number of situations by an increasing number of people (Ugah, 2000). This has increased the volume of available information. The advancement of knowledge is made possible by research and by scholars in all fields. Coupled with this is the fusion and fragmentation of disciplines and knowledge. As these break down into smaller segments, the scholarly literature becomes more specialized. In addition, there are thousands of other information packages, e.g., journals, magazines, and newspapers, being turned out by an ever-expanding publishing industry. The electronic media also produce vast volumes of information. The growth of knowledge is related to the growing number, size, and diversity of information transfer packages such as books, journals, technical reports, etc.

As the literature continues to expand, there is a corresponding proliferation of secondary sources, such as indexes and abstracts, which are produced to help control the flood of primary literature. An information seeker now has difficulty navigating the vast ocean of information, much of which he does not need.

The persistence of the scientific journal as a medium of reporting scientific findings, the financial investment in research, and constant scientific and technological discoveries have all helped to increase research literature output to a level that overwhelms librarians. The impact is such that no researcher is any longer able to lay hands on all materials published in his own field of study. Even if that were possible, the volume would be enormous.

2.5.1.4 Bibliographic Obstacles

Bibliographic obstacles take various forms. In some cases, adequate bibliographic description is lacking, while in others, the bibliographic description is incomplete or incorrect. In many cases, information retrieval devices themselves are lacking. Those devices vary in sophistication and usefulness. They include indexes, abstracts, bibliographies, and catalogues. Their objective is to save the user's time and simplify searching (Banjo 1984). Lack of information retrieval devices is more serious in developing countries like Nigeria thereby

creating a serious obstacle to information access and use. Even when they exist, they lack continuity; they are outdated, and do not give a true picture of available current information.

2.5.1.5 *Environment*

Perhaps the major obstacle to information access and use is the environment. The principal environmental factors include the polluted air in urban and industrialized cities of the world, wide ranges of temperature, pests, and so on (Ugah 1993; Ononogbo 2002).

A large percentage of information materials is made of paper that has undergone several stage of chemical processing. The demand for paper caused manufacturers to use wood pulp and acid in its production. Sulphur-dioxide and nitrogen dioxide increases the acidity of paper material and this contributes to its deterioration. The ultraviolet rays of the sun also have a negative affect on the quality of paper. Ologbonsaiye (1994) identified noise as another environmental factor. Noise from traffic or other users' conversation can be negative environmental factors, similar to the noise from library staff or equipment. Uhegbu (2001) included language and location of information as environmental factors.

2.5.1.6 Poor Infrastructure

Infrastructure is the basic framework of any information organization. Effective information access and use depends on communication facilities such as telephones, Internet, telex, fax, computers, and even postal services, as well as an adequate supply of electricity.

2.5.1.7 Declining Budgets and Rising Costs

Faced with declining budgets and increasing demands from users, libraries are finding it difficult to acquire both primary and secondary publications to meet such demands. Worldwide inflation and economic recession have drastically increased the cost of publications. Printing and publishing businesses have become extremely capital-intensive. The cost of publication increases at a faster rate than the general rate of inflation. Many publications have been priced out of the reach of individual subscribers and many libraries; only large libraries are able to afford the cost. This reduces access to information. Aguolu and Aguolu (2002) stated that, "the high rate of inflation in Nigeria and abroad undermines the acquisition capacity of libraries." Library materials are ordered from countries with a higher standard of living, and prices of books and journals are fixed for societies with higher levels of income. Foreign exchange restrictions, bureaucratic procedures with

import licenses, and customs regulations are among the challenges facing libraries.

2.5.1.8 Costs for Users

There are a number of costs for users in obtaining access to information. Most government information sources are classified "secret" and may require large sums of money to obtain. Many users cannot afford to travel from one place to another to obtain information. They may not be able to afford photocopying services. Some information is located in rural areas, and obtaining it is an expensive logistic problems; while some that are abroad are also expensive to reach. Because of the expense, some information seekers resort to mutilation and theft. These create more obstacles to information access and use.

2.5.1.9 Staff

Library staff are the agents by which service is provided. Quality of service depends on quality of staff. Ifidon (1995) posited that some library staff lack a clear perception of their service mission. Dipeolu (1992) stated that some librarians refuse to "soil their hands, " casting themselves as administrators; while secretaries, clerks, and messengers minister to library patrons. When professional librarians and other employees fail to make adequate use of their knowledge and skills, access to information is affected.

2.5.1.10 Crime

Criminal activities are a formidable obstacle to information access and use. They include theft and mutilation of information sources, and assault on staff. This is a serious problem that needs urgent attention. Writing on crime and security in libraries, Ratcliff (1992) found the situation alarming, not simply because thefts cost money, but because of their cost to scholarship and information access. There has been concern about this issue for some time. Zeiderberg (1987), for example, reported similar situation in the US during the 1980s.

2.6 Network

The Cambridge Advanced Learners Dictionary (2003) defines network as "a large system consisting of many similar parts that are connected together to allow movement or communication between or along the parts or between the parts and a control centre". Network is a communication system which links together computers, storage devices, word processors, printers, the telephone system and other electronic devices. Within one organisation, especially on one site, networks are known as local area networks (LANs) and these networks allow interconnections between numbers of computers and other devices. Terry (2005) argued that "Local Area Networks (LANs) form the vital link

within which allows distributed processing to take place, whilst at the same time allowing users to share resources such as discs and files to communicate with each other". Larger scale networks, on a national or international scale, are known as wide area networks (WANs), the best known example is the internet. Information and Communication Technology (ICT) is used to connect (via networks) and integrate data and information resources that might be stored on different and geographically dispersed computers. Today, information is increasingly codified in digital forms, new skills are needed to operate the technology to search for, organize and manage information and use it to solve problems and create new knowledge and cultural products, (American Library Association, 1989). ICT-based networks can facilitate the sharing of information and resources through integrating data and information structures. ICT can be applied to network communication processes enabling a combination of one-to-one, one-to-many, many-to-one or many-to-many communications to be established over global networks. ICT can enable people to work more closely beyond the organisational boundaries, to share knowledge systematically and to link with outside partners. One central contact point for information sharing can be established.

Similarly, Bryson (1990) defined network as a natural coalition of groups joined together whose interest, view point and preference need to be protected. Thus within networks information is free and positively shared. Networks can also be closed group phenomena, with those belonging to the network having the same predisposition, values and norms.

The concept of network however manifests itself in the form of collaboration, cooperation, connection, association, sharing etc. in an academic environment regarding research findings, research in progress and research techniques informally links members to one another. It also formally links two or more people about their research work such as journal publications. This collaboration is done as a result of information sharing. Information sharing also links academics in the citation references in journal articles, conference and seminar papers which show influence of one researcher's work on another.

Also, groups of researchers, scholars, academics and scientists have built up informal, but sometimes elaborate system for the exchange of information through letters, mailing lists, conference schedule and reprints, known as invisible college. Through this and other informal means a high proportion of information is shared and disseminated before formal publication (Aliyu, 2006).

2.7 Information and Communication Technology (ICT) in Information Sharing

The term ICT came into existence in the late 1990's, supplanting earlier terms such as Electronic Data Processing Systems (EDP) and information systems (IS). It is a general phrase used to describe a range of technologies for gathering, storing, retrieving, processing, analyzing and transmitting information. ICT, as defined by Oliver, et al (2000), is the technology which supports activities involving the creation, storage, manipulation and communication of information (principally computing, electronics and electronic communications) together with their related methods, management and applications. Such an all embracing term is open to a number of interpretations depending in which context it is used. In some contexts the term ICT means computers, ancillary equipment, software, firmware (hardware) and similar procedures, services (including support services) and related resources. Also, it includes any equipment or interconnected system or sub-system of equipment that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission or reception of data or information.

The emergence, development and diffusion of ICT have changed the society dramatically into what is now sometimes called an information society. ICT makes it possible to collect, process and

transmit information much faster and much cheaper than before. The use of ICT has had profound effects on the economy, production, services and the society as a whole and its areas of application includes education, healthcare, commerce, publishing, manufacturing, finance, and banking (Hanna et al, 1995).

Advances in ICT have facilitated the advancement of all professions. It is rapidly impacting on the society and our lives thereby bringing us more closely to things happening around the wider world and us. For instance, ICT such as communication satellite, cable television networks, wireless telephone systems, computer network systems and the internet have communicative powers that have made much impact on the society. It is therefore, the result of scientific investigation and the implementation of its findings (Mohammed, 2006). It is in no doubt that ICT has provided the solution for the problem(s) of delay in information access and use.

The application of technology to inform and make teaching, learning and research entertaining is almost limitless. With the technology playing an ever-more significant role in people's homes, lives and working places, the world is being shaped as a global village in the midst of information revolutionary trends, complemented by an explosive growth in knowledge. Hence ICT permeates and cuts across all areas of

economic, social, cultural and political activities. ICTs, as observed by Musa, (2005) are capturing (obtaining information at its point of origin), conveying (presenting information in its most useful form), creating (processing information for use at a later time), and communicating (sending information to other people or locations). ICT really gives greater flexibility in information sharing, access and use. They also encourage a greater degree of homogeneity by maximizing connectivity and compatibility for data exchange.

The internet has made information transfer easier, more effective and less costly. Through the internet people discuss and share information at the same time regardless of time, space and distance constraints. Scholars now disseminate worthy information electronically. Data services and office automation are common and essential aspects of academic systems. Hence tertiary institutions must assure availability of required ICT facilities for effective information sharing within the community and outside (internet and intranet).

2.8 Summary of the Review

Researches in the field of information sharing have created an impressive body of information handling processes that involves communications network assessment, appraisal and improvement. The findings in these literature are wide and very creative even though the

ideas in them are common and advocating for similar future trends in information handling. Information is certainly a vital element for creativity and innovation. It is a basic resource for learning and as an expression of human thought. It is a key resource in creating more knowledgeable citizens; a factor that enables citizens to achieve better results in their academic lives. It is also an important resource for national socio-economic development (Byerly and Brodie, 1999).

Information Sharing is a process of establishing a network for communicating ideas and knowledge between individuals, groups and communities for effective achievement of common goals. Information sharing in the form of consulting and informal communication is a widely recognized phenomenon in information science literature. Allen (1997) pointed out the significance of scholars' communication networks. Crane (1972) developed the concept of invisible colleges and showed that the most productive members in these networks have more social ties, influence and visibility than those who are less productive. Stoan (1991), among others, found that the amount of scholars' contacts with other researchers is the strongest predictor of their publication efficiency. Information sharing is an activity that dominates a significant part of academic routines. Hence, the success or otherwise of any academic or research findings is largely determined by the extent at which the researchers are involved in gathering relevant, up-to-date and effective

information through sharing among colleagues and the outside world. This is why Gamble (2002) postulated that if you are able and willing to share with most, if not all, the members of your group, you can be said to occupy a central position in the group.

Finally Information is a vital commodity in academics; its use is largely determined by its availability and accessibility, its use also differs ultimately by individuals and societies. Thus, in order to adequately meet the needs of the intended users, emphasis must be placed on the preference of both the sender and the user of the information. The emergence, development and diffusion of ICT have changed the society dramatically into what is now sometimes called an information society. ICT makes it possible to collect, process and transmit information much faster and much cheaper than before. The use of ICT has had profound effects on the economy, production, services and the society as a whole and its areas of application includes education, healthcare, commerce, publishing, manufacturing, finance, and banking (Hanna et al, 1995). It is in no doubt that ICT has provided the solution for the problem(s) of delay in information access and use in the 21st century and provides the necessary needed facilities and equipments for effective and efficient processing, transfer and retrieval of information for today's society and for the future.

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CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter describes the strategies and procedures adopted in the conduct of this study. The chapter treats the following sub-headings; Research method adopted, population of the study, Sample size and Sampling procedure, Instrumentation, validity of the instrument, Reliability of the instrument, Method of data collection and analysis

3.1 Research Method Adopted

Survey research design was used for this study. This is found to be the most appropriate because the study is focusing on a population spread across a given length and breadth of an entire state i.e. Katsina state of Nigeria. Babbie (1980) noted that the survey method is used in studies that have individual people as a unit of analysis and probably the best method available to the researcher. Osuala (2001) pointed out that "survey research is suitable for studying both small and large populations". Hence the purpose of adopting survey research technique is that it would enable the researcher reliably gather (collect) data on Information Sharing among Academics in Tertiary Institutions in Katsina State.

3.2 Population of the Study

The population of the study comprised all academics in all the tertiary institutions within the boundaries of Katsina state. This population is made up of all the academics in the six (6) tertiary institutions in the state as follows; Umaru Musa Yar'adua University (UMYU), Katsina Islamic University, Hassan Usman Katsina Polytechnic, Federal College of Education, Katsina (FCEK), Isa Kaita College of Education, Dutsin-ma (IKCOE) and Yusuf Bala Usman College of Legal and General Studies, Daura. Breakdown of the enrolment of academic staff in these institutions is shown in table 3.1 below.

Table 3.1 List of Tertiary institutions within the boundaries of Katsina State with their academic staff enrolment.

S/N	INSTITUTION	STATUS	ACADEMIC STAFF ENROLLMENT	MALE	FEMALE
1	UMARU MUSA YAR'ADUA UNIVERSITY, KATSINA	STATE UNIVERSITY	283	267	16
2	KATSINA ISLAMIC UNIVERSITY, KATSINA	PRIVATE UNIVERSITY	41	36	05
3	HUK POLYTECHNIC, KATSINA	STATE POLY	280	250	30
4	FCE, KATSINA	FEDERAL COLLEGE	217	190	27
5	ISA KAITA COLLEGE OF EDUCATION, DUTSIN-MA	STATE COLLEGE	178	172	06
6	YUSUF BALA USMAN COLLEGE OF LEGAL AND GENERAL STUDIES, DAURA	STATE COLLEGE	42	38	04
	TOTAL	06	1,041	953	88

SOURCES: Katsina State Higher Education; UMYU; FCE Katsina. (As at February, 2010)

3.3 Sample and Sampling Technique

Proportionate stratified random sampling was used to select the required sample size. In doing so, the researcher, first divided the population into strata or sub-groups, in this case, three (3) institutions were randomly selected, one College of Education, one University and one Polytechnic. These institutions are Federal College of Education Katsina, Umaru Musa Yar'adua University and Hassan Usman Katsina Polytechnic. Thirty percent (30%) of the total population of seven hundred and eighty (780) academic staff of the three (3) selected institutions was used. Based on this, a total sample size of two hundred and thirty four (234) academic staff was drawn and used as sample for this study. The choice of 30% was supported by Roscoe, (1969); and Boll and Gall as cited by Adetoro (1986) in Afolabi (1993). Below is table 3.2 showing the distribution of the sample size across the tertiary institutions selected in Katsina State.

Table 3.2 Sample Distribution Across Institutions

S/N	INST.	STATUS	TOTAL MALE	SAMPLE	TOTAL FEMALE	SAMPLE	TOTAL SAMPLE
1	FCEK	FEDERAL COLLEGE OF EDUCATION	190	*57*	27	*8*	65
2	UMYU	STATE UNIVERSITY	*267*	*80*	16	*5*	85
3	HUKPOLY	STATE POLY	250	*75*	30	*9*	84
	TOTAL		707	*212*	73	*22*	234

3.4 Instrument for Data Collection

The researcher used questionnaire to collect the data for the research. The instrument was chosen because according to Osuala (2001) "it permits wider coverage for a minimum expense both in money, time and effort. It also affords not only wider geographical coverage but reaches individuals who are normally difficult to contact..." In their assertion, Osuala (1993) and Tiamiyu (2000) observed that questionnaire is a very popular instrument for research in the field of

library and information science and seek opinion of people on a series of issues pertinent to research problem.

The questionnaire contained 6 sections i.e. sections A-F with items covering the types of information shared; reasons for the sharing of information; frequency of information sharing among academics; types of ICTs used for information sharing and the effect of information sharing on the teaching, research, self development and community service activities of the academics in tertiary Institutions in Katsina State.

3.5 Procedure for Data Collection

The researcher personally administered the questionnaire to the respondents in all the three (3) selected institutions. Two research assistants were also employed to ensure timely distribution and collection of the questionnaire. Best and Khan (1989) asserted that questionnaire administered personally to a group of individuals had a number of advantages as the person administering the instrument has the opportunity to establish rapport and explain the meaning of items that might not be clear. That availability of the number of respondents in one place makes possible an economy of time and experience and provide high proposition of useful responses.

3.6 Method of Data Analysis

Descriptive statistics such as tables, charts, percentages were used in analyzing the data that relates to the research questions. Analysis of Variance (ANOVA) was used to test the null hypothesis 1,2 and 3 at alpha level of 0.05, while null hypothesis 4 was tested using Pearson Product Moment Correlation (PPMC) .

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CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.1 Introduction

This chapter presents the data analysis of the study; it further analyses and discusses the data based on the research questions and hypotheses raised.

4.2 Response Rate

Out of the total number of two hundred and thirty four (234) copies of questionnaire distributed. Two hundred and twenty nine (229) were duly completed, returned and found usable for analysis, representing 97.86% response rate. This could be attributed to the fact that, some respondents completed the questionnaire on the spot as a result of good rapport established by the researcher. Also, the researcher's effort and that of the research assistants in administering the instrument and the subsequent follow up led to the high response rate

4.2.1 Distribution of Respondents by Institution

Table 4.1 Distribution of Respondents by Institution

Institution	Freq.	%
Federal College of Education Katsina (FCEK)	64	28
Umaru Musa Yar'adua University (UMYU)	83	36.2
Hassan Usman Katsina Polytechnic (HUKPOLY)	82	35.8
Total	229	100

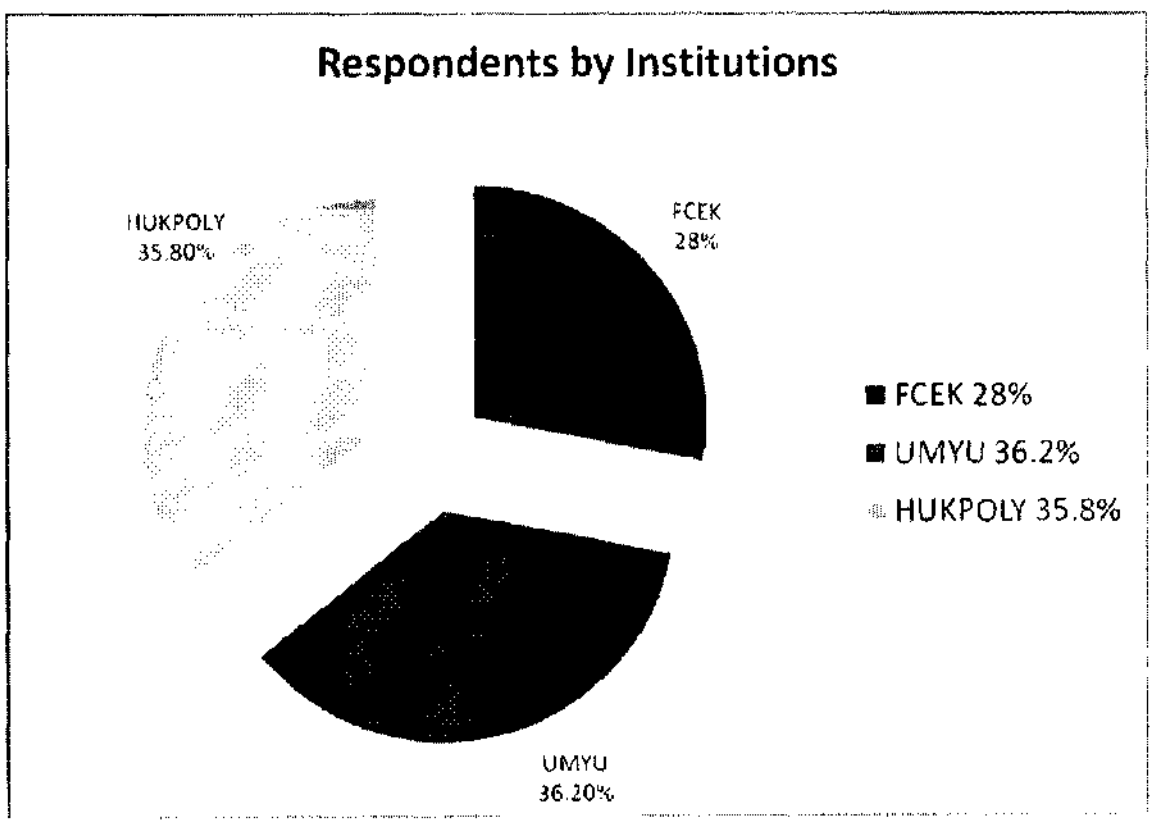


FIGURE 1

Table 4.1 and Figure 1 above shows that UMYU has the highest respondents with 83 (36.2%) followed closely by HUKPOLY 82 (35.8%), while the Institution with least respondents is FCEK. The reason for high response from UMYU is as a result of higher number of academic staff in these Institutions due to the fact that it is a conventional university where more faculties and departments are running.

4.2.2 Distribution of Respondents by Gender

Table 4.2 Distribution of Respondents by Gender

Gender	Frequency	Percentage
Male	209	91.3
Female	20	8.7
Total	229	100

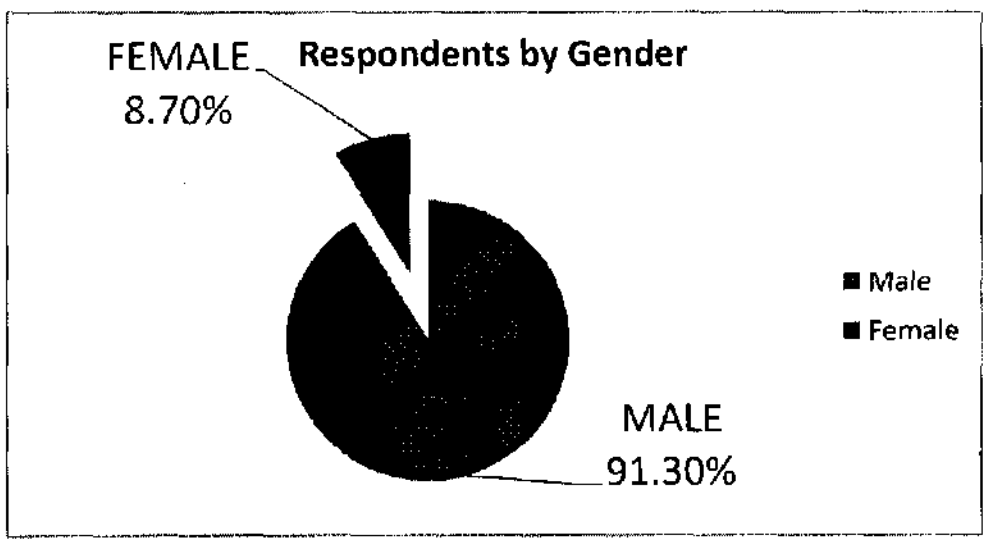


FIGURE 2

The respondents are categorized into two by gender (male and female) it is evident from their responses shown in table 4.2 and Figure 2 above that, there are more male academics 209 (91.3%) in the institutions selected for the study while female academics are only 20 (8.7%) this shows that research and teaching in the tertiary institutions in Katsina state is dominated by males. This is raising the issue of the need for more females in lecturing profession in order to have a balanced representation in the academia. Efforts should be made to improve girl-child education in the state in order to balance the tilt.

4.2.3 Distribution of Respondents by Discipline

Table 4.3 Distribution of Respondents by Discipline

Discipline	Frequency	Percentage
Sciences	32	14
Social Sciences	94	41
Humanities	103	45
Total	229	100

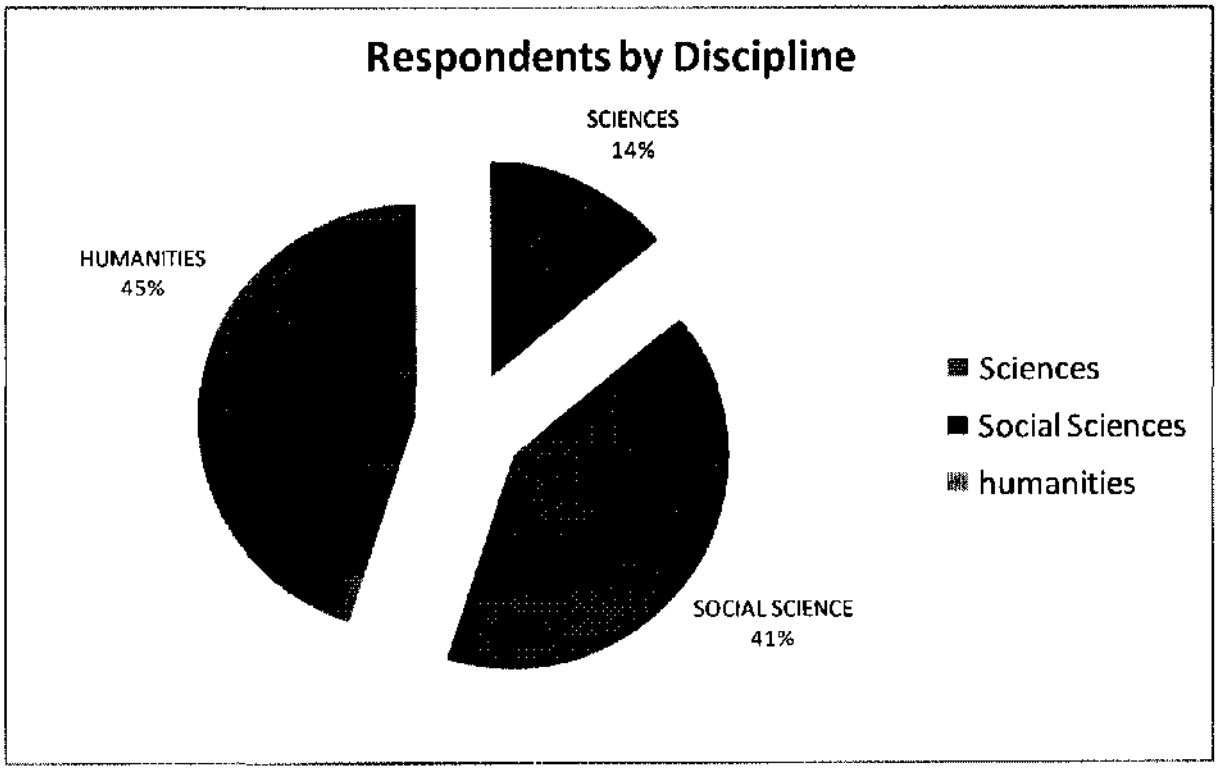


FIGURE 3

In order to determine the academic discipline of the respondents and to enable us deduce the relationship between information sharing patterns and their discipline, three options representing the broad subject disciplines were provided for them to indicate where they belong. Table 4.3 and Figure 3 above shows that there are more academics in the Humanities 103 (45%) followed by Social Sciences 94 (41%), it is also evident that Science as a discipline has the least number of respondents 32 (14%). This is an indication that there is the need for more science based academics in tertiary institutions in the state.

4.2.4 Distribution of Respondents by Academic Qualification

Academic qualification of individuals entails their intellectual development, Information needs and Information sharing activities, it is assumed that as they grow in their academic ladder, Information Sharing will enhance their productivity, recognition, experience in research and collaboration for optimum improvement in their field. Table 4.4 below shows the academic qualification of respondents.

Table 4.4 Academic Qualifications of Academics

Qualification	Frequency	Percentage
PhD	16	7.0
Masters	61	26.6
First Degree	152	66.4
Total	229	100

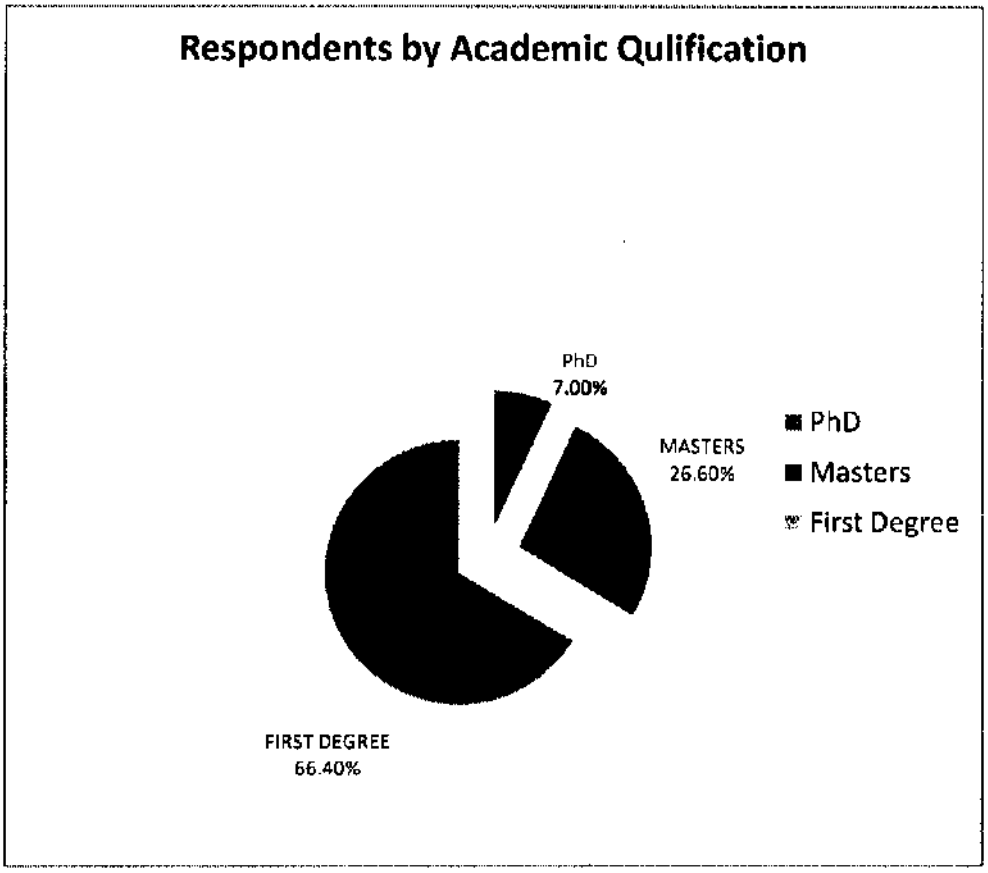


FIGURE 4

Table 4.4 and Figure 4 above shows that, first degree is the highest educational qualification of the majority of the academics in tertiary institutions in Katsina state. This shows that the institutions employ more graduate assistants as in the case of Umaru Musa Yar'adua University, even though most of them have enrolled in masters programmes both within the country and abroad, this is an indication that there is the need for enhanced and continuous staff development in all tertiary institutions in the state.

4.3 Descriptive Analysis

This section analyses and discusses data collected for the purpose of answering the research questions raised in the study. Frequencies and percentages were calculated and diagrams were used to illustrate pictorial analysis of some of the data as presented below:

4.3.1 Type of Information Used Among Academics in Tertiary Institutions in Katsina State.

The academics were asked to indicate the type of information they normally use among themselves. A list of options was provided for them to tick as many as possible. Their responses are presented in table 4.5 below.

Table 4.5 Type of Information Used among Academics in Tertiary Institutions in Katsina State.

S/N	Type of Information	Yes		No	
		Freq.	%	Freq.	%
1	Information on Conferences, Workshops and Seminars Attendance	205	89.5	24	10.5
2	Information on Writing Seminars, Conference or Workshop Papers	205	89.5	24	10.5
3	Information on Scholarship Availability	116	50.7	113	49.3
4	Information on Self development/Improvement	122	53.3	107	46.7
5	Information on Part-Time, Visiting and Sabbatical Jobs	68	29.7	161	70.3
6	Information on Teaching Methods/Class Management	128	55.9	101	44.1
7	Information on New Technologies	129	56.3	100	43.7
8	Information on Trade Unionism	180	78.6	49	21.4
9	Information on Job Opportunities/Vacancies	160	69.9	69	30.1
10	Information on Current/On-going Researches	157	68.6	72	31.4
11	Information on Recreation and Entertainment	110	48.0	119	52.0
12	Information on politics	116	50.7	113	49.3
13	Information on Search Techniques	117	51.1	112	48.9
14	Information on Trade	124	54.1	105	45.9
15	Information on Agricultural Activities	122	53.3	107	46.7
16	Information on Communal Activities	177	77.3	52	22.7
17	Information on Health Issues	173	75.5	56	24.5
18	Information on Culture and Tradition	162	70.7	67	29.3
19	Information on Sports	114	49.8	115	50.2

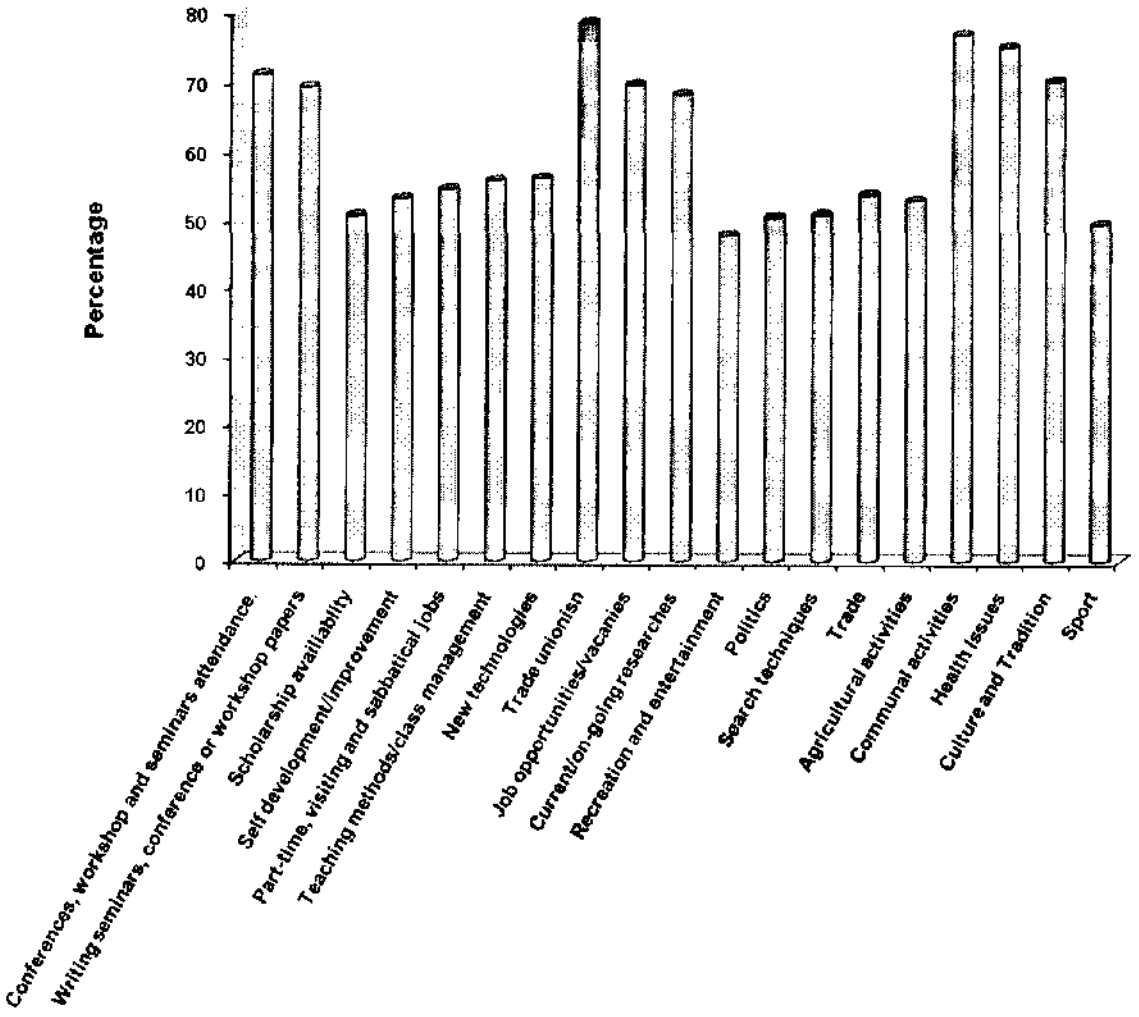


Fig. 5: Types of information normally used in the tertiary institutions in Katsina state

Table 4.5 and figure 5 above reveals that a majority of academics normally use information on conference, workshops and seminars attendance and information on conference, workshops and seminar papers. This represents 205(89.5%) and 205(89.5%) each. This is in line with the findings of Abalaka (1991) and Aliyu (2006) who both discovered that academics heavily defend on interactions with colleagues, seminars, conferences and workshops for information. This is proving the statement made by Olabisi (2004) when he observes that academics obtain much of their information from their colleagues by such informal means as face-to-face conversation, telephone calls, and correspondences. In addition, they acquire much information in more formal ways, such as at national, regional, local and technical meetings.

The respondents also use information on politics 116(50.7%) as can be seen from the table. Other information the academics do normally share are on new technologies 129(56.3%) and search techniques 117(51.1%) through which electronic information can be easily retrieved, this is in line with the observations of OSTI (2006) that the e-print network being a set of powerful tools that facilitates access to and use of scientific and technical e-prints, communicating the results of research activities, is also about the professional communication that are fundamental to the way science progresses.

However, it indicates from the table that, a majority of them do not use information on recreation and entertainment 119(52.0%) and sport 115(50.2%).

4.3.2 Information Preferred

One of the fundamental concerns of this research is on the information mostly preferred among the academics in tertiary institutions in Katsina state. The academics were asked to indicate the information they mostly prefer from a range of nineteen(19) different types of information provided. Table 4.6 and figure 6 below summarize the relevant data obtained.

Table 4.6 Information Preferred

S/N	Type of Information	Yes		No	
		Freq.	%	Freq.	%
1	Information on Conferences, Workshops and Seminars Attendance	198	86.5	31	13.5
2	Information on Writing Seminars, Conference or Workshop Papers	196	85.6	33	14.4
3	Information on Scholarship Availability	128	55.9	101	44.1
4	Information on Self development/Improvement	128	55.9	101	44.1
5	Information on Part-Time, Visiting and Sabbatical Jobs	112	48.9	117	51.1
6	Information on Teaching Methods/Class Management	169	73.8	60	26.2
7	Information on New Technologies	161	70.3	68	29.7
8	Information on Trade Unionism	182	79.5	47	20.5
9	Information on Job Opportunities/Vacancies	114	49.8	115	50.2
10	Information on Current/On-going Researches	117	51.1	112	48.9
11	Information on Recreation and Entertainment	127	55.5	102	44.5
12	Information on politics	122	53.3	107	46.7
13	Information on Search Techniques	45	19.7	184	80.3
14	Information on Trade	176	76.9	53	23.1
15	Information on Agricultural Activities	166	72.5	63	27.5
16	Information on Communal Activities	118	51.5	111	48.5
17	Information on Health Issues	126	55.0	103	45.0
18	Information on Culture and Tradition	119	52.0	110	48.0
19	Information on Sports	131	57.2	98	42.8

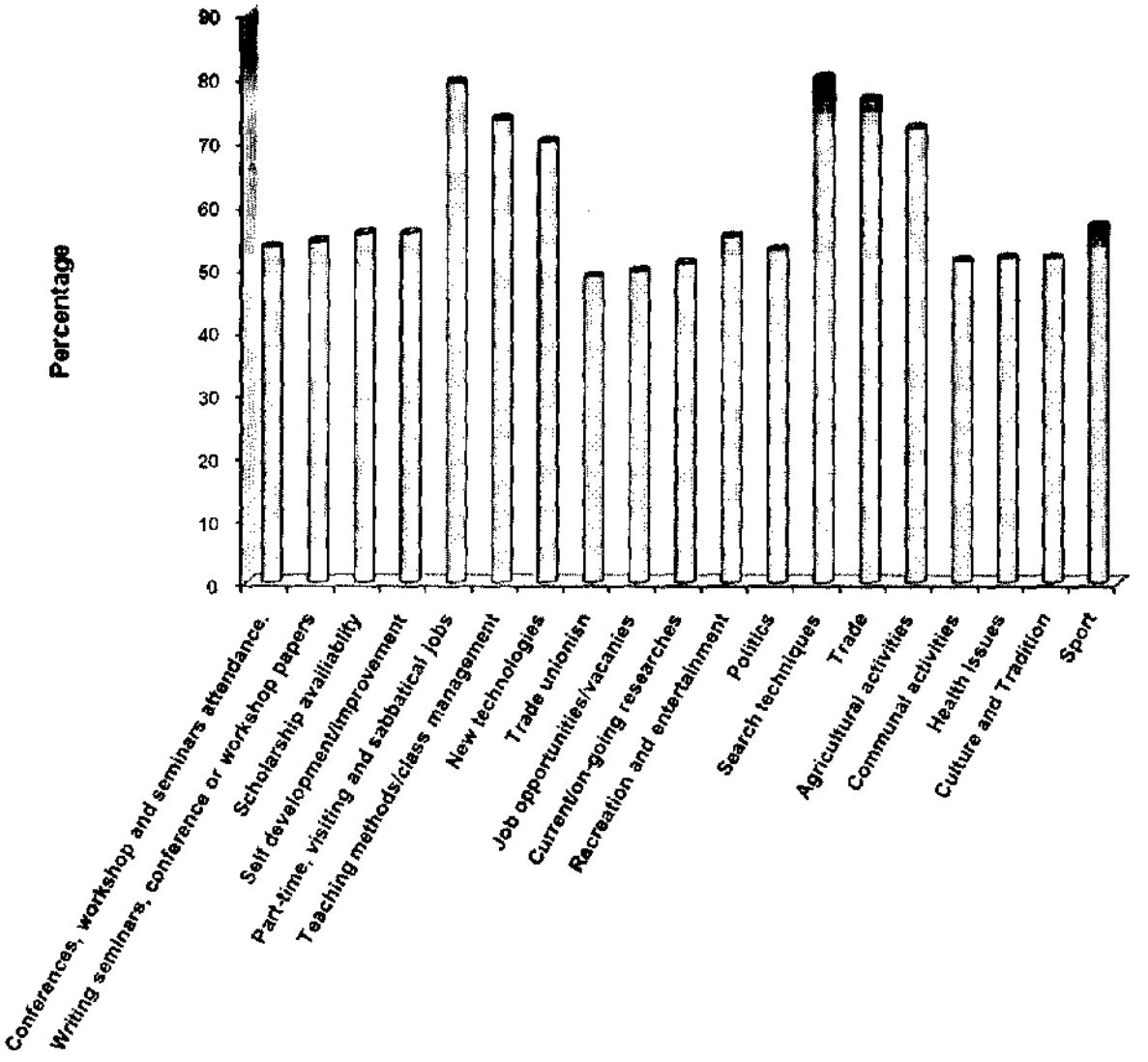


Fig. 6: Types of information mostly prefered by the tertiary institutions

Table 4.6 and figure 6 above clearly indicate that academics in tertiary institutions in Katsina state mostly prefer information on workshop, conference and seminar attendance 198(86.5%) and information on writing workshop, seminar and conference papers 196(85.6%). This is in agreement with their responses concerning information use earlier analyzed. It also proves Blagden (1981) in Aliyu (2006) statement that, "information is an essential part of nation's resources and access to it is one of the human rights". He further stresses that information is not only a national resource vital for scientific and economic progress, but also a medium of social communication.

It is also revealed that, the academics also prefer information on communal activities 118(51.5%), which is also in consonant with the opinion of Charles, (1971) that a developing country needs adequate flow of information through all levels of society. This denotes that information is needed to enable people to play an important role in modern life. It is needed in the society to regulate tension, free people from ignorance, and bring them together in order that they can participate in programmes that will enhance the development of the society.

4.3.3 Information Shared

The researcher provided the respondents with a range of nineteen (19) types of information shared among academics to indicate the type they share among themselves. Their responses are presented in table 4.7 and figure 7 below.

Table 4.7 Information Shared

S/N	Type of Information	Yes		No	
		Freq.	%	Freq.	%
1	Information on Conferences, Workshops and Seminars Attendance	175	76.4	67	29.3
2	Information on Writing Seminars, Conference or Workshop Papers	176	76.9	53	23.1
3	Information on Scholarship Availability	177	77.3	52	22.7
4	Information on Self development/Improvement	162	70.7	67	29.3
5	Information on Part-Time, Visiting and Sabbatical Jobs	106	46.3	123	53.7
6	Information on Teaching Methods/Class Management	116	50.7	113	49.3
7	Information on New Technologies	117	51.1	112	48.9
8	Information on Trade Unionism	125	54.6	104	45.4
9	Information on Job Opportunities/Vacancies	123	53.7	106	46.3
10	Information on Current/On-going Researches	178	77.7	51	22.3
11	Information on Recreation and Entertainment	168	73.4	61	26.6
12	Information on politics	181	79.0	48	21.0
13	Information on Search Techniques	54	23.6	128	55.9
14	Information on Trade	162	70.7	101	44.1
15	Information on Agricultural Activities	114	49.8	115	50.2
16	Information on Communal Activities	124	54.1	105	45.9
17	Information on Health Issues	122	53.3	107	46.7
18	Information on Culture and Tradition	124	54.1	105	45.9
19	Information on Sports	126	55.0	103	45.0

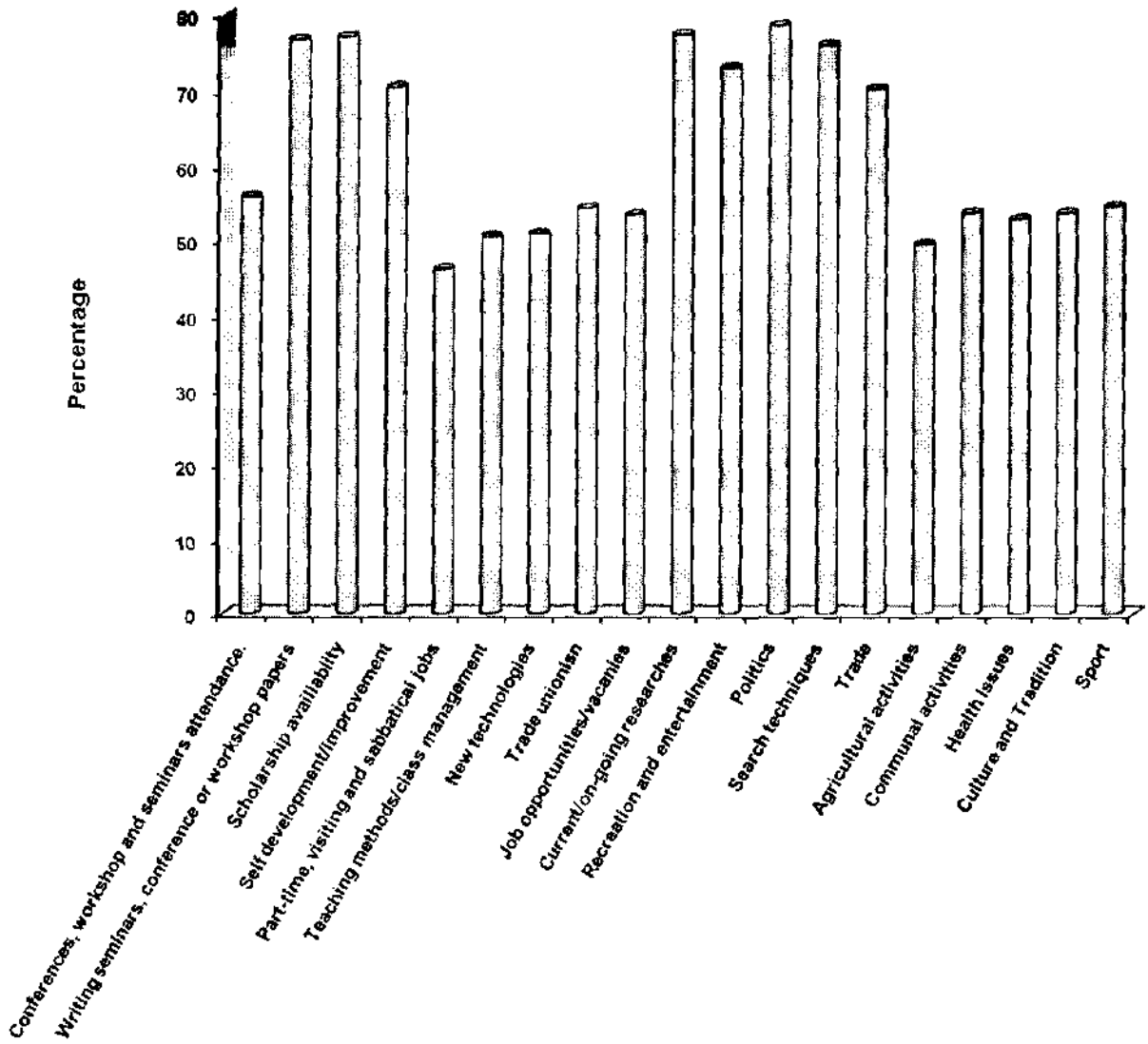


Fig. 7: Types of information shared by the respondents in the institutions

Table 4.7 and figure 7 above indicate that majority of the academics in the institutions do share information on workshop, conference and seminar attendance 175(76.4%) and information on writing workshop, conference and seminar papers 176(76.9%). This is in line with the statement made by Voigt (1979) that an academic needs information which helps him to find and to check through all of the relevant information existing on a given subject to determine the current state of the art in that field or problem.

However it was alarming to discover that the academics in tertiary institutions in Katsina state do not share information on search techniques 128(55.9%). This will no doubt reduce their research output as more research outcomes in academics are communicated online in form of electronic/online resources. This was in line with the opinion of OSTI (2006) that the e-print network, being a set of powerful tools that facilitates access to and use of scientific and technical e-prints, communicating the results of research activities, is also about the professional communication that are fundamental to the way academics progresses.

4.3.4 Extent of Sharing Information among Academics in Tertiary Institutions in Katsina State

The respondents were provided with thirteen (13) statements that relate to the type of information shared among them. Their responses in this regard were analyzed and presented in table 4.8 below.

Table 4.8 Extent of Sharing Information with Other Academics

S/N	Type of Information	Most Often Freq(%)	Often Freq(%)	Not Often Freq(%)
1	Information on Conferences, Workshops and Seminars Attendance	184(80.3)	26(11.4)	19(8.3)
2	Information on Writing Seminars, Conference or Workshop Papers	177(77.3)	20(8.7)	32(14)
3	Information on Scholarship Availability	94(41.1)	43(18.8)	92(40.2)
4	Information on Self development/Improvement	102(44.5)	51(22.3)	76(33.2)
5	Information on Part-Time, Visiting and Sabbatical Jobs	171(74.6)	24(10.5)	34(14.9)
6	Information on Teaching Methods/Class Management	158(69)	27(11.8)	44(19.2)
7	Information on New Technologies	106(46.4)	99(43.2)	24(10.4
8	Information on Trade Unionism	184(80.3)	19(8.3)	26(11.4)
9	Information on Job Opportunities/Vacancies	147(64.2)	31(13.5)	51(22.3)
10	Information on Current/On-going Researches	177(77.3)	32(14)	20(8.7)
11	Information on Recreation and Entertainment	146(63.7)	57(24.9)	26(11.4)
12	Information on politics	171(74.7)	27(11.8)	31(13.5)
13	Information on Search Techniques	100(43.6)	37(16.2)	92(40.2)

Table 4.8 above reveals that academics in tertiary institutions in Katsina state participated in information sharing significantly on Information on Conferences, Workshops and Seminars Attendance and Information on Writing Seminars, Conference or Workshop Papers. Based on these findings, it is assumed that academics have recognized the need to participate in information sharing as only few ideas and findings of any value are implemented by one individual. This assumption also explains the reason for the high response 177(77.3%) concerning information on current and ongoing research. This is in consonant with the postulation by Abalaka (1991) who opined that academics stand to increase their productivity by intellectual intercourse particularly with colleagues within their specialized areas as well as with others outside it.

4.3.5 Reasons for Information Sharing

The researcher tried to determine the reasons for information sharing among academics in tertiary institutions in Katsina state. A number of reasons were provided for the respondents to indicate their reasons. Their responses were presented in table 4.9 below.

Table 4.9 Reasons for Information Sharing

S/N	Reasons	Agree Freq(%)	Undecided Freq(%)	Disagree Freq(%)
1	To Avoid Duplication of Effort	208(90.8)	14(6.1)	7(3.1)
2	To be Current in my Discipline	133(58)	16(7.0)	80(35)
3	To become Popular among Colleagues	153(66.8)	25(10.9)	51(22.3)
4	To be Familiar with others in my Field	200(87.3)	15(6.6)	14(6.1)
5	To Improve Collaboration	200(87.3)	14(6.1)	15(6.6)
6	To uncover new Ideas	111(48.5)	35(15.3)	83(36.3)
7	To Strengthen the Academic Culture	102(44.6)	35(15.3)	92(40.1)
8	To Foster Unity among Academics	204(89)	18(7.9)	7(3.1)
9	To Improve Research Output	142(62)	57(24.9)	30(13.1)

Table 4.12 above reveals the reasons for information sharing among academics in tertiary institutions in Katsina state. It can be deduced from the table that all the respondents 200(87.3%) believed that information sharing improves collaboration, it is also evident that a higher number of them 208(90.8%), 204(89%), 200(87.3%) believed that information sharing among them avoids duplication of efforts, foster unity and allows them to be familiar with others in the same field respectively. This is in line with the opinion of Gamble (2002) that if you are able and

willing to communicate with most, if not all, the members of your group, you can be said to occupy a central position in the group. Hence, if you relate to only one person or few people in your group, you occupy a peripheral position.

4.3.6 Information Sharing patterns

This section tries to identify the sharing patterns of academics. In order to determine this, they were asked to indicate how they shared information whenever the need arose. Table 4.13 below presents their responses.

4.10 Information Sharing Patterns

S/N	Sharing Pattern	Agree Freq(%)	Undecided Freq(%)	Disagree Freq(%)
1	Collaboration with Colleagues in Conducting Research	178(77.7)	32(14.0)	19(8.3)
2	Participating in Joint Article Publication	176(76.8)	16(7.0)	37(16.1)
3	Co-authorship in Book Publication	175(76.4)	28(12.2)	26(11.4)
4	Maintain Closer Ties with Academics in my Field than in others	127(55.4)	54(23.6)	48(21)
5	Maintain Closer Ties with Academics in my Institution than in others	111(49.3)	45(19.7)	71(31)
6	Maintain Closer Ties with Academics in Nigeria than those Abroad	105(45.8)	51(22.3)	73(31.9)
7	Establishes more ties through Professional Memberships	92(40.2)	36(15.7)	101(44.1)
8	Finding it Difficult to Establish Ties with others outside my Institution	96(41.9)	45(19.7)	88(38.4)

Table 4.13 above shows that the highest number of respondents did share information through collaboration with colleagues in

conducting research 178(77.7%), participation in joint article publication 176(76.8%) and co-authorship in book publication 175(76.4%), while 19(8.3%), 37(16.1%) and 26(11.4) disagreed respectively.

However, concerning establishing ties with others outside their institutions 96(41.9%) was found to be difficult. It is also observed that larger number of them 105(45.8) maintained closer ties with academics in Nigeria than those in abroad.

4.3.7 Effect of Information Sharing on Teaching, Research, Self-Development and Community Service

The research went further to determine the effect of information sharing on teaching, research, community service and self development of academics in tertiary institutions in Katsina state based on some aspect related to each of the activities which was provided in the following tables (4.14-4.17)

4.3.7.1 Effect of Information Sharing on Teaching

Teaching is considered to be one of the core activity of academics and through information sharing effective teaching techniques, methods and facilities can be improved. It is in this regard that five(5) aspects towards attaining qualitative teaching activity are listed in table 4.14 for the respondents to indicate their opinion.

Table 4.11 Effect of information Sharing on Teaching

S/N	Effect	Agree Freq(%)	Undecided Freq(%)	Disagree Freq(%)
1	A reliable source of input for preparing lectures and lecture notes	178(77.7)	32(14.0)	19(8.3)
2	I get relevant reference materials for my lecture	176(76.8)	16(7.0)	37(16.1)
3	Influences my method of teaching	175(76.4)	28(12.2)	26(11.4)
4	A source of guidance in assessing my students	127(55.4)	54(23.6)	48(21)
5	Allow others to evaluate my lectures	113(53.7)	35(15.3)	71(31)

Table 4.14 above shows that information sharing among academics in tertiary institutions in Katsina state had effect on their teaching in terms of getting relevant reference materials for their lectures 176(76.8%). Also, 178(77.7%) agreed that it was a source of input for preparing lectures and lecture notes. From this finding it can be seen that majority of the academics did agree to allow others evaluate their lectures 113(53.7%) for possible criticisms and observations.

4.3.7.2 Effect of Information Sharing on Research

One of the most crucial concerns of this research was on the way in which academics interact with their colleagues in the production and dissemination of research results. The academics where asked to indicate the effect of information sharing on their research activities based on some five areas as highlighted in table 4.15 below.

Table 4.12 Effect of Information Sharing on Research

S/N	Effect	Agree Freq(%)	Undecided Freq(%)	Disagree Freq(%)
1	Access to information relevant to my research work	208(90.8)	14(6.1)	7(3.1)
2	Awareness on other researches being conducted	133(58)	16(7.0)	80(35)
3	Obtaining relevant input on my research from other colleagues	87(38)	43(18.8)	99(43.2)
4	It is a motivating factor for my research	144(62.9)	31(13.5)	54(23.6)
5	An appropriate means of publicizing research findings	113(49.3)	44(19.2)	72(31.5)

Table 4.15 above reveals that information sharing provided relevant materials for research work to the academics 208(90.8%), motivated academics to conduct research 144(62.9%).

4.3.7.3 Effect of Information Sharing on Self-Development

It was also the intent of the research to attempt to determine the effect of information sharing on self development to the academics in tertiary institutions in Katsina state. Their responses were captured in table 4.16 below.

Table 4.13 Effect of Information Sharing on Self-Development

S/N	Effect	Agree Freq(%)	Undecided Freq(%)	Disagree Freq(%)
1	Acquire more information relevant to my field	200(87.3)	9(3.9)	20(8.8)
2	A means of keeping abreast of knowledge	188(82.1)	1(0.4)	40(17.5)
3	Enhanced productivity	204(89)	9(3.9)	16(7.1)
4	More exposure	189(82.5)	13(5.7)	27(11.8)
5	Wider collaboration	202(88.2)	16(7.0)	11(4.8)

Table 4.16 above clearly shows that information sharing to a greater extent had effect on self development of the academics in tertiary institutions in Katsina state. This was evident from the fact that 200(87.3%), 188(82.1%), 204(89%), 189(82.5%) and 202(88.2%) of the respondents agreed that information sharing had influence on their ability to acquire more information relevant to their field, to keep abreast of knowledge, enhance their productivity, more exposure and facilitate wider collaboration respectively.

4.3.7.4 Effect of Information Sharing on Community Service

This research considered community development as an important activity in academics; it therefore tried to uncover the effect of information sharing on community services of the academics in tertiary institutions in Katsina state. The result of their responses is presented in table 4.17 below.

Table 4.14 Effect of Information Sharing on Community Service

S/N	Effect	Agree Freq(%)	Undecided Freq(%)	Disagree Freq(%)
1	Improved community development	120(52.3)	26(11.4)	83(36.3)
2	Community recognition	153(66.9)	31(13.5)	45(19.6)
3	Effective self help techniques	210(91.7)	13(5.7)	6(2.6)
4	Quicker and wider communication	142(61.9)	27(11.8)	61(26.3)
5	Wider participation	103(45)	36(15.7)	90(39.3)

Table 4.17 above shows that information sharing improved community development by the response of 120(52.3%), this is in line with their opinion on effective self help techniques 210(91.7%).

Community recognition is another factor that was enhanced through information sharing as 153(66.9%) agreed. It is indicating that a majority of the respondents agreed with the fact that information sharing facilitates quicker and wider communication for effective community service.

4.3.8 Information and Communication Technology (ICT) Usage in Information Sharing

The 21st century academics uses a wide range of electronic devices known as ICTs for identification, retrieval, processing, storage and dissemination of information. The use of these devices facilitates easier, quicker and timely information transfer among and between individuals, groups and organizations regardless of their location or time constraints. A comprehensive list of these resources is provided for the academics to indicate their usage in information sharing among them. The data obtained is presented in table 4.18 below.

Table 4.15 ICT Devices Usage

S/N	ICT Device/Facility	Yes		No	
		Freq.	%	Freq.	%
1	Computers	161	70.3	68	29.7
2	Mobile Phones	112	48.9	117	51.1
3	Facebook/Twitter/Wiki/YouTube	114	49.8	115	50.2
4	Short Message Service (SMS)	117	51.1	112	48.9
5	Fax machine	28	12.2	201	87.8
6	Radio	124	54.1	105	45.9
7	Television	103	45.0	126	55.0
8	Digital Camera	90	39.3	139	60.7
9	Satellite	84	36.7	145	63.3
10	Internet facilities	110	48.0	119	52.0
11	Video player	125	54.6	104	45.4
12	CD-ROMs	119	52.0	110	48.0
13	Video Tape	112	48.9	117	51.1
14	Audio Tape	127	55.5	102	44.5
15	Flash Drive	174	76.0	55	24.0
16	Blog	174	76.0	55	24.0
17	Scanner	92	40.2	137	59.8

Table 4.18 above reveals the ICT usage for information sharing of the academics in tertiary institutions in Katsina state. It was discovered that 161(70.3%) of the academics in the tertiary institutions in katsina state used computers, Radio 124(54.1%), flash drives and Blogs 174(76.0%) of the total sample each. The table also shows that 117(51.1%) of the academics did not use mobile phones. Other ICT devices and facilities that the majority of the academics did not use includes the social networks of Facebook/Twitter/Wiki/YouTube 115(50.2%).

4.3.9 Extent of Information and Communication Technology (ICT) Usage

To ascertain the extent of ICT usage among the academics for sharing information, the respondents were asked to indicate their opinions. This is because ICTs play significant roles in information sharing, especially among academics. Their responses were presented in table 4.19 below.

Table 4.16 Frequency of ICT Usage

S/N	ICT DEVICES/FACILITIES	Most Frequent Freq(%)	Frequent Freq(%)	Not Frequent Freq(%)
1	Computers	148(64.7)	44(19.2)	37(16.1)
2	E-mail facility	151(66)	37(16.2)	41(17.9)
3	Face book/Twitter/YouTube	106(46.3)	42(18.3)	81(35.4)
4	Short Message Service (SMS)	123(53.7)	27(11.8)	79(34.5)
5	Fax machine	10(4.4)	68(29.7)	151(66)
6	Radio	205(89.5)	11(4.8)	13(5.7)
7	Television	61(26.6)	35(15.3)	133(58.1)
8	Digital Camera	1(0.4)	79(34.5)	149(65.1)
9	Cam Coder	58(25.3)	18(7.9)	153(66.8)
10	Satellite	100(43.6)	40(17.5)	89(38.9)
11	Internet	147(64.2)	13(5.7)	69(30.1)
12	Video player	120(52.5)	23(10.0)	86(37.5)
13	CD-ROMs	161(70.3)	21(9.2)	47(20.5)
14	Video Tape	121(52.8)	5(2.2)	103(45)
15	Audio Tape	147(64.2)	28(12.2)	54(23.6)
16	Flash Drive	131(57.2)	25(10.9)	73(31.9)
17	Blog	120(52.4)	26(11.4)	83(36.2)
18	Scanner	45(19.7)	12(5.2)	172(75.1)
19	Mobile phones	12(5.2)	60(26.2)	157(68.6)
20	Telephone (landline)	24(10.5)	13(5.7)	192(83.8)

From table 4.19 above it can be seen that the majority of the academics in Katsina state used radio, computers, e-mail facility, internet, short message services (SMS) and Blog; this represents 205(89.5), 148(64.7%), 151(66%), 147(64.2%), 123(53.7%) and 120(52.4%) of the total sample respectively. This is in consonant with the findings of Mohammed (2006) as he postulated that, ICT has provided the solution for the problem(s) of delay of information access and use. It has made information sharing effective and efficient.

However, the facilities not frequently used are Fax machine 151(66%), and Scanner 172(75.1%), others include Landline Telephone 192(83.8%), Mobile phone 157(68.6%). Evidently from the table, the academics did not frequently use Television 133(58.1%), Digital camera 149(65.1%) and Camcorder 153(66.8%).

4.4 Inferential Statistical Analysis

This section reveals the outcome of the inferential statistical analysis employed in testing the null hypotheses for the study. The researcher used 0.05 level of significance for testing the hypotheses. This is because behavioral sciences researches involve human beings and the 0.05 level of significance is generally accepted. The researcher raised and tested four (4) null hypothesis. Null hypotheses 1, 2 and 3 were tested using one way ANOVA and null hypothesis 4 was tested using Pearson Product Moment Correlation. The findings are presented as follows:

Null Hypothesis 1

There is no significant difference in the type of information shared among academics in tertiary institutions in Katsina state.

Table 4.17(a): Analysis of variance on the type of information shared among academics in the selected tertiary institutions in katsina state

Source of Variance	DF	SS	MS	F	P	F-critical
Between Group	2	221.771	110.885	9.709	0.000	3.07
Within Group	226	2581.015	11.420			
Total	228	2802.786				

SS = Summation of the Square MS = Mean of the Square $P \leq 0.00$

Table 4.17(a) shows the analysis of variance on the type of information shared among academics in tertiary institutions in Katsina state at ($P<0.05$) level of significance. As can be seen from the table, the observed F value of 9.709 is greater than the F critical value of 3.07 at the same degree of freedom. Also, the observed level of significance from the test is P=0.000 and this implies that the null hypothesis is rejected. It is therefore, concluded that there is significant difference in the type of information shared among academics in tertiary institutions in Katsina state.

To determine where the difference existed a post hoc test of multiple comparison was carried out on the mean scores of the different institutions and the results are presented in table 4.20(b) below:

Table 4.17(b): A post hoc scheffe test on the type of information shared among academics in the selected tertiary institutions in Katsina state

Dependant Variables	Institutions (I)	(j)	Mean Diff. (i-j)	Std Error	Sig.
Type of Information	FCEK	UMYU	-1.18601	0.56072	0.109
		HUKPOLY	-2.47878*	0.56519	0.000
	UMYU	FCEK	1.18601	0.56072	0.109
		HUKPOLY	-1.29277	0.52626	0.051
	HUKPOLY	FCEK	2.47878*	0.56519	0.000
		UMYU	1.29277	0.52626	0.051

NB: * Denotes the pairs of institutions that are significantly different at 0.05 level of significance.

KEY:

FCEK- Federal College of Education Katsina

UMYU- Umaru Musa Yar'adua University

HUKPOLY- Hassan Usman Katsina Polytechnic

Table 4.17(b) above indicates that the type of information shared among academics in Federal College of Education Katsina (FCEK) is significantly different from the type of information shared among academics in Hassan Usman Katsina Polytechnic (HUKPOLY). However, the type of information shared among academics in Umaru Musa Yar'adua University is not significantly different from those of FCEK and HUKPOLY. This is an indication that UMYU academics share a wider range of information that combines both the types of information

shared in FCEK and HUKPOLY as revealed by the post hoc scheffe test conducted.

Null Hypothesis 2

There is no significant difference in the reasons for information sharing among academics in tertiary institutions in Katsina state.

Table 4.18(a) Analysis of variance on the reasons for information sharing among academics in the selected tertiary institutions in Katsina state

Source of Variance	DF	SS	MS	F	P	F-critical
Between Groups	2	2.635	1.317	11.053	0.000	3.07
Within Group	226	26.934	0.119			
Total	228	29.569				

Table 4.18(a) above shows the analysis of variance on the reasons for information sharing among academics in tertiary institutions in Katsina state at ($P<0.05$) level of significance. From the table, the observed F value of 11.053 is greater than the F critical value of 3.07 at the same degree of freedom. Also, the observed level of significance from the test is $P=0.000$ and also implies that the null hypothesis is rejected. It is therefore concluded that there is significant difference in the reasons for information sharing among academics in tertiary institutions in Katsina state.

However, a further post hoc scheffe test of multiple comparisons carried out on the mean scores of the different institutions selected is presented in table 4.18(b) below:

Table 4.18(b) A post hoc scheffe test on the reasons of information sharing among academics in the selected tertiary institutions in Katsina state

Dependant Variables	Institutions (i)	(j)	Mean Diff. (i-j)	Std Error	Sig.
Reason for Information Sharing	FCEK	UMYU	-.20023*	.05728	.003
		HUKPOLY	-.26367*	.05774	.000
	UMYU	FCEK	.20023*	.05728	.003
		HUKPOLY	-.06344	.05376	.499
	HUKPOLY	FCEK	.26367*	.05774	.000
		UMYU	.06344	.05376	.499

NB: *Denote the pairs of Institutions that are significantly different at 0.05 level of significance

KEY:

FCEK- Federal College of Education Katsina

UMYU- Umaru Musa Yar'adua University

HUKPOLY- Hassan Usman Katsina Polytechnic

Table 4.18(b) above shows the post hoc scheffe test on the reasons for information sharing among academics in tertiary institutions in Katsina state. From the table above, it is observed that the reasons for information sharing in Federal College of Education Katsina are significantly different from the reasons in the two other institutions (UMYU and HUKPOLY). It is also discovered that the reasons for

information sharing in Umaru Musa Yar'adua University is not significantly different from the reason for sharing in Hassan Usman Katsina Polytechnic.

Null Hypothesis 3

There is no significant difference in the pattern of information sharing among academics in tertiary institutions in Katsina state.

Table 4.19 Analysis of variance on the pattern of information sharing among academics in the selected tertiary institutions in Katsina state

Source of Variance	DF	SS	MS	F	P	F-critical
Between Groups	2	1.030	.515	1.443	0.000	3.07
Within Group	226	80.679	.357			
Total	228	81.709				

Table 4.19 above shows the analysis of variance on the pattern of information sharing among academics in tertiary institutions in Katsina state at ($P<0.05$) level of significance. The observed F value of 1.443 from the table is less than the F critical value of 3.07 at the same degree of freedom. Also, the observed level of significance is 0.000. This means that the null hypothesis which says there is no significant difference in the pattern of information sharing among academics in tertiary institutions in Katsina state is accepted. It can therefore be deduced that there is no significant difference in the pattern employed by the

academics in the tertiary institutions in Katsina state in their information sharing.

Null Hypothesis 4

Information sharing among academics in tertiary institutions in Katsina state has no significant effect on their teaching, research, self .development and community service.

This hypothesis was tested with a correlation procedure, because of the multiple variables involved, the result is presented in a matrix as indicated in table 4.20 below:

Table 4.20: correlation between type of information shared and teaching, research, self development and community service among academics in the selected tertiary institutions in Katsina state.

Variables	Inf. Sharing	Teaching	Research	Self Dev.	Comm. Serv.
Inf. Sharing	1				
Teaching	0.407*	1			
Research	0.169*	0.223*	1		
Self Dev.	0.488	0.131*	0.125	1	
Comm. Serv.	-0.077	-0.034	-0.067	-.005	1

NB: *Correlation is significant at 0.05 level (2-tailed)

Table 4.20 above shows the correlation results between information sharing and teaching, research, self development and community service in the selected tertiary institutions in Katsina state. The result from the table indicates significant correlation between

information sharing and teaching or self development, and that there is significant correlation between information sharing and research.

Also it is evident from the table that there is significant correlation between teaching and self development, while there is no significant correlation between teaching and community development. The correlation procedure did not show any significant relationship between research and self development or community service.

It is, therefore, evident that information sharing enhances teaching, research and self development in the study area. This result is expected, since information is required to accomplish the afore mentioned academic activities. Surprisingly in the study area, information sharing had no relationship with community development. This means that, researchers in this area are not mindful of the community needs.

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CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Introduction

This chapter provides the summary of the study findings, draws conclusion and makes recommendations for effective and efficient information sharing among academics in tertiary institutions in Katsina state based on the research findings, the chapter also provides some suggestions for further research.

5.2 Summary of the Study

This study was carried out to investigate the information sharing among academics in tertiary institutions in Katsina state. To achieve this objective, six (6) research questions were raised and four (4) null hypotheses were formulated and tested for the study. The research questions sought to find: the type of information academics share, their reasons for sharing, method/ways of sharing, frequency of information sharing, type of information and communication technology ICT used and the effect of information sharing in their teaching, research, self development and community development activities. The null hypotheses sought to determine: the difference in the type of information

academics share among themselves, the difference in their reason of sharing, the difference in their pattern of sharing and the effect of information sharing in their teaching, research, self development and community service.

The population of the study was made up of all the academics in the six tertiary institutions in the state and their total number was 1,041; however, proportionate stratified random sampling was used in selecting a sample of two hundred and thirty four (234) (30%).

The data collected for the study were presented and analyzed using both descriptive statistic and inferential statistic. Frequency distribution tables, pie chart, percentages and histogram were used for the descriptive statistic while one way Analysis of Variance (ANOVA) plus a scheffe post hoc test were used to test null hypothesis 1, 2 and 3 and Pearson Product Moment Correlation (PPMC) was used to test null hypotheses 4.

5.3 Summary of the Findings

Based on the data analyzed in this study, the following were discovered:

1. Majority of the academics in tertiary institutions in Katsina state have first degree as their highest educational qualification and that the majority of them belong to the male gender.
2. Humanities is the discipline with the highest number of academics in the tertiary institutions while sciences having the least number of academics.
3. Academics use information for teaching, research, self-development and community service through conferences, workshops and seminars.
4. That the information shared among the academics are on writing seminar, workshop and conference papers, scholarship availability, self development and information on on-going researches.
5. The most frequent information shared is on writing seminar, workshop and conferences, trade unionism, current/ongoing research and politics.
6. That information is shared at conferences, seminars and workshops with colleagues in their discipline.

7. That their reasons for sharing information are to avoid duplication of efforts, improve collaboration, foster unity among academics, to improve research and to be familiar with others in their field.
8. That most preferred patterns of sharing information are collaboration in conducting research, joint article publication, co-authorship in book publishing and with their colleagues.
9. That information sharing significantly influences teaching, research, self development and community development.
10. That information sharing is a motivating factor for research to the academics.
11. That information sharing keeps them abreast of knowledge in their field, enhances their productivity, gives them more exposure and wider collaboration.
12. That information sharing improves community development brings about community recognition, effective self help techniques and quicker and wider communication.
13. It is revealed that academics in tertiary institutions in Katsina state uses information and communication technology (ICT) gadgets like computer, short message service (SMS), radio, flash drives audio tapes and blog.

14. That the most frequently used ICT gadgets by the academics are computers, E-mail, radio, television, internet, CD-ROM, video tape, flash drive and blog.
15. That academics differ significantly in the type of information they share among themselves.
16. That there is significant difference between academics in their reasons for information sharing.
17. That there is no significant difference in the pattern of information shared among academics in tertiary institutions in Katsina state.
18. That there is significant relationship between information sharing and teaching, research, self development and community service.

5.4 Conclusion

Academics do not explore, to a larger extent, the opportunities and advantages of participating in information sharing activities. They are deficient in the area of online collaboration which promotes wider international recognition and globalization.

The low level utilization of ICT, discrimination in the use of these tools and ever growing number of ICT based information retrieval, storage, processing and dissemination gadgets hampers academic information sharing. Therefore, the migration from traditional to modern

information handling techniques is considered a necessity for optimum information transfer towards sufficient, efficient and effective information sharing that in no doubt will result in wider collaboration, improved research output and exploring the frontiers of knowledge.

Never the less, academics are beginning to explore, consider and employ all options and techniques for information sharing in the tertiary institutions. This will basically bring about wider participation, wider collaboration, improved and enhanced research output, globalized teaching and classroom management techniques towards achieving the desired community development goals and objectives that will match the 21st century yearnings and aspirations.

5.5 Recommendations

The research recommends that:

1. Awareness and sensitization fora should be formed between and among academics to discuss and harness the importance, benefits and advantages of information sharing
2. Modern and enough ICT facilities (computers, digital cameras, storage devices, telecommunication infrastructure, internet and online programmes) should be provided urgently to all academics to motivate them to appreciate and embrace their usage fully.

3. Academic libraries should establish sustainable information sharing facilities and programmes.
4. Academics and all stake holders should be re-trained through refresher courses, symposia and workshops on the latest trends in information sharing.
5. Cooperative research and joint authorship with both local and international colleagues should be encouraged. This will facilitate intellectual intercourse between academics and enable them to share their expertise.
6. Academics should maintain personal websites, E-mails, and subscribe to available social networks (Netlog, Facebook, twitter e.t.c.) through assistance and funding by their respective institutions.
7. Research undertaking should be supported by government and be made public. This will foster wider participation and generate more input.
8. More funds should be allocated to academic institutions to enable them respond to the ever changing needs of the information age.
9. More funds allocation should be made available to the Libraries by their institutions. This will enable them secure more information resources and online subscriptions for effective teaching research, self development and community service activities.

5.6 Suggestion for Further Study

Any research undertaken highlights and provokes another, as some silent areas must be left out for further investigation. It is in the light of the findings, conclusions and recommendation of this study that it recommends the conduct of research on the following areas:

1. An assessment of the use of information and communication technology (ICT) in information sharing in tertiary institutions in Nigeria.
2. Design and implementation of information sharing and Networking programme for community development in Nigeria

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APPENDIX I

QUESTIONNAIRE ON INFORMATION SHARING AMONG ACADEMICS IN TERTIARY INSTITUTIONS IN KATSINA STATE

Department of Library and Information Science
Faculty of Education,
Ahmadu Bello University, Zaria

Dear Respondent,

I am a student in the above named department undertaking a research titled "Information Sharing Among Academics in Tertiary Institutions in Katsina State" as a partial requirement for the award of Masters Degree in Information Science.

The information requested is purely for research purpose. The respondent's identity is not required. Please help to respond honestly to the questions. All information given will be treated confidentially.

Thanks for your cooperation.

Yours sincerely,

Abdu, Sani Fari

M. SC/EDUC/12195/2007-08

SECTION A: BIODATA

Please tick the appropriate response

1. Indicate your gender

   Male [ ] Female [ ]

2. The discipline you belong

   Science [ ] Social science [ ] Humanities [ ]

3. What is your highest educational qualification?

   PhD [ ] Masters [ ] First degree [ ]

4. Years of experience

   0-10[ ] 11-20[ ] 21-30[ ] above 30 [ ]

5. Nationality

   Nigerian[ ] Non-Nigerian[ ]

6. Institution

   FCEK [ ] UMYU [ ] HUKPOLY [ ]

SECTION B: INFORMATION SHARING

Indicate the type of information you normally use (tick as many as possible)

1. Information on conferences, workshops and seminars attendance ( )
2. Information for writing seminar, conference or workshops papers ( )
3. Information on scholarship availability ( )
4. Information for self development/improvement ( )
5. Information on part-time, visiting and sabbatical jobs ( )
6. Information on teaching methods/class management ( )
7. Information on new technologies ( )
8. Information on trade unionism ( )
9. Information on job opportunities/vacancies ( )
10. Information on current/on-going researches ( )
11. Information on recreation and entertainment ( )
12. Information on politics ( )
13. Information on search techniques ( )
14. Information on Trade ( )
15. Information on Agricultural activities ( )
16. Information on Communal activities ( )
17. Information on Health Issues ( )
18. Information on Culture and Tradition ( )

19. Information on Sports ( )

20. Others (specify)---------- ( )

Indicate the type of information you mostly prefer

1. Information on conferences, workshops and seminars attendance ( )
2. Information for writing seminar, conference or workshops papers ( )
3. Information on scholarship availability ( )
4. Information for self development/improvement ( )
5. Information on part-time, visiting and sabbatical jobs ( )
6. Information on teaching methods/class management ( )
7. Information on new technologies ( )
8. Information on trade unionism ( )
9. Information on job opportunities/vacancies ( )
10. Information on current/on-going researches ( )
11. Information on recreation and entertainment ( )
12. Information on politics ( )
13. Information on search techniques ( )
14. Information on Trade ( )
15. Information on Agricultural activities ( )
16. Information on Communal activities ( )
17. Information on Health Issues ( )

18. Information on Culture and Tradition ( )

19. Information on Sports ( )

20. Others (specify)---------- ( )

Indicate the type of information you share. (tick as many as possible)

1. Information on conferences, workshops and seminars attendance ( )
2. Information for writing seminar, conference or workshops papers ( )
3. Information on scholarship availability ( )
4. Information for self development/improvement ( )
5. Information on part-time, visiting and sabbatical jobs ( )
6. Information on teaching methods/class management ( )
7. Information on new technologies ( )
8. Information on trade unionism ( )
9. Information on job opportunities/vacancies ( )
10. Information on current/on-going researches ( )
11. Information on recreation and entertainment ( )
12. Information on politics ( )
13. Information on search techniques ( )
14. Information on Trade ( )
15. Information on Agricultural activities ( )

16. Information on Communal activities ( )

17. Information on Health Issues ( )

18. Information on Culture and Tradition ( )

19. Information on Sports ( )

20. Others (specify)---------- ( )

How frequent do you share the following information.

S/N	Type of information	Most Frequent	Frequent	Not Frequent
1	Information on conferences, workshops and seminars attendance			
2	Information for writing seminar, conference or workshops papers			
3	Information on scholarship availability			
4	Information for self development/improvement			
5	Information on part-time, visiting and sabbatical jobs			
6	Information on teaching methods/class management			
7	Information on new technologies			
8	Information on trade unionism			
9	Information on job opportunities/vacancies			

10	Information on current/on-going researches			
11	Information for recreation and entertainment			
12	Information on politics			
13	Information search techniques			
14	Others (Specify)			

INSTRUCTIONS: Please tick the correct response to the items in these sections on a 1-3 rating scale, 1. Agree, 2.Undecided, 3. Disagree

Do you participate in sharing of the following information?

	Type of Information	**1**	**2**	**3**
1	Usually share information with colleagues			
2	Share information with colleagues through personal discussions			
3	Share information at conferences, seminars and workshops			
4	Always inform my colleagues before undertaking any research			
5	Share with colleagues on my research progress			
6	I share information with colleagues in my discipline only			
7	I share information concerning my discipline with those outside it			

SECTION C: REASONS FOR INFORMATION SHARING

S/N	Reasons	1	2	3
1	To avoid duplication of effort			
2	To be current in my discipline			
3	To become popular among colleagues			
4	To be familiar with others in my field			
5	To improve collaboration			
6	To uncover new ideas			
7.	To strengthen the academic culture			
8	To foster unity among academics			
9	To improve research output			
10	Others (Specify)			

	SELF DEVELOPMENT			
11	Acquire more information relevant to my field			
12	A means of keeping abreast of knowledge			
13	Enhanced productivity			
14	More exposure			
15	Wider collaboration			
	COMMUNITY SERVICE			
16	Improved community development			
17	Community recognition			
18	Effective self help techniques			
19	Quicker and wider communication			
20	Wider participation			

SECTION F: INFORMATION AND COMMUNICATION TECHNOLOGY USAGE

Which of the following ICT devices do you use for information sharing?

(Tick as many as relevant)

1. Computers ( )
2. Mobile Phones ( )
3. Facebook/Twitter/Wikki/youtube ( )
4. Short Message Service (SMS) ( )
5. Fax machine ( )
6. Radio ( )
7. Television ( )
8. Digital Camera ( )
9. Satellite ( )
10. Internet facilities ( )
11. Video player ( )
12. CD-ROMs ( )
13. Video Tape ( )
14. Audio Tape ( )
15. Flash Drive ( )
16. Blog ( )
17. Scanner ( )
18. Others (Specify)---------- ( )

How frequent do you use the following for information sharing.

S/N	ICT DEVICES/FACILITIES	Most frequent	Frequent	Not Frequent
1	Computers			
2	E-mail facility			
3	Face book/Twitter/Wiki/YouTube			
4	Short Message Service (SMS)			
5	Fax machine			
6	Radio			
7	Television			
8	Digital Camera			
9	Cam Coder			
10	Satellite			
11	Internet			
12	Video player			
13	CD-ROMs			
14	Video Tape			
15	Audio Tape			
16	Flash Drive			
17	Blog			
19	Scanner			
20	Mobile phones			
21	Telephone (landline)			
22	Others (Specify)			