

**THE USE OF ELECTRONIC JOURNALS FOR THE  
DISSEMINATION OF SCHOLARY INFORMATION BY THE  
UNIVERSITY OF NATAL AND THE UNIVERSITY OF  
ZULULAND : A COMPARATIVE STUDY**

**BY**

**MARGARET NONHLANHLA MGOBOZI**

**JANUARY 2002**

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INFORMATION SCIENCE  
FOR  
THE DEGREE OF MASTER OF LIBRARY AND INFORMATION  
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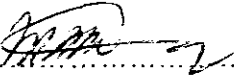
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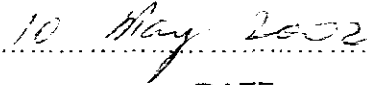
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Declaration


I declare that this study is my original work and has not been presented for degree purposes at any other University.

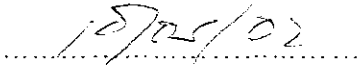
  
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## Dedication

This work is dedicated to my husband, Qondubuhle, my son, Minenhle, my mother and late father (Triva and Jeremiah Mhlongo), and my Aunt, Beatrice Mchunu, who had always been my source of inspiration.

## **Abstract**

The study investigates the use of electronic journals for the dissemination of scholarly information at the Universities of Natal and Zululand and attempts at determining the level of electronic journal use by the scholarly communities, and the perceived impact that these journals have on the community. Similarly, the role-played by the academic libraries in the provision of the journals has been explored. The scholarly community included the academic staff, the library staff and postgraduate students at the two universities. A survey research method was used to elicit information from the subjects. The population was sampled by use of stratified random sampling technique. Firstly, five academic faculties were selected, four from the University of Zululand, and three from the University of Natal. This was done by first drawing an alphabetical list of the academic staff in faculties by academic status. Secondly, The Deans were approached for permission to seek assistance of various heads of departments and heads of schools in distributing the questionnaires to postgraduate students. However, with postgraduate students it was not possible to secure a usable list as most of them are part timers and far away from campus. As a result as many questionnaires were distributed to postgraduate students before they were randomly selected for the sample. Ultimately, a sample of 10% was drawn from the population of 1969 postgraduate students. Regarding the academic staff a sample of 20% was drawn from each strata. The total population for the academic staff was 557. All professional librarians in the two university libraries were identified and included in the study. Data available in the university calendars and the figures obtained from the Division of Information Technology and Faculty Administration Offices was invaluable. Two sets of questionnaires were administered to the two groups, one to the academic staff and postgraduate students and the other one to the library staff. The sample frame was distributed as follows: 197 postgraduate students, 111 academic staff and 34 library staff. Data was analyzed by means of the SYSTAT Version 7.0 and Microsoft Exel for coding data. The results show that the level of electronic journal use by the two universities is still low, because, as a matter of verification, respondents found it difficult to select the type of journals they use most between electronic journals and printed journals. A large number (61%) identified printed

journals. There is a slight difference between the various disciplines in the use and understanding of electronic journals. It is recommended that the academic library should provide the facilities where users could access electronic journals on their own as well as the marketing of the available services to the library clientele. There is a strong need of user education, more especially in the use of electronic journals.

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**LIST OF ABBREVIATIONS AND ACCRONYMS**

ADMIN	:	ADMINISTRATION
AGRIC	:	AGRICULTURE
CD-ROM	:	COMPACT DISC-READ ONLY MEMORY
DUC	:	DURBAN UMLAZI CAMPUS
HTML	:	HYPERTEXT MARKUP LANGUAGE
ISAP	:	INDEX TO SOUTH AFRICAN PERIODICALS
LAN	:	LOCAL AREA NETWORK
OJCCT	:	ONLINE JOURNAL OF CURRENT CLINICAL TRIALS
PC	:	PERSONAL COMPUTER
PDF	:	PORTABLE DOCUMENT FORMAT
SAJIM	:	SOUTH AFRICAN JOURNAL OF INFORMATION MANAGEMENT
SPSS	:	STATISTICAL PACKAGE FOR THE SOCIAL SCIENCES
UN	:	UNIVERSITY OF NATAL
UZ	:	UNIVERSITY OF ZULULAND
WWW	:	WORLD WIDE WEB

## **CHAPTER ONE: INTRODUCTION AND STUDY BACKGROUND**

### **1.1 INTRODUCTION AND CONCEPTUAL SETTING**

The advent of information technology and global competition has given rise to the development of Internet and the World Wide Web. This development then drove the information centers, libraries and academic institutions to new methods of providing information. Many organizations' objectives include the use of information technology to improve their electronic services that in turn help them to achieve their goals. Electronic access to and the distribution of scholarly information have therefore acquired a pace that will continue to grow and flourish in future, with the aid of rising technologies. Rogers (1999) reiterates the forgoing further by emphasizing that information technology grows at an accelerated rate and has assumed an irrefutable place in various organizations and academic institutions.

Information technology is now used for information transfer in various organizations. Through World Wide Web access to information technology offer timely and easy access to company news, corporate policy changes, training manuals, company phone books, job listings, and product information. According to Sweeney (1997) information can be shared across the organizations quickly and cheaply. The example here may be the use of Sabinet Online's databases, which are used across various organizations including academic, public, research and special libraries for sharing information in South Africa. Information found here is in the form of bibliographic citations and abstracts as well as full-text articles such as government gazettes and newspaper articles. There are also databases such as Ebscohost, Emerald, Dialog Excite, OCLC, etc., that provide full-text articles for research and scholarly communication. Electronic publishing is also facilitated by the use of information technology. Users are able to create and publish documents online. Information technology therefore provides an easy, transparent network-wide content publishing and management, ensuring that everyone with access rights has the latest information from anywhere on the network (Andreesen, 1996).

Scholarly information is now distributed through various kinds of information formats. While printed resources are still very important in the research field,

electronic resources have become more and more popular as they bring information directly to the desktop. These electronic resources include CD-ROM products, remote and networked databases, online services, electronic journals and web-based products. Though new journals are still being printed there are also more and more electronic journals available through the World Wide Web access. Electronic journals have therefore become an important information format as they are published, distributed and accessed electronically. In a study conducted by Harter (1998:511) electronic journals have had essentially no impact on formal scholarly communication, however, one of the criticism of this study was that it was conducted too early to show significant results. McLuckie (1998:66) observed that extensive marketing and training is needed to ensure that electronic journals are widely used and accepted by end-users.

Electronic journals offer numerous solutions to problems that are facing information management centers and libraries nowadays. Firstly, the electronic storage that they offer is more efficient than having a shelving space for a number of volumes (Bandyopadhyay, 1999; Cook, 1992:33; & Sweeney, 1997). Secondly, the speed of communication whereby updates on recently published material and swift transmission of research results and scholarly communication is improved (Sweeney, 1997 & Rao, 1998). On this note, Chan (1999) observes that electronic transmission of journals saves time more especially with the review process thus establishing network communication among authors, editors and referees. Thirdly, Fisher (1995), Sweeney (1997) and Bandyopadhyay (1999) mention the issue of immediate access to needed information as another advantage offered by electronic journals. Fourthly, Rao (1998) notes that electronic journals facilitate precise access to the archive of knowledge. Thus, finding articles or journals can take minutes or even seconds rather than longer waiting periods encountered with the printed journals (Chan, 1999). Finally, information published in electronic journals tends to be up-to-date, as there are no printing and distribution delays.

We also still note several setbacks with electronic journals that may hinder their popular use. For storage and display they rely on technology and equipment that is rather expensive and not affordable by poor libraries and users (Chan, 1999). Though information delivered electronically may be cheap, the cost of computer

hardware needed is high (Sweeney, 1997). Files that are transferred electronically do cause network problems. For instance, as electronic journals become more technologically advanced, limited network speed and bandwidth could act as impediments to use. Chan (1999) adds that screen quality graphics and photos are still primitive when compared with print journals. End-users might be frustrated by electronic interfaces that take a long time to master and reading from the computer is not very fast. This means that end-users may have to print articles before they can be able to read them easily. Some electronic journals are not free and they do charge subscription fees, therefore they are not easily accessible to the users. Finally, with print journals the libraries own whatever journal they have paid for and subscribed to which is not the case with electronic journals as they are not received but accessed (Mackay, 1999). Back issues of electronic journals are therefore not accessible, as is the case with print journals.

Despite these setbacks there is a popular belief to the effect that electronic journals are increasingly used by the academic community. This, it is believed, can be explained by the relatively well resourced academic environments that are relatively well provided with a variety of information sources, systems and services.

The university scholarly communities used to depend on the information found in their academic libraries, interlending and inter-library cooperation for their research and teaching purposes. This presumably is not entirely the case as most of them are now able to access scholarly information from their own PC's as long as they are connected to the Internet. End-users are therefore able to access electronic journals in this way. This study focussed on the electronic journals accessed by end-users on their own as well as those accessed with the help of the library personnel.

## **1.2 RESEARCH PROBLEM**

Electronic journals have proliferated as a result of the World Wide Web technology (Machovec, 1997). More service opportunities have been created and users are able to access electronic journals that relate to their own specialist concerns (Chan, 1999). Basing on the discussion presented in '1.1' above,

electronic journals have an impact on scholarly communication as they offer many potential benefits including prompt full-text accessibility.

It is important to understand the perceived impact these electronic journals have on the University academic environment as a whole as this has implications on cost reduction, learning process, budgeting, research and effective information dissemination. It is believed that some academics recognize and use the electronic journals effectively, while others are unaware of their existence and still rely on the print journals for scholarly work at additional costs. This study is to establish the relationship between the use of electronic journals to cost reduction, facilitated learning process, research and effective scholarly information dissemination.

### **1.3 MOTIVATION OF THE STUDY**

The researcher being a subject librarian at the University of Zululand Library usually communicates with students and staff who need scholarly information from the library. Information in the form of electronic journal articles, and other electronic resources such as newspaper and magazine full-text articles are retrieved and either printed or e-mailed to the end-user. It is believed that other users such as the academic staff and students who have direct access to the Internet might not come to the library but do their own information searches and achieve reasonable access.

### **1.4 CONTEXTUAL SETTING**

The University of Zululand and the University of Natal comprise this section.

#### **1.4.1 THE UNIVERSITY OF ZULULAND**

The University of Zululand was established in 1959 under the auspices of the University of South Africa. It is situated at Kwa-Dlangezwa, approximately 142 km north of Durban and 19 km south of Empangeni off the N2 National Road on the Kwa-Zulu Natal North Coast (The University of Zululand, 2001a). It was officially opened in 1961 and became known as The University College of Zululand. In 1970 the University of Zululand, as it was soon called, achieved the full university status and autonomy. By that time student enrolment had increased

from 41 in 1960 to 605. Twenty-five years later, student enrolment was 8026 (University of Zululand Staff Handbook, 2000 b).

The official language of communication at the university, as stipulated in the Language Policy of the University of Zululand (2001c), is English, although the student and staff population speaks various South African languages dominated by Zulu and Afrikaans. The university currently employs 607 academic and administrative staff at both campuses, i.e. main campus and Durban Umlazi Campus (DUC). The total number of the academic staff is 265 (University of Zululand, Employment Equity Plan, 2001b). The student population by the end of 2001 was approximately 6628 and 1347 out of this number were postgraduate students.

The University of Zululand's mission statement is to provide tertiary education and to pursue knowledge, which serves the needs of the country in general and those of the surrounding communities in particular. Its roles are to provide high quality education that is relevant and accessible to full-time and part-time students. Research needs to be initiated, facilitated and encouraged. The use of scholarly journals has an important role to play therefore in this regard.

The main library is situated at the center of the academic section of the university. The library provides resources and information services to support the learning, teaching, research and development in support of the mission of the university. The library's professional and para-professional staff provides services to the university community as a whole. The total number of the Library Staff at the University of Zululand Library towards the end of 2001 was 34 for both campuses. 13 out of this number are professional librarians, consisting of 1 deputy librarian, 3 senior librarians, 7 subject librarians and 2 professional librarians responsible for the systems management and the periodical section respectively. The subject librarians provide an information service to assist university staff, postgraduate students and registered students in finding required information and literature. This entails the compilation of bibliographies on specific research topics and the finding of specific information. Subject librarians also offer training in the use of electronic information sources. (For more information about the University of Zululand see: <http://www.uzulu.ac.za>).

## 1.4.2 THE UNIVERSITY OF NATAL

The University of Natal was established in 1910 to meet the needs of Durban and other centers. In 1919 it became the constituent college of the University of South Africa. The independent university status was granted to the University of Natal in 1949 because of its rapid growth in numbers, range of courses, achievements and opportunities for research. Amongst the developments that occurred in the history of the University of Natal was the establishment of part-time classes for black students in 1936. This was however, prohibited by the Extension of University Education Act in 1959, which encouraged the establishment of ethnic universities including the University of Zululand.

The University of Natal is located in Kwa-Zulu Natal Province and has two campuses in Durban and Pietermaritzburg. The University of Natal strives to serve its community through excellence in scholarship, teaching, learning, research and development. It has approximately 21000 students with 6462 postgraduate students (University of Natal, 2001a). The total number of staff was 5280 with 2011 academic staff.

Both centers have a main library with branch libraries, which serve specialised needs of the students and staff. The University of Natal Durban Library consists of the main library, the E.G.Malherbe Library, and the four branch libraries, which are the Architecture, Law Music and the Medical Library. The University Library in Pietermaritzburg also has the main library and two branch libraries, the Law and Life Sciences libraries (University of Natal Library, Annual Report, 2000). The library system supports the University's mission of teaching, learning and community service and operates in a networked, computing environment that exploits the URICA integrated library system and access to local, national and international information. The Library's WebPages indicates what type of electronic services and resources are available to the users. There is a group of professional staff who, assisted by the para-professional staff provide general reference and instructional services to students, staff and the wider community. Additional information can be found at the University of Natal website at <http://www.un.ac.za>

## **1.5 OBJECTIVES OF THE STUDY**

The aim of the study was to determine the use of electronic journals by the scholarly community in the dissemination of information. Based on this, several study objectives were formulated, which were:

- The level of electronic journal use by the scholarly communities of the University of Natal and the University of Zululand;
- The perceived impact these journals have on the scholarly community;
- The attitudes of the end-users to the use of electronic journals;
- The difference between various disciplines in the use and understanding of electronic journals;
- Whether the academic libraries are playing their role in assisting the end-users;
- The resource support for accessibility;
- To establish whether there is any relationship between research and publication output by staff and use of either print or electronic journals.

## **1.6 SIGNIFICANCE OF THE STUDY**

It was hoped that the study would reveal the perceived impact that electronic journals have on scholarly research and communication in general and more especially at the University of Natal and the University of Zululand. The study established if there is any relationship between publication output by staff and the use of either print journals or electronic journals. The information obtained from this study will be widely shared with scholars and practitioners in information studies and relative disciplines through publication in popular journals and websites.

This study will be significant to teaching, learning and research, as it is believed that the academic staff and postgraduate students would realize the importance and

value of electronic journals in easily disseminating scholarly information. The recommendations made based on the findings will be useful for the University of Natal and the University of Zululand, as well as other universities, in solving problems relating to the use of electronic journals. To the researcher, this study will help in reviewing the professional skills to ensure that the researcher, and other subject librarians, is equipped to maximize the benefits of electronic journals for the users. Economically, this study will benefit management of the academic libraries in their planning and allocation of their electronic resources for their competitive advantage. To the Library and Information Science profession the study will be beneficial as it will highlight the gaps that need to be considered in marketing the profession as a whole. Economically, this study will assist the management of the academic libraries to decide the route that they could take in future which could be beneficial to the users.

## **1.7 ASSUMPTION**

It is assumed that both the University of Natal and the University of Zululand scholarly communities increasingly use electronic journals. However, because of inequalities in resource allocation to the two institutions, University of Natal is assumed to use more electronic journals than the University of Zululand.

## **1.8 HYPOTHESIS**

For the purposes of this study both null and positive hypotheses were used. The following hypotheses were proposed:

- The scholarly community at the University of Natal and the University of Zululand do not use electronic journals for research and information dissemination
- Electronic journals have no impact on research and information dissemination to the scholarly community of the two universities because of reliance on print journals and other media
- The scholarly community of the two communities have a negative attitude towards electronic journals
- The use of electronic journal varies from discipline to discipline

- Lack of adequate resources affect the use of electronic journals
- There is a correlation between high research and publication output and the use of electronic journals as opposed to other sources.

## **1.9 DELIMITATION OF THE STUDY**

This study is limited to the two universities, the University of Natal and the University of Zululand. These universities have been selected because they represent various groupings in the country. The University of Natal belongs to the historically advantaged institutions while the University of Zululand belongs to the historically disadvantaged institutions. This difference therefore might have a bearing on the level of access and use as well as on the nature and type of electronic resources and services offered by the two institution's academic libraries. The research / academic communities found in these two institutions come from various population groupings, Blacks, Coloureds, Indians and Whites, therefore they may represent the South African community. It should however be noted that there was no attempt made to capture and analyse the data based on racial lines.

The research communities of the two institutions include the postgraduate students, academic staff and researchers. The study was limited to this group because the researcher believed that this is the group that is likely to be actively engaged in the use of scholarly journals when they seek and search current information for purposes of learning, teaching and research. The sample was limited to the five faculties from both universities, i.e. the Faculty of Arts (UZ), Commerce and Administration (UZ), Law and Science and Agriculture from both universities. Other faculties were excluded from the sample to avoid very large and unmanageable sample. The time frame and financial resources would also not permit the inclusion of all faculties.

A usable list for postgraduate students was not secured as most of them are part timers and far away from campus. As a result, as many questionnaires as possible were distributed to postgraduate students before they were randomly selected for the sample.

The selection of electronic journals and not print journals was based on the belief that the application and use of electronic journals may be cost effective in the times of budget cuts and rapid information provision in academic libraries. The researcher therefore needed to find out if this is feasible and make recommendations to staff and academic libraries, more especially, the University of Zululand and the University of Natal.

#### **1.10 LITERATURE REVIEW**

The literature review focussed on the use of electronic journals in the dissemination of information. This included scholarly communication for academic research and teaching purposes as well as electronic publishing. Current and past research done on the use of electronic journals based on secondary sources was reviewed. Primary data was largely obtained through the analysis of responses to the questionnaires. A detailed literature review is presented in Chapter 2.

#### **1.11 DATA ANALYSIS AND INTERPRETATION**

Data was analyzed and interpreted using the SYSTAT Version 7.0 and Microsoft Excel. Microsoft Excel was used to input data before analysis using the above-mentioned version of SPSS, while Microsoft Word was used for text and tables.

#### **1.12 DEFINITION OF TERMS**

##### **Academic Staff**

Academic Staff refers to university teaching and research staff that include professors, associate professors, senior lectures, lectures, junior / assistant lecturers, researchers and tutorial staff.

##### **CD-ROM Based electronic journals**

A CD-ROM refers to Compact Disc-Read Only Memory, a small plastic optical disk, used for storing information in digital format and as a publishing medium. Once stored, information can be searched and displayed on a computer screen, but not changed or erased. Information is read from the disc by small laser beam inside a device called a CD-ROM drive. CD-ROM based electronic journals are

electronic versions of the existing printed journals, that are stored, searched and displayed on a computer screen.

### **Electronic journals**

Electronic journals may be defined as any journal, magazine, newsletter, or any type of serial publication that is available over the Internet. The titles can be accessed using different technologies such as the World Wide Web, gopher, ftp, telnet, email or listserv (Machovec, 1997).

### **Online electronic journals**

Sweeney (1997) refers to the online electronic journals as "...pay as you go..." DIALOG may be an example whereby powerful searching tools are used to retrieve documents from printed journals. These journals are printed on paper and thereafter scanned, stored and distributed electronically. The entire issue may be distributed electronically to a membership list, or only table of contents and abstracts may be provided with a specific information of how to obtain the full electronic text of an article. According to Rao (1998) these are digitised journals.

### **Postgraduate students**

Postgraduate students refer to senior students who have already received their junior degrees, but who are furthering their studies. In the context of this study these are students who are studying towards honours, masters and doctorate degrees. Some of these students are already employed and are studying part time.

### **Scholarly journal**

A scholarly journal has been defined by Reitz (2001) as a scholarly periodical devoted to disseminating current research and commentary on developments within a specific discipline, sub-discipline, or field of study, usually published quarterly or bimonthly and bound into continuously paginated annual volumes. Most journal articles are longer than five pages and include a bibliography or list of

works cited at the end. Abstracts usually precede the text in journal articles and they summarize the content.

### **Scholarly communication**

In Milne (1999) scholarly communication has been defined as the social phenomenon whereby intellectual and creative activity is passed from one scholar to another. This communication can be formal or informal. Formal communication is usually writing articles for inclusion in a scholarly journal while informal communication includes visiting conferences, using discussion groups, and networking, for finding out what is happening in other disciplines.

### **Scholarly community**

Scholarly community may be defined as the learned community comprising of academics, researchers, publishers, librarians and information professionals. These scholars are continuously engaged in exchanging information.

### **Web-based electronic journals**

Rao (1998) has referred to these as electronic journals that are digital in form. These are produced, processed, edited, stored, reviewed and distributed to subscribers electronically without print versions.

## **1.13 CONCLUSION**

This chapter covered the background and introduction to the study, the aim and objectives of the study, objectives and hypotheses. The research methodology was not covered in this chapter but will be dealt with in details in chapter 3. Literature review will be presented in chapter 2.

## **CHAPTER 2: LITERATURE REVIEW**

### **2.1 INTRODUCTION**

According to Neuman (1997:88-89) literature review is an essential early step in the research process, and is based on the assumption that knowledge accumulates and that scholars learn from and build on what others have done. It is essential, he notes, to show the path of prior research and how the current study is linked to it. The purpose of this chapter is to represent and review relevant studies and publications related to the current study. It is assumed that the use of electronic journals by academics has attracted numerous research and publications that benefit the current study in terms of comparison and identification of gaps to be filled.

This chapter covers the origin of the scholarly electronic journal, its characteristics, access methods, uses of electronic journals, studies on the use of electronic journals and scholarly communication.

### **2.2 THE ORIGIN OF THE SCHOLARLY ELECTRONIC JOURNAL**

#### **2.2.1 *The traditional printed journal***

In the past notes Wells (1999), communication between scholars depended heavily on personal contact and attending meetings that were arranged by the early learned societies such as the Royal Society. Because of the large numbers of the membership, he observes, more people could not attend the meetings therefore Proceedings that were usually circulated as the record of the last meeting became a place to publish papers for the benefit of the members who were not present at the meetings. Scholarly journals therefore developed in this way (Wells, 1999).

Walker (1998) informs that the Royal Society of London published the first issue of the first scientific journal in 1665. The first journal to be published was 'Journal des Scavans' followed by 'The Philosophical Transactions of the Royal Society' (Harter & Kim, 1996; Oppenheim, Greenhalgh & Rowland, 2000:362 & Wells, 1999). The journal's purpose was according to these authors, to disseminate the results of member's research, which allowed scientists to reach a wider audience.

Walker (1998) observes that journals soon became a means of establishing new discoveries and were accepted as the permanent record of research and archived by libraries. Peer review of all or most articles was instituted as a means of screening and improving what was published. Previous research was woven into a fabric of the new by way of citations to earlier articles (Walker, 1998).

It is recognised that the journal numbers have grown steadily over the years, most of them supported and sponsored by the Societies who were promoting the scientific discipline. The publication costs were recovered from the money paid by members in the form of journal subscriptions. Some of the journals were published by non-profit institutions such as the universities and government (Walker, 1998), while most journals were published by the Scientific Societies.

Commercial publishers were at first not involved in the process as there was "...little potential for profit", as Walker (1998) puts it. The scholarly community comprising mostly of academics and postgraduate students submitted research papers to be published which in turn helped them to acquire jobs, grants, tenure and promotion (Walker, 1998; Ocholla, 1999:121 & Oppenheim, Greenhalgh & Rowland, 2000:362)

The global competition made the scholarly research publications to increase and thus attracting the commercial publishers to offer their professional publishing skills. New journals were started and this drove the commercial publishing industry to emerge and facilitate communication between researchers, academics and librarians. The scholarly publisher was therefore dependent on the researchers for authorship and libraries, mostly academic libraries, for income (Oppenheim, Greenhalgh & Rowland, 2000:362). The rising costs of published journals and the budget cuts in academic libraries led to a serial crisis. According to Oppenheim, Greenhalgh & Rowland (2000:362) journal subscription rates rose by 12% during 1998 which was even faster than the rate of inflation. This led to a drastic cancellation of subscriptions by academic libraries. This somehow raised conflict in the function of the journal as a means of promoting scholarly communication. Harter (1998:507) pinpoints, that the rising costs and long publication delays were the most serious problems that led to the criticism of the scholarly printed journal.

The dramatic explosion of the Internet, particularly the world Wide Web, provided a solution to the problems that were being experienced with printed journals, because alternative forms of the conventional printed journals, known as electronic journals were provided (Harter, 1998). The World Wide Web is therefore a new medium for publishing scholarly journals as a result the number of electronic journals is said to be proliferating in various academic fields (Koehler, 2000). In support of this McLuckie (1998) observes that innovations in information technology have encouraged the move towards electronic journals, because technology is facilitating the creation, storage, transfer and delivery of electronic information. According to Chan (1999) the idea of an electronic scholarly journal was first conceived by Sondak and Schwarz in 1973, whose vision was the distribution of computer-readable files of journals to libraries and the distribution of computer-output microfiche to individual subscribers. There were joint projects between publishers and libraries which resulted in the emergence of various distribution systems of electronic journals from CD-ROM to local data loading where publishers provided image and text data directly to libraries (Chan, 1999). Electronic journals began in the 1990's though they have been under development since 1976 (Harter & Kim, 1996 and Bearman, Prior and Pudlowski, 1999). Harter and Kim (1996) give the Online Journal of Current Clinical Trials (OJCCT) as the first peer-reviewed electronic, full-text electronic journal including graphics.

### **2.3 CHARACTERISTICS OF ELECTRONIC JOURNALS**

Electronic journals are serial publications that are available in digital format. These electronic journals may be distributed in various ways such as CD-ROM and Internet. Those delivered through Internet are available through World Wide Web and E-mail. Some are in ASCII text while others are in HTML format. There are some which use formats such as Adobe's PDF. Some are purely electronic while others also appear in print form. Users have a free access to some electronic journals while they have to subscribe to others (Klemperer, 1999).

Although some electronic journals are electronic in form they do index or review paper-based publications (Mogge, 1999:20). The electronic journals that often scan images of print versions are available as PDF files.

### **2.3.1 Types of electronic journals**

Electronic journals may be divided into three types, e.g. online, CD-ROM and web-based electronic journals.

#### **2.3.1.1 Online electronic journals**

Sweeney (1997) refers to the online electronic journals as "...pay as you go..." DIALOG may be an example whereby powerful searching tools are used to retrieve documents from printed journals. These journals are printed on paper and thereafter scanned, stored and distributed electronically. The entire issue may be distributed electronically to a membership list, or only table of contents and abstracts may be provided with a specific information of how to obtain the full electronic text of an article. According to Rao (1998) these are digitised journals.

#### **2.3.1.2 CD-ROMS**

CD-ROMS tend to be electronic versions of the existing printed journals. Powerful searching tools are used with CD-ROMS.

#### **2.3.1.3 Web-based electronic journals**

Rao (1998) has referred to these as electronic journals that are digital in form. These are produced, processed, edited, stored, reviewed and distributed to subscribers electronically without print versions.

### **2.3.2 Advantages and disadvantages of electronic journals**

#### **2.3.2.1 Advantages**

Electronic journals offer many solutions to problems that are facing information management centers nowadays. The most important features are the following:

- ***Space-saving***

Space saving is one of the important advantages of electronic journals mentioned in literature (Bandyopadhyay, 1999; Cook, 1992:33; & Sweeney, 1997) Electronic storage is therefore more efficient than having a shelf-space for a number of volumes.

- ***Speed of communication***

It is obvious that electronic journals also improve speed of communication by providing updates on recently published material and allowing for swift transmission of research results and scholarly communication (Sweeney 1997; Rao, 1998 & Mountifield & van Brakel 1994). Chan (1999) confirms that electronic transmission of journals saves valuable time more especially with the review process thus establishing network communication among authors , editors and referees.

- ***Provision of powerful searching tools***

This is another advantage of the electronic journals as words and terms in the records on the database can be searched and combined with the help of the Boolean operators (AND, NOT, OR). Specific periods or years can also be used to broaden or narrow the search (Fisher 1995). Several databases can be searched simultaneously thus allowing large collections of material to be retrieved instantly.

- ***Accessibility***

Electronic journals provide immediate access to needed information (Fisher 1995, Sweeney 1997 & Bandyopadhyay 1999). Rao (1998) reinforces that electronic journals facilitate precise access to the archive of knowledge. Thus, finding articles or journals can take minutes or even seconds rather than longer waiting periods encountered with printed journals (Chan 1999).

- ***Value-added features***

The facilities such as the integrated text, hypertext links, are offered by the electronic journals. Holovak & Settler (1997) argue that navigational aids such as internal hyperlinks between a mention in text and the corresponding figure, table, or equation, and from bibliographic citations in text to the reference listing at the end of the article, are value-added features of the electronic journals. According to Chan (1999) this is advantageous as printing and mailing processes are eliminated while authoring and publishing systems are integrated easily by computer readable text. Valuable time is saved through electronic transmission more especially in the review process.

- ***Cost-effectiveness***

Electronic journals are cost effective as far as the printing of paper and mailing to subscribers is concerned (Rao 1998). Academic and public institutions are faced with budget cuts whereby they are supposed to cancel subscriptions on a number of journals. Electronic journals therefore offer solutions in this regard as they are either free or inexpensive and affordable by end-users (Moret 1997; Mountifield and van Brakel, 1994:30). Chan (1999) states that there is a potential saving of twenty-four to thirty-six percent, which is accomplished by the elimination of printing and postage costs.

- ***Up-to-date information***

Information published in electronic journals tends to be up-to-date, as there are no printing and distribution delays. Rao (1998) emphasizes that published electronic articles may be available within forty-eight hours after being approved by the pre-view team.

Mountifield and van Brakel (1994:31) support that electronic journals may be distinguished from printed journals because they appear in a non-static form and are therefore irregular. Articles can be submitted, refereed, amended and updated at the same time and be published as soon as they are ready. There is an “...active dissemination mechanism”, as Chan (1999) states that whenever new articles are accepted into the database users are alerted at their desktops. The South African

Journal of Information Management (SAJIM) is an example in this case as it is designed in such a way that its subscribers receive e-mail notifications whenever any of the articles or columns have been updated (van Brakel 1999).

#### 2.3.2.2 *Disadvantages*

Evidently, there are still problems related to the advent of electronic journals and their use.

- ***Technological barriers***

For storage and display of electronic journals they rely on technology and equipment that is rather expensive and not affordable by poor users (Chan 1999). Computer literacy is still a problem. Some are still not familiar with electronic mail, file transfers, handling of network and mainframe software or downloading operations (Mountifield and van Brakel, 1994:31).

Though information delivered electronically may be cheap, the cost of computer hardware needed is high (Sweeney 1997). Files that are transferred electronically also cause network problems. The speed and bandwidth of networks could be affected, as electronic journals become more technologically advanced. Chan (1999) adds that screen quality graphics and photos is still primitive when compared with print journals.

- ***Sociocultural barriers***

Electronic interfaces can take a long time to master thus frustrating end-users. Another hindrance is that it is not very fast to read from a computer.

- ***Economic barriers***

The equipment used for displaying, storing or printing electronic journals is expensive. Users may not be in a position to download and print each an every article they need as this may lead to increase in economic and ecological costs. Some electronic journals are not free and they do charge subscription fees (Chan 1999). Mackay (1999) cautions that to receive access to electronic journals at no additional charge academic institutions need to subscribe to the print versions.

Thus, in order for academic institutions to gain access to every electronic journal published, they need to subscribe to a number of aggregator services as well as multiple publishers.

- ***Ownership versus access***

With print journals the academic institutions owns whatever journal they have paid and subscribed for which is not the case with electronic journals as they are not received but accessed (Mackay 1999).

### **2.3 METHODS USED FOR ACCESSING ELECTRONIC JOURNALS**

The electronic journals may be an answer to the problem of information overload where the scholarly community is finding difficulty finding time to keep pace with the developments in their various disciplines. Accessing information from their place of work is therefore an advantage. Electronic journals are said to provide a continuous and instant access to relevant material (Eason, Carter and Harker 1997).

Van der Walt and van Brakel, (1995:57-63) give the following as methods that may be used for accessing electronic journals:

- Personal electronic communication whereby electronic mail is used to transfer messages between users. Electronic journals may also be distributed in this format. The Electronic list managers are also useful in distributing content pages and individual articles to subscribers.
- Internet facilities used for transferring information and the use of files between different sites of PCs. The file transfer protocol is used for the physical retrieval of archived issues of electronic journals.
- Direct access to specific titles including databases of solely electronic journals is available to the users.
- Online directories to electronic journals such as the Directory of electronic journals, newsletters and academic discussion lists, gives a description of each electronic journal, its subscription procedures and costs and is available online.

The above list of access methods given by van der Walt and van Brakel, (1995) are used mostly for network-based electronic journals. Machovec (1997) pinpoints that electronic journal are also offered to the public by the publishers and aggregators. The publisher-based electronic journal projects given by Machovec (1997) are: Project Muse (<http://muse.jhu.edu/>), HighWire Press (<http://highwire.stanford.edu>), Elsevier Press (<http://www.elsevier.com>), Blackwell Science (<http://www.blackwell-science.com>), Springer-Verlag (<http://www.springer.co.uk>), and Academic Press IDEAL (<http://www.idealibrary.com>).

Machovec (1997) adds that a number of electronic journals from a variety of publishers are combined and provided through a common gateway such as:

OCLC Electronic Collections Online, Blackwell's Electronic Journal navigator, Institute for Scientific Information, The JSTOR Project, Ovid Technologies Inc., EBSCO, Information Access Company, DIALOG, Emerald and University Microfilms International.

Access to most electronic journals are provided to the subscribing institutions who are given licenses. The bona-fide members of these institutions may therefore be given licenses as well but the responsibility lies with the institution to ensure that only members are given access (Edwards 1997).

## **2.5 USES OF ELECTRONIC JOURNALS**

Motivations for making the most of electronic journals rely on the main role players who are authors, publishers, librarians and journal users (Hitchcock, Carr and Hall 1998). The motivations they give are the following:

- Publishers: adding value to journals;
- Librarians: improved information retrieval;
- Users: faster, more direct access to information, and the ability to act on information.

Hitchcock, Carr and Hall (1998) are of the opinion that these motivations may be served by electronic journals better than other journal formats. Electronic journals

are therefore in a position to play an important role in the provision of information. As journals are used for the sharing of up-to-date research results the speed of this service is better achieved by electronic journals (Eason, Carter and Harker, 1997).

The new form of scholarly communication is enhanced by the use of electronic journals, more particularly in teaching, as the study conducted by Milne (1999) found that academics whose primary focus was teaching were more likely to use electronic journals than full-time researchers. The reason given by Milne (1999) for this was that it might be possible that the full-time researchers were less inclined to accept the electronic journals for the publication of scholarly activity.

## **2.6 STUDIES ON THE USE OF ELECTRONIC JOURNALS**

Harter (1998) conducted a study that was aimed at gathering hard data regarding the actual impact of electronic journals on scholarly communication. The aim was to assess the extent to which scholars and researchers are influenced by and build their own work on research published in electronic journals. One of Harter's findings was that a journal with few articles may not influence many researchers and authors and will contribute less to the advancement of knowledge (Harter 1998).

The bibliometric research techniques based mainly on citation analysis as primary methods of data collection and analysis have been criticized. However, Harter (1998) notes that citations do reflect an influence of some kind on the author of the citing article. The study by Harter (1998) also revealed that scholarly, peer-reviewed electronic journals had no impact on the formal scholarly communication in their respective fields. The conclusions drawn here were that authors and readers need to view electronic journals as legitimate publication vehicles before they can assume a significant role in the scholarly communication process.

The scholarly community in various disciplines differ in their use of electronic journals. In a study by Milne (1999) scholars from the three disciplines of science, social science and the humanities, displayed distinct differences in their pattern of use of the electronic services. This also indicated an increasing pattern of the use of electronic journals by the academics, which indicated that there was a move towards their use.

### *Developed countries*

A study conducted by Ashcroft and Langdon (1999:105) investigated the benefits of and barriers of the purchase of electronic journals in university library collections in the United Kingdom and North America. The survey method was used, as they explain, to clarify librarian's perceptions on the benefits and constraints of electronic journals. Conclusions drawn by the authors from this study were that Librarians are aware of the benefits of electronic journals and that these journals have become an integral part of higher education library collections. The major disadvantages, as they note, were concerns about permanent archive and site licenses. Authors also noted considerations made by respondents, which were user oriented, as respondents felt that the surveys conducted in future should include usage statistics.

Cargille and others (1999) produced a paper on electronic journals and users. Three librarians gave their views on the changes in the delivery of library services that came as a result of the introduction of electronic journals. The paper is in three sessions. The first one, as Cargille, explains, came from Degener, who wrote about the impact of electronic journals in the medical library setting. The author noted that many researchers in the medical library community were relying more on electronic journals. Researchers, as the authors suggest, felt electronic journals were more convenient to use because they are accessible twenty-four hours a day, seven days a week. Authors further note an increase in efficiency, added features that provide additional opportunities to work more efficiently and effectively, cleaner copies printed than those produced by photocopying and that access to electronic journals has affected the reading habits of some researchers.

Gyeszly (2001:5) conducted a study that was to indicate what could be the choice of library administrators between electronic and print journals. The reason for this study, as the author states, was the escalation of price of the rapidly growing number of electronic journals when subscriptions were paid for both electronic and print journals. Amongst the objectives of the study, as indicated by Gyeszly, were the following:

- Identify the sources of the full-text online journals

- Compile a list of the electronically available titles in the political science and economics disciplines
- Collect usage data of all electronic journals costing greater than \$500 @ year.
- Determine the annual subscription prices of the core journals of political science and economics disciplines during the academic years of 1998-2000, and
- Analyse and compare the percentage of price increases during the time period of 1998-2000.

The usage of electronic journals in this study were based on the number of hits cumulated by users' requests via the Web sites of the Texas A&M University Libraries (Gyeszly, 2001:6). According to the author, the available use statistics of current electronic journals were not convincing enough for the library administration and collection development officers to cancel any print subscriptions yet. The library was therefore compelled to pay for both electronic and print journals as some publishers, she advises, do not allow the cancellation of print journals even if there is a heavy use of electronic journals. The findings of this study as Gyeszly, concludes, were that the faculty staff and students were satisfied with the use of electronic journals, and there were implications of an increase in usage of electronic journals over printed journals.

### *Developing countries*

Liew, Foo and Chennupati (2000:302) conducted a study, on the use, perception and expectations of future electronic journals by graduate student end-users. These graduate end-users came from Nanyang Technological University and National University of Singapore. The objective of this study, as the researchers explain, was to identify the usage of journals (both print and electronic), the user's preferred medium, and their expectations and concerns for the future. The study sought to determine the level and familiarity with the current offering of electronic journals, and to examine to what extent additional interactions, features and functionality were deemed useful and desirable by end-users (Liew, Foo and Chennupati, 2000:303). It is reported that over 70% of the participants had used electronic journals, although it was obvious, as the authors note, that respondents

had more experience with print journals, however 73.5% preferred the electronic medium (Liew, Foo & Chennupati, 2000:304). This study, as the authors conclude, revealed a growing interest in the use of electronic journals by end-users

## **2.7 SCHOLARLY COMMUNICATION**

Shaughnessy in Milne (1999) has defined scholarly communication as “the social phenomena whereby intellectual and creative activity is passed from one scholar to another.” Milne (1999) emphasizes that formal and informal communications are ways that make scholarly communication possible. According to Milne (1999) formal communication include writing articles for inclusion in a journal whereas informal communication include visiting conferences, using discussion groups and general networking to find out what is happening in a particular discipline. An important role in the system of scholarly communication is played by the academic libraries, academic staff and postgraduate students, publishers of academic journals and books and the learned societies. Increasingly, Internet is heavily used in making scholarly communication convenient, faster and easy among the academic community.

The scholarly community communicates informally or formally with colleagues. Informal communication can range from personal communication with colleagues, through newsletters and discussion groups to full-scale national and international conference. Research reports may therefore be distributed in this format (Eason, Carter and Harker 1997). In some cases observes Eason, Carter and Harker, informal and formal methods are used together. Thus, they note, academics that are busy and do not have time to engage in formal searches may use the informal network to identify what is worth finding and studying in journals and books. Ocholla (1999:12) elaborates on the scholarly communication among academics and observes that academics are identified with scientific activities and communication in addition to their academic activities. They are, he notes, involved with academic research, participate in conferences, seminars and workshops, conduct research, prepare and report research results, publish and teach. These academic activities are therefore part of formal and informal scholarly communication. The postgraduate students and library staff who are part of the study also participate in these activities. Kling (1996) adds that scholars

communicate via diverse media, including conversations, formal talks and publications. Kuhlen and Zhang (1997) state that scholarly literature is an essential element of the scholarly communication system and argue that it is the formal form and basis of scientific communication.

According to Eason, Carter and Harker (1997) formal communication includes several services of a formal kind:

- It is a public and permanent record of the achievements of the discipline.
- It is a peer reviewed, quality assured record which meets the performance criteria of the discipline. It may also be a record which obeys the specialist conventions and language of the discipline which facilitates swift communication with fellow scholars.
- It is a statement of the current state of knowledge in the discipline
- It provides a place for authors to register their achievements by which means they may be assessed by colleagues for career progression, status in the field, and serve as a means of attracting new recruits, etc. (Eason, Carter and Harker, 1997).

Studies confirm that scholarly communities and academic libraries are important role players in the system of scholarly communication (Milne, 1999). This could be attributed by the fact that, observes Ocholla (1999:122), universities expect academics to conduct research, publish, teach, participate in academic administration and be involved in community development. Varian (1997) also notes that the academic reward system is structured to encourage the production and dissemination of good ideas that are widely read and acknowledged. Thus, according to Varian (1997), it is part of the researcher's job to produce scholarly publications.

The three main roles of scholarly communication as identified by Getz (1997) are teaching, provision of knowledge to the community, and developing new knowledge. The mission statements of the two institutions under investigation support these roles of scholarly communication, which are the following:

The University of Natal strives to serve all sections of its community through excellence in scholarship, teaching, learning, research and development (University of Natal, 2001b). The University of Natal Library's mission in turn is to provide resources and information services that will support the learning, teaching, research and development endeavours of the University community (University of Natal Library, 2000). Similarly, the University of Zululand is committed to provide Tertiary Education and to pursue knowledge, which serves the needs of the country in general and those of the surrounding communities in particular (University of Zululand, 2001a). The University of Zululand Library's mission is to serve the teaching, learning and research functions of the university, as well as the needs of the community in its immediate vicinity who can benefit from it without prejudicing the privileges of its primary clientele (University of Zululand, 2000a).

There is an integration of roles between the role players of the scholarly communication. The scholars do research and write articles for publication, the publishers and learned societies accumulate, copy-edit, produce, and distribute articles while the academic libraries buy, store and disseminate scholarly journals (Wells 1999).

The academics are faced with the challenges such as professional, career-oriented occupation that require them to look for information (Ocholla, 1999:135). Evidently, the scholarly community of the two institutions (Universities of Natal and Zululand), pursue higher academic qualifications such as masters or doctorate degrees that force them to continue to look for information besides those required for their traditional academic responsibilities.

Vassallo (1999:232) introduces the process of organizational integration, which was brought about by the development, adoption, and implementation of the concept of the knowledge continuum. He says that the knowledge continuum assesses the various elements that contribute to scholarly communication and provides a continuum of support services whereby the identification, absorption, utilization and manipulation of existing knowledge merge with the organization, formation, and dissemination of new knowledge. This process includes research input and output, which are important for the scholarly communication process. According to Vassallo (1999:234) the knowledge continuum is best served by an

organizational structure which extends its contribution and role in the scholarly process of research to produce and disseminate results which benefit scholarly communication.

Studies show that academic or scholarly journals play an important role in the dissemination of scholarly information (Dean 1997; Eason, Carter and Harker 1997; Wells 1999; Harter, 1998:507; Milne 1999; Oppenheim, Greenhalgh and Rowland, 2000:361). This role is clearly articulated by Harter, (1998:507) who reiterates that the scholarly journal has served as the primary medium of scholarly communication among scholars for more than three centuries, and has remained basically unchanged in form and function since its inception. This role however differs from discipline to discipline. Some disciplines use journals more for information dissemination while others rely on books (Ocholla, 1999:136). Harter, (1998:507) further observes that despite the popularity of the printed journals, it had been criticized due to a number of problems. Peer-review process, high costs that are growing much faster than the rate of inflation and the lack of selectivity are widely criticized. Notwithstanding criticism he observes, the explosion of the Internet and the development of the World Wide Web created an opportunity for the development of the electronic journals. Web based publications accelerated the circulation and exploitation of the electronic journals.

### ***7.1 Scholarly communication and electronic journals***

It is believed that electronic journals will transform the scholarly communication system (Harter, 1998:507). Electronic journals, he warns, can only succeed in this transformation if they are integrated in the process of scholarly communication. This in essence creates new challenges to academic scholars to read and write articles to be published in electronic journals because without their active contribution in terms of readership and authorship electronic journals cannot prosper. Harter (1998:508) advises that scholars must be influenced or affected by the findings reported so as to build or modify their own research and scholarship on the content of electronic journal articles. Oppenheim, Greenhalgh and Rowland (2000:365) add that scholarly inquiry in the new medium of electronic journals will proceed much more quickly, interactively and globally, and might become a lot more participatory. There is however a lot of information that may be classed

under academic debates and not scholarly journals. It is important, therefore, as Oppenheim, Greenhalgh and Rowland (2000:365) argues, to distinguish between these materials and address the fundamental issues and attitudes which include the role of publication and the values held by the scholarly community.

## 2.8 CONCLUSION

This study revealed that the scholarly activities of the academic community may be transformed by the introduction and use of electronic journals which may result in the electronic journals having a strong impact on the scholarly community (Harter, 1998:507). Harter (1998:508) notes that electronic journals can only succeed to have an impact in scholarly communication if they are integrated in the process. This process as Harter (1998:508) observes, can be enhanced by the findings reported on the electronic journals which might help scholars to develop their own research on the content found in electronic journal articles.

Unlike the studies by Harter (1998) of the citation analysis, and Gyeszly (2001:6) of the usage statistics based on the number of hits cumulated by the users' requests, the current study was based on the data received from the users themselves. Although the study conducted by Liew, Foo and Chennupati (2000:), is somewhat similar to the present study in that graduate end-users were used in the sample, it differs in that the academics and library staff were not included. The respondents, according to the authors, were briefed about the use and implications of electronic journals. The respondents also indicated their perceptions in the use of electronic journals, whereas in the present study they were required to indicate their actual use and to indicate their knowledge by listing the titles of electronic journals.

It was also revealed in the study that the level and understanding of electronic journal use by the scholarly communities of the two institutions as well as various disciplines, might differ, Ocholla (1999:136) observes some disciplines use journals more for information dissemination while others rely on books. This can also be true of the electronic journals and the printed journals. It is evident in literature that there are various disciplines, which are already engaged in the use of electronic journals while others, are being left behind.

An analysis of the relevant literature towards the use of electronic journals shows that the libraries, academic libraries in particular, have a role to play in the provision of scholarly information. The academic libraries need therefore to transform so that they might not be left behind in the provision of electronic information to the academic community.

Studies support the notion that lack of adequate resources affect the use of electronic journals because technology equipment may not be affordable by poor libraries and users (Chan, 1999). This study has revealed the level of resource support available for users in the academic libraries of the two institutions.

This literature review shows that though electronic journals may be heavily used theoretically, few studies cited indicate that there is still no impact and influence that these journals have on the dissemination of scholarly information to the academic community. This study hopes to find more information in this regard.

The conclusion drawn from this literature review was that there was very little research that has been conducted on the use of electronic journals, particularly in South Africa except for a study conducted by McLuckie (1998). The difference between the current study and McLuckie's study was that the current study aimed at investigating the use of electronic journals for the dissemination of information by the scholarly communities of the Universities of Natal and Zululand. On the other hand McLuckie's study aimed at determining the feasibility of implementation of electronic journals in South African University library or information service centres.

The following chapter deals with research methodology, i.e. how research was conducted, the sample frame and sample size, and how data was presented and analysed

## **CHAPTER 3: RESEARCH METHODOLOGY**

### **3.1 INTRODUCTION**

The main focus in this chapter is to represent how research was conducted. The aim of the study was to determine the use of electronic journals for the dissemination of scholarly information by the Universities of Natal and Zululand. The chapter comprises research method, study population, sampling procedure, and data collection instruments and the pilot study.

The literature review, largely based on secondary sources, identified several advantages of using electronic journals. It does seem that electronic journals are used by the scholarly community, libraries as well as the development of scholarly communication. However, primary data may give a different picture of this assumed status. Moreover, research therefore aims to find out if the scholarly communities of the two institutions under investigation, are aware and using the electronic journals to their advantage.

### **3.2 PROCEDURE FOR DATA COLLECTION**

The data collection procedures consisted of literature review, survey research method and content analysis. Literature review was conducted because as Neuman (1997:89) suggests, it is an essential early step in the research process, and is based on the assumption that knowledge accumulates and that scholars learn from and build on what others have done. The survey was chosen as the best method to collect data from the respondents who answer the same questions. The survey was in two parts. Firstly, the pilot study was conducted in order to test the instruments and clarify some ambiguities. Secondly, the questionnaires were distributed to the respondents by electronic mail, internal mail, for the local ones, while others were distributed by hand.

#### **3.2.1 RESEARCH METHOD**

Both qualitative and quantitative research techniques were used. According to Cresswell (1994:1), Qualitative approach is an inquiry process of understanding a social or human problem based on building a complex, holistic picture, formed

with words and reporting detailed views of respondents. Qualitative research was selected as a means that could be used to evaluate the current level of electronic journal use and the potential future developments, more especially on the part of the academic libraries. In this study the qualitative research technique used included the use of documents such as theses and dissertations, journal articles and research reports and the researcher's observation. Cited references were checked and analysed in order to see the type of scholarly journals that were used in the text. Cresswell (1994:2) defines quantitative research as an inquiry into a social or human problem, measured with numbers, and analysed with statistical procedures. This was done by collecting data by means of questionnaires, and analysing data using the SSTAT statistical program, and Microsoft Excel spreadsheet application. The study included elements of exploratory, descriptive and explanatory research. It was exploratory because the study led to a direction of doing further research. It was descriptive, as it described how electronic journals are used and who uses them. Lastly, explanatory research looked for causes and reasons; for example, it led to an explanation why other members of the scholarly community do not use electronic journals.

The survey research method may be defined as a process where the researcher asks people questions in a written questionnaire or during interviews, and may ask numerous questions within a short period of time (Neuman, 1997:31). For the purposes of this study 308 written questionnaires were distributed to academics and postgraduate students and 34 to the library staff. The aim was to elicit information from the subjects. This method was chosen as it is a procedure that could be used to ask subjects about their attitudes, beliefs, and opinions concerning the use of electronic journals (Nation, 1997: 283). Nation (1997:284) further states that survey results are used to characterize attitudes of respondents.

### **3.3 STUDY POPULATION AND SAMPLING**

The University of Zululand and the University of Natal (Durban and Pietermaritzburg) scholarly community was the study population for this research. This community included the academic staff, the library staff and postgraduate students. Five faculties were selected for sampling purposes. These were the faculty of Arts (UZ), Commerce and Administration (UZ), Law (UN) and (UZ)

and Science and Agriculture from both institutions. The aim was to include faculties with more or less similar disciplines. Other faculties were not included in the sample because the sample would have been very large and unmanageable if they were included. The University of Zululand scholarly community includes 196 academic staff, 426 postgraduate students and 33 library staff (University of Zululand Calendar, 2001 and the Division of Information Technology Department, University of Zululand, 2001). The number of students included the main campus and DUC campus only. University of Natal scholarly community consists of 361 academic staff, 1543 postgraduate students, and 87 library staff (University of Natal, Division of Information Management, 2001).

### **3.3.1 *Sampling procedure***

According to Nation (1997: 157) sampling refers to the procedure whereby a subset of a larger number of a population is selected. The advantages of using sampling are that samples are manageable and information collected from them can be stored, manipulated, statistically analysed and examined. For the purposes of this study a probability sampling technique was used. Probability sampling has been defined by Shaughnessy and Zechmeister (1990:492), as a sampling procedure in which the probability that each element in the population will be included in the sample can be specified. This was done by ensuring that all characteristics (professors, associate professors, senior lecturers, lecturers, researchers, junior lecturers, honours students, masters and doctorate students), that are present in the population to be studied are represented in the sample. In order to ensure that the different groups to be studied, namely, academic staff and postgraduate students are adequately represented, stratified random sampling was used. A stratified random sample as defined by Shaughnessy and Zechmeister (1990:494) is a type of probability sample in which the population is divided into sub-populations called strata and random samples drawn from each of these strata. This was done by drawing lists of the academic staff in faculties selected. These lists were further broken down by academic status. For postgraduate students simple random sampling was done after receiving questionnaires. According to Shaughnessy and Zechmeister (1990:494) this is a type of probability sampling where each possible sample of a specified size in the population has an equal

chance of being selected. Firstly distributing questionnaires to postgraduate students and then doing simple random sampling was the possible option the researcher could choose.

### 3.3.2 *Sample size and sample frame*

The sample size for academic staff was 20% whereas that of the postgraduate students was 10%. Using the same sample size for both academic staff and postgraduate students could have resulted in an unrepresentative sample for the academic staff. To avoid that the sample size for the academic staff was calculated at 20%. Data available in the university calendars and the figures obtained from the Division of Information Technology as well as Research and Performance Measurement was used for sampling. The University Calendar was used because it clearly indicated a variety of segments of the scholarly community. The sample size for the academic staff at the University of Zululand drawn was 39, which was 20% of 196, while that of the University of Natal was 72 being 20% of 361. The sample distribution for the academic staff by faculty is presented in tables 1 and 2.

**Table 1: Sample size and sample frame per faculties N=111**

<b>Faculty</b>	<b>Sample Size</b>		<b>Percentage</b>		<b>Total</b>
Arts	16	being	20%	of	82
Commerce & Admin	4	being	20%	of	19
Law (UZ)	2	being	20%	of	8
Science & Agriculture	17	being	20%	of	87
<b>Total (UZ)</b>	<b>39</b>	<b>being</b>	<b>20%</b>	<b>of</b>	<b>196</b>
Human Sciences	37	being	20%	of	186
Law (UN)	8	being	20%	of	41
Science & Agriculture	27	being	20%	of	134
<b>Total (UN)</b>	<b>72</b>	<b>being</b>	<b>20%</b>	<b>of</b>	<b>361</b>
<b>Overall</b>	<b>111</b>	<b>being</b>	<b>20%</b>	<b>of</b>	<b>557</b>

The above sample sizes were distributed according to each faculty as indicated. There was a further breakdown in stratification by rank of academic staff to ensure that all ranks are represented in the sample. The sample size distribution per faculty and academic status is presented in a table on the next page.

**Table 2: Sample size and sample frame N=111**

Rank	SAMPLE SIZE AND SAMPLE FRAME PER STATUS/RANK															
	Arts (UZ)		Commerce & Admin (UZ)		Human Sciences (UN)		Law (UN)		Law (UZ)		Science & Agric (UN)		Science & Agric (UZ)		TOTAL	
	SS	N	SS	N	SS	N	SS	N	SS	N	SS	N	SS	N	SS	N
Professors	3	14	0	1	8	40	3	17	0	1	7	36	3	13	24	112
Associate professors	1	4	1	3	5	26	1	4	1	3	4	19	1	4	14	64
Senior Lecturers	5	23	1	5	8	42	2	11	1	3	6	29	4	21	27	134
Lecturers	7	38	2	10	14	69	2	9	0	1	8	39	6	28	39	194
Junior Lecturers	0	0	0	0	1	6	0	0	0	0	1	4	0	0	2	10
Researcher	0	2	0	0	0	0	0	0	0	0	0	2	1	8	1	12
Senior Tutors / Lab Assistants	0	1	0	0	1	3	0	0	0	0	1	5	2	13	4	22
<b>TOTAL</b>	<b>16</b>	<b>82</b>	<b>4</b>	<b>19</b>	<b>37</b>	<b>186</b>	<b>8</b>	<b>41</b>	<b>2</b>	<b>8</b>	<b>27</b>	<b>134</b>	<b>17</b>	<b>87</b>	<b>111</b>	<b>557</b>

The sample size for the postgraduate students at the University of Zululand was 43 being 10% of 426, while that of the University of Natal was 154, being 10% of 1543. In case of the library staff all professional librarians from the two institutions were included in the survey.

### **3.4 DATA COLLECTION INSTRUMENTS**

Data collection is a process of gathering research data about the research topic. This is done in a systematic way for statistical analysis purposes. There are various types of data collection instruments. Amongst others are the questionnaire, interviews, observation, document study and records. For the purposes of this study questionnaires, observation and document study were used. The questionnaires are the most widely used survey data collecting instruments that are normally distributed through the post to be completed by the respondents during their own time (Behr, 1988:157). These were administered and sent to various groups through e-mail, internal mail and also distributed by hand. The researcher believed that it was faster and more convenient to the respondents if questionnaires were sent by e-mail whereas internal mail and hand distribution was convenient for those who cannot be reached through e-mail. The majority of those, which were distributed by hand to the postgraduates of the University of Natal, were supplied with self-addressed envelopes in order to encourage easy postage. Questionnaires were distributed through Heads of Departments and Heads of Schools to the postgraduate students. The reason for this was that there was no usable list for the postgraduate students. Questionnaires that were administered through electronic mail were sent by using a file that was saved through Microsoft Word. This file was sent as an attachment. The respondent could then open the file and reply to the file directly and return it to the researcher.

#### ***3.4.1 Construction of the questionnaire***

The aim of the questionnaire was to obtain information regarding the perception and use of electronic journals by the scholarly communities of the two institutions. Van Rensburg, Landman and Bodenstein (1988:505) define a questionnaire as a set of questions that deal with the same topic, given to a selected group of individuals.

The purpose for this, they note, is to gather data on a problem under investigation. Questionnaires are used by researchers to collect data in order to learn about the distribution of characteristics, attitudes or beliefs of the sample drawn from the larger population. Marshall and Rossman (1995:96-97) view the questionnaire as an instrument used to convert into data information directly given by a respondent to measure what he knows, what he likes or dislikes and what he thinks. Marshall and Rossman (1995:96) believe that the use of the questionnaire is based on the assumption that:

- The respondents possess the information that cannot be obtained anywhere else,
- They are able to answer questions using that information,
- They can read and understand the items or questions,
- They are willing to answer the questions honestly.

The researcher, therefore, decided to use the questionnaire to collect data because if properly constructed and administered, it serves to be the best available instrument for obtaining information from a number of respondents.

Two different sets of questionnaires were constructed. The first set was aimed at eliciting information from the academic staff and postgraduate students while the second set was aimed at eliciting information from the library staff. The researcher decided to construct two different sets of questionnaires because the library staff performs information searches in most cases on behalf of the end-users. The first set of questionnaire was divided into four sections. The first section dealt with the biographical information which aimed to find information relating to the institutional affiliation, academic status, i.e. whether academic staff or postgraduate student, rank and level of study. Information included in this section also included access to personal computer and the Internet. The second section focused on the use of scholarly journals and the types used. Before embarking onto section 3 which was devoted to electronic journals, there was an indication to the respondents to proceed to the next section if they were using scholarly journals. The third section focused on the awareness of the availability of electronic journals, their use attitude of the users towards their use and access and resource

support offered by the academic libraries.(For more information please refer to appendix one).

The second set of questionnaires was in two sections. The first section dealt with the institutional affiliation and rank. The second section dealt with the use of electronic journals by the library staff. The Library Staff was required to give information relating to the purposes of using electronic journals, the type of users they serve, to give a list of full-text databases, abstract databases and bibliographic databases. They were also required to indicate their marketing strategies of the existing facilities, to indicate their perception of the user's satisfaction towards the service offered, to indicate their preferences between print and electronic journals. (For more information see appendix two).

#### ***3.4.1.1 Characteristics of a good questionnaire***

According to Mahlangu (1987:84-85) a good questionnaire has the following characteristics:

- It needs to deal with a significant topic which can be recognized by the respondent as important enough to justify spending his or her time on;
- It looks only for information that cannot be obtained from other sources;
- It must be as short as possible, but long enough to cover the essential information;
- It must be attractive in appearance, neatly arranged and clearly duplicated or printed;
- Each question deals with a single concept and should have simple and straightforward terms;
- Questions should be presented in a proper order, proceeding from more general to specific and selective responses;
- Data obtained from questionnaires are easy to tabulate and interpret.

#### ***3.4.1.2 Advantages and disadvantages of a questionnaire***

A structured questionnaire can be used to gather data in the following manner: a written questionnaire that is mailed, delivered or handed out personally, personal interviews, and telephone interviews (Kidder & Judd, 1986:221). Each mode of communication has its advantages and disadvantages which the researcher needs to evaluate for their suitability to his or her study and the specific target population being studied, as well as relative cost implications. Cohen and Manion (1989:111-112) gives the following advantages of a written questionnaire:

### *Advantages of a written questionnaire*

- Affordability is the primary advantage of written questionnaires because it is the least expensive means of data gathering.
- Interviewer bias is eliminated with a written questionnaire.
- A questionnaire permits anonymity.
- Respondents are permitted sufficient time to consider answers before responding.
- Questionnaires can be given to many people simultaneously, that is, a large sample of the target population can be reached.
- They provide greater uniformity across measurement situations than do interviews as each person responds to exactly the same questions
- Generally the data provided by the questionnaires may be more easily analyzed and interpreted than the data from verbal responses.
- Respondents may answer questions of personal or embarrassing nature more willingly and honestly on a paper questionnaire than in face-to-face situation with an interviewer who may be a complete stranger.
- Questionnaires requiring considered answers rather than immediate answers could enable respondents to consult documents in the case of the written questionnaire approach.

- Respondents may complete questionnaires in their own time and in a more relaxed atmosphere.
- Questionnaire design is relatively easy if the set guidelines are followed.
- Questionnaires can elicit information that cannot be obtained from other sources.

Because of the advantages of a written questionnaire mentioned above the researcher decided to use the questionnaire for this study, however she was also aware of the disadvantages that this kind of questionnaire has. Van den Aardweg and Van den Aardweg (1988:190) and Kidder and Judd (1986:223-224) give the following as the disadvantages of a written questionnaire:

#### ***Disadvantages of a written questionnaire***

- Questionnaires do not provide the flexibility that the interviews provide.
- People are generally more able to express their views verbally than in writing. Questions can be answered only when they are sufficiently easy and straightforward to be understood with the given instructions and definition.
- The questionnaire does not make provision for obtaining the views of more than one person at a time.
- In a questionnaire the respondent examines all the questions at the same time before answering them and the answers to the different questions can therefore not be treated as “independent”.

#### ***4.2 The distribution of questionnaires***

Questionnaires were distributed from July 2001 to the first week of October 2001. The first group of questionnaires was distributed to the library staff of the University of Natal in Durban. The researcher made an appointment to seek permission from the university Librarian and thereafter questionnaires were hand-distributed to the Subject Librarians to be collected on the following day. The researcher also approached the Head of the Medical School Branch Library for distribution of questionnaires to the Library Staff. These were also hand-

distributed to be collected later. The Library Staff of Durban Umlazi Campus Library, which is a branch library of the University of Zululand Academic Library, were also approached for to complete the questionnaires for the Library Staff and to distribute and receive questionnaires from the Postgraduate Students at DUC. These were returned by inter-university mail to the researcher. Questionnaires to the Library at Pietermaritzburg were sent questionnaires by electronic mail in August 2001.

Questionnaires to the Academic Staff at the University of Natal and Zululand were sent by electronic mail. These e-mails were sent with an attachment containing the file that had the questionnaire. The respondent could open the attachment, supply the required information, and return the questionnaire by e-mail, but others preferred to print them and return questionnaires in hard copy by mail. Responses that were received through e-mail were transferred and saved in a separate file for easy retrieval and printing.

The researcher made appointments with the Deans of faculties that were selected for sampling purposes, to seek permission to conduct research and distribute questionnaires. Questionnaires were distributed to the postgraduate students through Heads of Departments during August at the University of Zululand. Other questionnaires were distributed in July 2001 when there were a number of postgraduate students around who are studying part time. The researcher also distributed questionnaires to postgraduate students who were using the periodical section of the University of Zululand Library. She did this herself being very cautious to avoid duplication. Postgraduate students were requested to return completed questionnaires to the researcher or the Inter-Library Loan's office.

From the beginning of September to the beginning of October the researcher was distributing questionnaires to the postgraduate students of the University of Natal. She made appointments with the Deans to seek permission, and from there with the Heads of Departments and Heads of Schools. The Heads of Departments were approached to help with the distribution of questionnaires, as the researcher could not be able to identify those who were postgraduate students. The questionnaires were distributed with self-addressed envelopes to encourage response and easy

postage. In some cases the Heads of departments agreed to distribute and collect questionnaires which were sent to the researcher by mail in one package.

Responses from postgraduate students were placed separated according to institutional affiliation, faculties and level of study. They were then arranged separately for sampling purposes.

### **3.4.3 Content Analysis**

According to Neuman (1997:31) content analysis is a technique for examining information, or content, in written material. Records which are kept by the Subject Librarians when conducting information searches on behalf of the end-users were also used as they contain the type of information needed and databases used. Published and unpublished material produced by the scholarly community of the University of Zululand and the University of Natal was analysed to see the type of references used. The researcher selected a sample from journals, books and research reports, theses and dissertations that were written and published on behalf of the scholarly communities from these institutions. This was done in order to examine the type of references used and how often they are used. In order to achieve this UCTD (Research at South African Universities) database, ISAP (South African journal articles), and the World Wide Web were scrutinized.

## **3.5 PILOT STUDY**

According to Kidder and Judd (1986:211-212) the basic purpose of a pilot study is to determine how the design of the subsequent study can be improved and to identify flaws in the measuring instrument. A pilot study was conducted in May 2001 with 23 respondents from the University of Zululand population. This was done in order to gain insight and provide familiarity with the environment of the study and improve on the research instruments. The preliminary trial of a questionnaire is useful to determine if items are yielding the required information. It is administered in a small group of respondents drawn from the population. The pilot group should then be excluded from the sample to be investigated. It uses the similar questions as in the final survey. The researcher conducted a pilot study with 23 respondents consisting of 10 academic staff members, 3 professional librarians, and 10 postgraduate students. Two sets of questionnaires were administered: one

for the academic staff and postgraduate students and the second one for the library staff.

The postgraduate students consisted of 8 Honours students and 2 Masters students. The academic staff consisted of 3 Professors, 3 Senior lecturers and 4 lecturers. The Library staff were 2 assistant librarians and 1 librarian. All respondents had access to the computer and the Internet. High scores were received (85%) for the awareness of the availability of electronic journals and (75%) for the use of electronic journals. All library staff respondents (100%) indicated that they were using electronic journals. For purposes of using electronic journals, most academic staff respondents were using them for teaching and learning purposes while postgraduate respondents were using them for learning and research. The library staff was using them mostly on behalf of the end-users. A high score (85%) use printed journals whereas only 15% indicated they use both. 65% was received for using electronic journals for the dissemination of scholarly information. Only 40% found electronic journals easy to access. When respondents were required to list three titles of electronic journals that they use, only 40% gave three titles while 15% gave only one title and another 40% did not answer. A high score was received for printed titles which was 70%. 50% respondents said their academic library does offer access to electronic journals while 100% library staff respondents indicated that their library offers electronic journal access.

The instrument was then adjusted where respondents had indicated a problem of understanding. Some points were corrected in order to clarify such as instances where they could select more than one options. Though respondents indicated some problem in understanding the listing of hosts or databases these were not removed from the questionnaire as it was noted that a user who is actively engaged in the use of electronic journals would be able to answer. The sections of the questionnaire were adjusted in order to avoid respondents leaving questions unanswered when they were not using electronic journals.

### **3.6 DATA ANALYSIS AND INTERPRETATION**

Data was presented and analysed using the SYSTAT Statistical Program, Version 7.0 (1997). Firstly, questionnaires were allocated numbers, i.e. 1-168 for the first

set and 1-22 for the second set. The questionnaire numbers were allocated Q1. The numbering sequence in the sections of the questionnaires was not followed for easy coding of the questions. Responses from open-ended questions were excluded to be analyzed separately. Question numbers were allocated variables Q2 to Q26 and 1,2,3 to 4 or 5, depending on the number of alternative answers, were allocated to each question. Data was then input into the computer in this format using the Microsoft Excel Spreadsheet Application. This was done in the same pattern for both sets of questionnaires. The diskette was used to save this information in two separate files. This was then taken for data analysis purposes, which was done by a professional data analyst. The program used for data analysis was SYSTAT Statistical Program, Version 7.0 (1997). Data was then analyzed and presented in the form of tables.

## **.7 PROBLEMS ENCOUNTERED**

It was difficult to have a usable list of the postgraduate students for sampling purposes before the distribution of the questionnaires, unlike the sampling of the academic staff respondents. Non-response therefore could not be easily traced. Another problem encountered by the researcher is that she was involved in a car accident in September whilst she was busy distributing questionnaires to postgraduate students at the University of Natal. Some of the appointments had therefore to be rescheduled and that caused a delay in the distribution of questionnaires.

## **.8 CONCLUSION**

The researcher has discussed the methodology used and the justification for using the written questionnaire for collection of data. The research method and procedure for data collection was discussed in detail. The study population, sampling procedure, sample size and sample frame were also discussed. Data collection instruments and finally how data was collected and analysed and the program used for data analysis were also discussed. In the following chapter the researcher will then tabulate and analyse data.

## **CHAPTER 4: PRESENTATION AND ANALYSIS OF FINDINGS**

### **4.1 Introduction**

The aim of the study was to determine the level of electronic journal use by the scholarly community of the Universities of Natal and Zululand. The academic libraries' resource support for accessibility was also explored. The purpose of this chapter is to analyze the data obtained from academic and postgraduate students as well as the library staff respondents from the two institutions. The random probability and stratified sampling was used for the academic staff, simple random sampling was used for postgraduate students and all professional librarians were identified for inclusion in the sample. Two sets of questionnaires were administered to the respondents. The first set consisting of 308 questionnaires was administered to the academic staff and postgraduate students. The second set of 34 questionnaires was administered to the library staff. 168 (54%) responses were received from the first set whereas 22 (65%) were received from the second set. A 100% response was not received from the academic staff, both institutions, postgraduate students from the University of Natal and Library Staff from both institutions. With the academic staff respondents, questionnaires were sent by electronic mail and responses were either received thus or in hard copy. Amongst those not returned were responses that they could not open the file, hard copies were then sent but in some cases were not returned. The non-response in some cases might be attributed to non-use of electronic journals. Both sets of questionnaires consisted of both closed questions, approximately 80% for the first set and 62% for the second set, and open-ended questions (20%) for the first set and (38%) for the second set. The descriptive method was employed in order to analyze, interpret and report factual information regarding the understanding and use of electronic journals by the scholarly communities. The SYSTAT Statistical Program, Version 7.0 was used for data analysis.

This chapter comprises of the presentation and analysis of data received from the two sets of questionnaires. The first one was from the academic staff and postgraduate students and the second one came from the library staff. Data was presented following the sequence of the questions asked from the questionnaires

(See appendices A and B). The responses from the two sets of questionnaires are therefore presented as 4.2 and 4.3.

## 4.2 RESPONSES FROM THE ACADEMIC STAFF AND POSTGRADUATE STUDENTS

This section comprises of the personal information, which identifies the respondents according to their institutional affiliation, academic status, level of study, computer and Internet access. Information that follows relate to the use of scholarly journals, electronic journals, and recommendations made by respondents.

### 4.2.1 Institutional affiliation

Respondents were required to indicate their institutional affiliation. They were given options to choose from between the University of Zululand (Main Campus), Durban Umlazi Campus, University of Natal (Durban) and the University of Natal (Pietermaritzburg). The purpose of this question was to identify the respondents by their institutional affiliation, which would then help to determine if there is any difference in the use of electronic journals by various institutions. The target number of respondents for this question was 308, 82 (27%) from the University of Zululand and 226 (73%) from the University of Natal. A sample of 20% was used for the Academic Staff and 10% was used for that of the Postgraduate Students. All those who returned the questionnaires responded to the question. 168, 50 (30%) from the Academic Staff and 118 (70%) from the Postgraduate Students. Responses are summarised in table: 3 below:

**Table: 3 Institutional affiliation N=308**

Institutional Affiliation	Academic Staff				Postgraduate Students				Total				Overall	
	UN=72		UZ=39		UN=154		UZ=43		UN=226		UZ=82		N=308	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Responses received	31	43	19	49	75	49	43	100	106	47	62	76	168	55
No response	41	57	20	51	79	51	0	0	120	53	20	24	140	45
Total	72	100	39	100	154	100	43	100	226	100	82	100	308	100

#### 4.2.2 Academic Status

This question targeted 168 respondents, 62 (37%) from the University of Zululand, and 106 (63%) from the University of Natal. The question was asked in order to distinguish academic staff respondents from postgraduate students. They were required to choose between academic staff and postgraduate student. 50 (30%) respondents indicated that they were academic staff while 118 (70%) were postgraduate students.

#### 4.2.3 Faculty

Respondents were required to indicate their faculties. The question was asked in order to ensure that all the five faculties selected are represented in the sample. The distribution of responses showed that 36 (21%) responses were received from the faculty of Arts, 7 (4%) from the Faculty of Commerce and Administration, 64 (38%) from the faculty of the Human Sciences, 11 (7%) from the faculty of Law and 50 (30%) from the Faculty of Science and Agriculture. Results are summarised in table: 4 below.

**Table: 4 Faculty N=168**

Faculty	Academic Staff		Postgraduate Students		Total	
	N=50		N=118		N=168	
	N	%	N	%	N	%
Arts	8	16	28	24	36	21
Commerce & Admin	2	4	5	4	7	4
Human Sciences	17	34	47	40	64	38
Law (UN)	3	6	6	5	9	5
Law (UZ)	1	2	1	1	2	2
Science & Agric (UN)	11	22	22	19	33	20
Science & Agric (UZ)	8	16	9	8	17	10
Total	50	100	118	100	168	100

#### 4.2.4 Academic Status / Rank of the academic staff

Respondents were required to indicate their Academic Status. The purpose of asking this question was to ensure that all academic positions are represented in the study. The target number of respondents was 50, 19 (38%) from the University of

Zululand and 31 (62%) from the University of Natal. Out of 50 respondents 11 were Professors, 6 Associate Professors, 14 Senior Lecturers, 15 Lecturers and 4 researchers. A sample of 20%, which was 39 respondents from the University of Zululand, and 72 respondents from the University of Natal, was drawn for the academic staff. The study population was selected from the five faculties. Four faculties were selected from the University of Zululand and three from the University of Natal. Faculties selected included the Faculty of Arts, Commerce and Administration, Human Sciences, Law and Science and Agriculture. The total number of academic staff members in these faculties was 196 from the University of Zululand and 360 from the University of Natal. Because of the enormous difference in population numbers between the University of Zululand and the University of Natal, the number of respondents looks very odd, however a sample of 20% was used for each faculty. Results presented in table 2 reflect this difference. The results are summarised in table 5 on the next page.

**Table 5: Academic Status N=50**

Academic Status	Arts (UZ)		Commerce & Admin (UZ)		Human Sciences(UN)		Law(UN)		Law(UZ)		Science & Agric(UN)		Science & Agric(UZ)		Total(UN)		Total(UZ)		Overall	
	N=8		N=2		N=17		N=3		N=1		N=11		N=8		N=31		N=19		N=50	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Professors	3	38	0	0	3	18	1	33	0	0	3	27	1	12.5	7	23	4	21	11	22
Ass Professors	0	0	0	0	5	29	0	0	0	0	1	9	0	0	6	19	0	0	6	12
Senior Lecturers	4	50	0	0	4	24	2	67	1	100	2	18	1	12.5	8	26	6	32	14	28
Lecturers	1	12	2	100	5	29	0	0	0	0	4	37	3	37.5	9	29	6	32	15	30
Researchers	0	0	0	0	0	0	0	0	0	0	1	9	3	37.5	1	3	3	15	4	8
Total	8	100	2	100	17	100	3	100	1	100	11	100	8	100	31	100	19	100	50	100

**Table: 6 Level of Study N=118**

Level of Study	Arts (UZ)		Commerce & Admin (UZ)		Human Sciences (UN)		Law(UN)		Law(UZ)		Science & Agric(UN)		Science & Agric(UZ)		Total				Overall	
	N=28		N=5		N=47		N=6		N=1		N=22		N=9		UN=75		UZ=43		N=118	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Honours Degree	14	50	5	100	19	40	4	67	1	100	6	27	3	33	29	39	23	53	52	44
Masters Degree	11	39	0	0	19	40	2	33	0	0	11	50	4	44	32	43	15	35	47	40
Doctorate	3	11	0	0	9	19	0	0	0	0	5	23	2	22	14	19	5	12	19	16
Total	28	100	5	100	47	100	6	100	1	100	22	100	9	100	75	100	43	100	118	100

#### **4.2.5 Level of Study**

Postgraduate students were requested to indicate their level of study between an Honours Degree, Masters and Doctorate Degree. The purpose of this question was to ensure that only postgraduate students respond to the questionnaire and to identify them from undergraduate students. Another reason was also to identify and to make sure that not only the same level of study be included in the sample such as Honours students only. The respondents from both institutions were 118 (75 = 64% (UN) and 43 = 35% (UZ)). Out of 118 respondents 52 (44%) were Honours students, 47 (40%) Masters students and 19 (16%) were Doctorate students. Because of the difference in student numbers between the two institutions a sample of 10% was used from each faculty. The response rate at the University of Zululand was 100% as compared to a response rate of 49% at the University of Natal. The required sample for the University of Natal was 154 but 75 responses were received resulting, in 49% response rate.

The results that are reflected in table 4 appear very strange, as there are faculties represented by 1 respondent or 5 respondents only. The reason for this is similar to the one mentioned for the academic staff. The population from the two institutions is not the same and there appears to be a large difference between the number of registered students. A summary of the results from the postgraduate students' responses is presented in table: 6

#### **4.2.6 Computer Access**

The target was 168 respondents, 62 (37%) from the University of Zululand and 106 (63%) from the University of Natal. The total number of 168 was responses received from both institutions. Respondents were required to indicate if they have an access to the computer. This question was to determine the accessibility to electronic journals as the computer is the first entrance to electronic journals. The response to this question was 157 (93%) for access and 11 (7%) for no access. Results summarised in table 7 are according to the institutional affiliation, academic staff and postgraduate students.

**Table: 7 Access to the Computer N=168**

Access to Computer	Academic Staff				Postgraduate Students				Total				Overall	
	UN=31		UZ=19		UN=75		UZ=43		UN=106		UZ=62		N=168	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Access to Computer	31	100	19	100	75	100	32	74	106	100	51	82	157	93
No Access	0	0	0	0	0	0	11	26	0	0	11	18	11	7
Total	31	100	19	100	75	100	43	100	106	100	62	100	168	100

There is a clear indication that all respondents from the University of Natal 106 (100%) have an access to the computer as compared to 51 (82%) from the University of Zululand. 11 (7%), of all respondents, who were also postgraduate students, that have no access to the computer come from the University of Zululand.

#### 4.2.7 Location of the computer (PC)

The research question targeted 157 respondents, 106 (68%) respondents from the University of Natal and 51 (32%) from the University of Zululand, because these were the respondents who had indicated that they had an access to the computer. The location of the computer was necessary to establish because it may encourage more access to electronic journals. For example, a person with a computer both in the office and at home have more time than the one accessing them in one place only. Results show that 60 (38%) respondents have their computers in offices. 5 (3%) respondents have their personal computers at home. 41 (26%) respondents have personal computers both at home and in their offices, 50 (32%) respondents, mostly postgraduate students, selected "other." Here they specified computer lab or University Lan, as the place where they have an access to the computer. 1 (1%) of the respondents did not answer the question. Results are summarised in table 8.

**Table: 8 Location of the Personal Computer (PC) N=157**

Location of the PC	Academic Staff				Postgraduate students				Total				Overall	
	UN=31		UZ=19		UN=75		UZ=32		UN=106		UZ=51		N=157	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Office	10	32	13	68	21	28	16	50	31	47	29	56	60	38
Home	0	0	0	0	1	1	4	13	1	1	4	8	5	3
Both	21	68	6	32	11	15	3	9	32	30	9	18	41	26
Other	0	0	0	0	42	56	8	25	42	40	8	16	50	32
No response	0	0	0	0	0	0	1	3	0	0	1	2	1	1
Total	31	100	19	100	75	100	32	100	106	100	51	100	157	100

Results reflect that a large number of academic staff respondents, 68%, at the University of Natal have their personal computers both at home and in their offices, while the same percentage at the University of Zululand have them in their offices. Postgraduate students (56%) at the University of Natal use personal computers found in other places such as University Computer Laboratories or in the library. At the University of Zululand a low number (25%) selected other as the location. 50% said that they have computers in their offices while 3% did not respond to the question.

#### 4.2.8 Access to the Internet

In question 9 respondents were requested to indicate if they have an access to the Internet. This question was important because respondents could easily access electronic journals if they have an access to the Internet. Respondents were to choose between yes and no in answering this question. This question targeted 157 respondents including 51 (32%) from the University of Zululand and 106 (68%) from the University of Natal. The overall results show that 156 (99%) respondents have an access to the Internet as opposed to 1 (1%) without an access. Results are summarised on table: 9 below.

**Table: 9 Access to the Internet N=157**

Access to the Internet	Academic Staff				Postgraduate students				Total				Overall	
	UN=31		UZ=19		UN=75		UZ=32		UN=106		UZ=51		N=157	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Yes	31	100	19	100	75	100	31	97	106	100	50	98	156	99
No response	0	0	0	0	0	0	1	3	0	0	1	2	1	1
Total	31	100	19	100	75	100	32	100	106	100	51	100	157	100

All respondents, except for 1 (1%) from the University of Zululand, a postgraduate student, indicated that they had an access to the Internet.

#### 4.2.9 Use of scholarly journals

The research question was intended to find out if respondents use scholarly journals. Respondents were to choose between yes and no in order to indicate use and non-use. Out of 168 respondents 148 (88%) responses were received in relation to the use of scholarly journals. 17 (10%) respondents said that they were not using scholarly journals while 3 (2%) did not respond to the question. This question was asked in order to determine the level of use between traditional scholarly journals and electronic journals. Another aim was to indicate to those who were using scholarly journals to continue to Section 2. Results are summarised in table 10 below.

**Table: 10 Use of scholarly journals N=168**

Use of scholarly journals	Academic Staff				Postgraduate students				Total				Overall	
	UN=31		UZ=19		UN=75		UZ=43		UN=106		UZ=62		N=168	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Yes	31	100	19	100	71	95	27	63	102	96	46	74	148	88
No	0	0	0	0	4	5	13	30	4	4	13	21	17	10
No response	0	0	0	0	0	0	3	7	0	0	3	5	3	2
Total	31	100	19	100	75	100	43	100	106	100	62	100	168	100

Responses from all academic staff from both institutions indicated a 100% use of scholarly journals. 71 (95%) responses from postgraduate students from the University of Natal and 27 (63%) from the University of Zululand, also indicated the use of scholarly journals. The production of non-use was lower at the

University of Natal with 4 (5%) as compared to a non-use of 13 (30%) at the University of Zululand and a non-response of 7%. The overall percentage of non-use from both institutions was therefore 20 (12%).

#### **4.2.10 Purpose of using scholarly journals**

This question required the respondents to indicate the purpose for which they use scholarly journals. They were given multiple choice options where they could choose more than one purpose if they so wish between teaching, research, learning and other. The purpose of asking this question was to determine the dependence on traditional scholarly journals by the scholarly community. Because of 20 (12%) respondents who indicated a non-use of scholarly journals the target number for this question was 148, 102 at the University of Natal and 46 at the University of Zululand. The respondents were required to select one or more options for this question. From the table above it looks as if a very low number was received for using scholarly journals for teaching purposes whereas it was selected with other options. Academic respondents, for instance, selected teaching and research whereas postgraduate respondents selected research and learning. The percentage of respondents who selected teaching only was very low as compared to other purposes. More respondents 65 (44%) indicated multiple purposes as their purposes of using scholarly journals. The University of Zululand was the highest by 54% in selecting more choices that include teaching, research and learning whereas the University of Natal scored 39% in this selection. The academic staff respondents scored more than postgraduate students did in using scholarly journals for multiple purposes. The results reflect 61% against 21% at the University of Natal and 79% against 37% at the University of Zululand. Results according to faculties show that the faculty of Law (UN) uses scholarly journals by 50% more than other faculties for research whereas Law (UZ) uses them more for learning purposes than other faculties. The Faculty of Commerce and Administration (UZ) was the highest by 100% in selecting more choices, followed by the faculty of Science and Agriculture. (UZ) with 60%, followed by the Faculty of Law (UZ) with 50%, Human Sciences (UN) with 47%, Arts (UZ) with 46%, Science and Agriculture (UN) with 30% and Law (UN) with 12%. Results are summarised in table 11 on the next page

**Table: 11 Purpose of using scholarly journals N=148**

Purpose of using scholarly journals	Arts (UZ)		Commerce & Admin (UZ)		Human Sciences (UN)		Law (UN)		Law (UZ)		Science & Agriculture (UN)		Science & Agriculture (UZ)		ACADEMIC STAFF				POSTGRADUATE STUDENTS				TOTAL	
	N=26		N=3		N=61		N=8		N=2		N=33		N=15		UN=31		UZ=19		UN=71		UZ=27		N=148	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Teaching	2	8	0	0	1	2	0	0	0	0	0	0	0	0	1	3	1	5	0	0	1	4	3	2
Research	8	31	0	0	16	26	4	50	0	0	16	49	6	40	11	36	3	16	25	35	11	41	50	34
Learning	4	15	0	0	14	23	3	38	1	50	6	18	0	0	0	0	0	0	23	32	5	18	28	19
More choices	12	46	3	100	29	47	1	12	1	50	10	30	9	60	19	61	15	79	21	31	10	37	65	44
Other	0	0	0	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0	1	1	0	0	1	1
No response	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1
TOTAL	26	100	3	100	61	100	8	100	2	100	33	100	15	100	31	100	19	100	71	100	27	100	148	100

**Table: 12 Type of scholarly journals used most N=148**

Type of journals used	Arts (UZ)		Commerce & Admin (UZ)		Human Sciences (UN)		Law (UN)		Law (UZ)		Science & Agriculture (UN)		Science & Agriculture (UZ)		ACADEMIC STAFF				POSTGRADUATE STUDENTS				TOTAL	
	N=26		N=3		N=61		N=8		N=2		N=33		N=15		UN=31		UZ=19		UN=71		UZ=27		N=148	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Electronic	2	8	0	0	1	2	0	0	0	0	0	0	0	0	0	0	1	5	1	1	1	4	3	2
Printed	19	73	2	67	32	52	6	75	2	100	20	61	10	65	20	65	13	69	38	54	20	74	91	61
Both	5	19	1	33	27	44	2	25	0	0	13	39	5	33	11	35	5	26	31	44	6	22	53	36
No response	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1
TOTAL	26	100	3	100	61	100	8	100	2	100	33	100	15	100	31	100	19	100	71	100	27	100	148	100

#### 4.2.11 Type of scholarly journals used most

This question required respondents to indicate the type of scholarly journals that they use most. This research question aimed at probing further in finding out about the type of scholarly journals that the scholarly community depends on. The target respondents for this question were those who had responded that they use scholarly journals, therefore the target group was 148, 46 (31%) for the University of Zululand and 102 (69%) for the University of Natal. The results were presented combined for academic and postgraduate students, but separated according to faculties, and by academic status, i.e. academic or postgraduate students from the same institution, then according to the institution. Results show that the scholarly community of these institutions is still dependent on the printed journals for their scholarly activities. The results here indicate that the faculty of Law in both institutions is still dependent on the use of printed journals. The Faculty of Law (UZ) scored 100% while that of UN scored 75%. The Arts Faculty followed with 73%, Commerce and Administration and Science and Agriculture (UZ) both with 67%, followed by Science and Agriculture (UN) with 61%. The Faculty of the Human Sciences at the University of Natal though also dependent on the printed journals, was the lowest amongst the group by 52%. This faculty scored higher than the others did in selecting both electronic and printed journals by 44%, followed by the faculty of Science (UN) with 39%. The faculties of Commerce and Administration and Science and Agriculture scored 33%. The faculties of Arts and the Human Sciences indicated that they use electronic journals but on a very low scale of 8% and 2% respectively. Results show that the overall usage of electronic journals is 2 % for both institutions as compared to 61% for printed journals. The use of both electronic and print journals scored 36%, which is much lower than that of the print journals alone. The University of Zululand scholarly community (72%) is more dependent to print journals than the University of Natal (57%). The University of Zululand academic staff uses printed journals by 69% whereas that of the University of Natal uses them by 65%. The postgraduate students of the University of Zululand also use printed journals by 74% whereas postgraduate students from the University of Natal use them by 54%. A wide gap is noted in the use of print journals by postgraduate

students of the two institutions whereas the difference between the academic staff was insignificant. Results are summarised in table 12.

#### **4.2.12 Awareness of the availability of electronic journals**

This was the first question of section two of the questionnaire. This question intended to determine the level of understanding of electronic journals because a user who knows nothing about electronic journals may not be in a position to know about their availability or non-availability. However, the fact that users could be aware of the availability of electronic journals or any other services but still does not use them for certain reasons, could not be underestimated. The target group of respondents for this question was 148, who had indicated in 4.2.10, table: 8, that they were using scholarly journals. This number consisted of 46 (31%) respondents from the University of Zululand, and 102 (69%) from the University of Natal. Results reflect a response rate of 138 (93%) awareness of the availability of electronic journals, and 10 (7%) of either not aware or no response. The faculties of Commerce and Administration, Law (UN) and (UZ), Science and Agriculture (UN) and (UZ) all scored 100% in the awareness of the availability of electronic journals. The faculties of Arts and Human Sciences had 10 (7%) respondents who were either not aware or did not respond to the question. The overall response rate was 138 (93%). Results are summarised in table 13 on the next page.

**Table: 13 Awareness of the availability of electronic journals N=148**

Awareness of electronic journals	Arts (UZ)		Commerce & Admin (UZ)		Human Sciences (UN)		Law (UN)		Law (UZ)		Science & Agriculture (UN)		Science & Agriculture (UZ)		ACADEMIC STAFF				POSTGRADUATE STUDENTS				TOTAL	
	N=26		N=3		N=61		N=8		N=2		N=33		N=15		UN=31		UZ=19		UN=71		UZ=27		N=148	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Yes	22	85	3	100	55	90	8	100	2	100	33	100	15	100	30	97	18	95	66	93	24	89	138	93
No	3	11	0	0	5	8	0	0	0	0	0	0	0	0	1	3	1	5	4	6	2	7	8	5
No response	1	4	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	4	2	2
TOTAL	26	100	3	100	61	100	8	100	2	100	33	100	15	100	31	100	19	100	71	100	27	100	148	100

#### **4.2.13 The use of electronic journals**

The question targeted 138 respondents, 96 (70%) respondents from the University of Natal and 42 (30%) from the University of Zululand. Respondents were required to choose between yes and no to indicate their use or non-use of electronic journals. The response rate was 110 (80%). The non-use of electronic journals was 28 (20%) from both institutions. The results in table 12 reflect a 100% use of electronic journals from the Faculty of Commerce and Administration, followed by the Faculty of Science and Agriculture (UZ) by 93%, Human Sciences by 87%, Arts by 82%, Law (UN) by 75%, Science and Agriculture (UN) by 64%. The faculty of Law (UZ) scored 50%. The overall use was 80% while non-use was 20%. Results are summarised in table: 14

**Table: 14 The use of electronic journals N=138**

Awareness of electronic journals	Arts (UZ)		Commerce & Admin (UZ)		Human Sciences (UN)		Law (UN)		Law (UZ)		Science & Agriculture (UN)		Science & Agriculture (UZ)		ACADEMIC STAFF				POSTGRADUATE STUDENTS				TOTAL	
	N=22		N=3		N=55		N=8		N=2		N=33		N=15		UN=30		UZ=18		UN=66		UZ=24		N=138	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Yes	17	82	3	100	48	87	6	75	1	50	21	64	14	93	24	80	15	83	51	77	20	83	110	80
No	5	18	0	0	7	13	2	25	1	50	12	36	1	7	6	20	3	17	15	23	4	17	28	20
TOTAL	22	100	3	100	55	100	8	100	2	100	33	100	15	100	30	100	18	100	66	100	24	100	138	100

**Table: 15 Purpose of using electronic journals N=110**

Purpose of electronic journals	Arts (UZ)		Commerce & Admin (UZ)		Human Sciences (UN)		Law (UN)		Law (UZ)		Science & Agriculture (UN)		Science & Agriculture (UZ)		ACADEMIC STAFF				POSTGRADUATE STUDENTS				TOTAL	
	N=17		N=3		N=48		N=6		N=1		N=21		N=14		UN=24		UZ=15		N=51		N=20		N=110	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Research	9	53	0	0	16	31	4	67	1	100	10	48	10	71	14	58	10	67	16	31	10	50	50	45
Learning	1	6	1	33	12	25	1	10.5	0	0	3	14	1	7	0	0	0	0	16	31	3	15	19	17
Multiple choices	6	35	2	67	17	36	0	0	0	0	8	38	3	21	10	42	5	33	15	29	6	30	36	33
No response	1	6	0	0	3	6	1	10.5	0	0	0	0	0	0	0	0	0	0	4	8	1	5	5	5
TOTAL	17	100	3	100	48	100	6	100	1	100	21	100	14	100	24	100	15	100	51	100	20	100	110	100

**Table: 16 Use of electronic journals for the dissemination of scholarly information N=110**

Dissemination of information	Arts (UZ)		Commerce & Admin (UZ)		Human Sciences (UN)		Law (UN)		Law (UZ)		Science & Agriculture (UN)		Science & Agriculture (UZ)		ACADEMIC STAFF				POSTGRADUATE STUDENTS				TOTAL	
	N=17		N=3		N=48		N=6		N=1		N=21		N=14		UN=24		UZ=15		N=51		N=20		N=110	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Yes	11	65	2	67	34	71	4	67	0	0	18	86	10	71	23	96	14	93	31	61	11	55	79	72
No	6	35	1	33	14	29	2	33	1	100	3	14	3	21	1	4	1	7	20	39	8	40	30	27
No response	0	0	0	0	0	0	0	0	0	0	0	0	1	7	0	0	0	0	0	0	1	5	1	1
TOTAL	17	100	3	100	48	100	6	100	1	100	21	100	14	100	24	100	15	100	51	100	20	100	110	100

#### **4.2.14 Purpose of using electronic journals**

This question is different from that of 4.2.10 in that while the 4.2.10 focus on scholarly journals as a whole, 4.2.14 focus on electronic journals. Respondents that have indicated that they were not using electronic journals were excluded from this question which required purposes of using electronic journals. The target number of respondents was 110 (80%) comprising of 35 (32%) from the University of Zululand and 75 (68%) from the University of Natal. Respondents had to choose between multiple choices of teaching, research, learning and other. They could choose more than one option. The response rate was 44% for research, 38% for multiple choice, which consisted of either two or three choices between the three options, and 15% for learning which was selected more often by the Postgraduate students. Results summarised in table:15 reflect that the Faculties of Law (UZ), Science and Agriculture (UZ) and Law (UN) scored more in using electronic journals for research purposes. Other faculties spread their purposes in all the options. Teaching was removed from the table because it was not selected alone as research and learning, but was always combined with other options. It may not be reflected in the table but it was also selected. There was no selection for other as an option where respondents were required to specify. Research as a purpose of using electronic journals was selected more by the academic staff respondents of the University of Zululand 67% as compared to 58% whereas those of the University of Natal selected a multiple option more than the University of Zululand i.e. 42% and 33%.

#### **4.2.15 Frequencies on the use of electronic journals**

In question 3 of section 2 respondents were asked to indicate how often they used electronic journals. The question was intended for the 110 respondents who use electronic journals. The purpose of asking this question was to find out how frequently do respondents use electronic journals. Only one respondent (1%) selected almost daily. 32 (29%) respondents used them several times a week, 40 (36%) respondents used them once a week, 13 (12%) respondents used electronic journals once a month, 24 (22%) respondents

selected “other”, where they gave their own frequencies such as, “when there is a need”; “several times a month”, etc.

#### 4.2.16 Use of electronic journals for the dissemination of scholarly information

Respondents were required to select between ‘yes’ and ‘no’ in order to indicate if they use electronic journals for the dissemination of information. The question targeted 110 respondents. 75 (68%) were from the University of Natal while 35 (32%) were from the University of Zululand. Results are summarised in table: 14. The faculty of Science and Agriculture (UN) use electronic journals for the dissemination of scholarly information by 86%. The faculty of the Human Sciences and the Science and Agriculture (UZ) follow by 71%, and the Faculty of Commerce and Administration and Law (UN) by 67%, faculty of Arts by 65%. Results are summarized in table 16.

#### 4.2.17 Electronic journal access

Respondents were required to indicate their selection between ‘easy access’, ‘difficult to access’ and ‘other’. The target respondents for this question were 110. The overall response rate for easy access was 61%, 24% for difficult to access 7% for other. 6% respondents did not respond to the question. Results are summarised in table 17 below.

**Table: 17 Electronic journal access N=110**

Access	Academic Staff				Postgraduate Students				Total				Overall	
	UN=24		UZ=15		UN=5		UZ=20		UN=75		UZ=35		N=110	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Easy	16	67	6	40	38	74	7	35	54	72	13	37	67	61
Difficult	3	12.5	6	40	9	18	8	40	12	16	14	40	26	24
Other	2	8	0	0	3	6	3	15	5	7	3	9	8	7
No response	3	12.5	2	13	1	2	1	5	4	5	3	9	7	6
More choices	0	0	1	7	0	0	1	5	0	0	2	5	2	2
Total	24	100	15	100	51	100	20	100	75	100	35	100	110	100

The University of Natal academic staff respondents found electronic journals easy to access more than the University of Zululand academic staff respondents by 67% and 40%. The Postgraduate students of the University of Natal scored more than other categories by 74%. The University of Zululand Postgraduate students were the lowest as they scored 35%.

#### **4.2.18 Type of electronic information that is normally used**

This question was meant to find out the type of electronic information that is normally used by the respondents. They were given multiple selection between 'full-text', 'abstracts', 'bibliographic information' and 'other'. The question targeted 110 respondents. Results reflect that respondents use all three types more as they scored 41% in the use of the combination of three suggested types of information. The Faculty of Science and Agriculture (UN) use full-text articles more than other faculties by 48%, followed by law (UN) and Commerce and Administration with 33%. The respondents also selected more choices, which included two or three of the selections. The faculty of Law (UZ) selected more choices by 100%, followed by the faculty of Arts with 47%. Results are summarised in table 18.

**Table: 18 Type of electronic information that is normally used N-110**

Type of electronic information	Arts (UZ)		Commerce & Admin (UZ)		Human Sciences (UN)		Law (UN)		Law (UZ)		Science & Agriculture (UN)		Science & Agriculture (UZ)		ACADEMIC STAFF				POSTGRADUATE STUDENTS				TOTAL	
	N=17		N=3		N=48		N=6		N=1		N=21		N=14		UN=24		UZ=15		UN=51		UZ=20		N=110	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Full-text articles	5	29	1	33.3	11	23	2	33	0	0	10	48	3	21	6	25	2	13	17	33	7	35	32	29
Abstracts	3	18	1	33.3	10	21	1	17	0	0	3	14	5	36	9	37	4	27	5	10	5	25	23	21
Bibliographic information	0	0	0	0	0	0	1	17	0	0	0	0	1	7	0	0	1	7	1	2	0	0	2	2
Other	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	1	1
More choices	8	47	1	33.3	23	48	1	17	1	100	7	33	4	29	5	21	6	40	26	51	8	40	45	41
No response	1	6	0	0	3	6	1	17	0	0	1	5	1	7	4	17	2	13	1	2	0	0	7	6
TOTAL	17	100	3	100	48	100	6	100	1	100	21	100	14	100	24	100	15	100	51	100	20	100	110	100

#### 4.2.19 List of electronic journals that are normally used by respondents

Respondents were asked to list at least three electronic journals that they normally use. This question intended to determine the level of electronic journal use and to find out if the respondents do really use electronic journals. The question targeted 110 respondents who had indicated that they were using electronic journals. The list of electronic journals is supplied in appendix C.

#### 4.2.20 List of print journals that are normally used by respondents

Unlike the previous question, this one targeted 148 respondents who had earlier indicated that they use scholarly journals. They were required to list at least three print journals that they normally use. The purpose of asking this question was to find out and compare the type of scholarly journals that are used most by the respondents. The list of print journal is supplied in appendix D.

#### 4.2.21 Other methods of accessing electronic journals

Respondents were asked to indicate how they access electronic journals if they do not have an access to the Internet. The purpose of asking this question was to find out how respondents who had indicated that they had no access to the computer and or to the Internet, access electronic journals. The target number of respondents for this question was 110, 35 (32%) for the University of Zululand and 75 (68%) for the University of Natal. They were to choose between 'subject librarians', 'colleagues' or 'other'. The response indicates a 42% use of Subject Librarians and 45% non-response. The high non-response rate may be attributed to the fact that most respondents indicated earlier in 4.2.6 to 4.2.8 that they had an access to the computer and the internet which might help them to access these journals on their own. Results are summarised in table: 19 below.

**Table: 19 Other methods of obtaining electronic journals N=110**

Other access methods of obtaining e-journals	Academic Staff N=39				Postgraduate Students N=71				Total N=110				Overall N=110	
	UN=24		UZ=15		UN=51		UZ=20		UN=75		UZ=35		N=110	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Subject Librarians	7	30	4	27	23	45	12	60	30	40	16	46	46	42
Colleagues	1	4	1	6	2	4	1	5	3	4	2	6	5	4.5
Other	2	8	0	0	2	4	0	0	4	5	0	0	4	4
Multiple choices	2	8	0	0	2	4	1	5	4	5	1	2	5	4.5
No response	12	50	10	67	22	43	6	30	34	45	16	46	50	45
Total	24	100	15	100	51	100	20	100	75	100	35	100	110	100

Respondents were given suggestion to indicate the resource support for electronic journals accessibility. The suggestions were excellent, sufficient, minimal and undecided. The target group for this question was 78 (71%) respondents who had indicated that their academic libraries offer electronic journals. These were 60 (77%) from the University of Natal and 18 (23%) from the University of Zululand. 35 (32%) who had either indicated that their academic libraries do not offer electronic journals, or were not sure, or did not respond were excluded in this question. The response rate to this question was 22% for excellent, 59% for sufficient and 19% for minimal. Results are summarised in table: 21

**Table: 21 The resource support for accessibility offered by academic libraries N=78**

Resource Support	Academic Staff N=21				Postgraduate Students N=57				Total N=78				Overall N=78	
	UN=15		UZ=6		UN=45		UZ=12		UN=60		UZ=18		N=78	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Excellent	0	0	1	17	13	29	3	25	13	22	4	22	17	22
Sufficient	12	80	1	17	27	60	6	50	39	65	7	39	46	59
Minimal	3	20	4	67	5	11	3	25	8	10	7	39	15	19
Total	15	100	6	100	45	100	12	100	60	100	18	100	78	100

80% Academic Staff respondents and 60% Postgraduate Students respondents from the University of Natal and 60% Postgraduate Students respondents and 17% Academic Staff respondents from the University of Zululand, felt that the resource support offered by their academic libraries is sufficient. 67% Academic Staff respondents from the University of Zululand felt that the resource support is minimal.

#### 4.2.24 List of hosts / databases for electronic journals used

In order to test the knowledge of respondents in accessing electronic journals they were required to list at least three hosts or databases that are used for accessing electronic journals. They were given EBSCOhost as an example. The research question targeted 110 respondents because this was the group, which indicated the use of electronic journals in 4.2.13, table: 12. 35 (32%) respondents came from the University of Zululand while 75 (68%) came from the university of Natal. The list of databases or hosts given by respondents is given in table: 22 on the next page.

**Table: 22 List of hosts / databases used for accessing electronic journals N=110**

Host / Database	Faculty	Frequencies
African Journals Online	Human Sciences (UN)	+
AGRIS	Human Sciences (UN)	+
Altavista	Human Sciences (UN)	+
BIDS	Science and Agriculture(UZ)	+
Bubl	Human Sciences (UN)	+
CAB International	Human Sciences (UN)	+
CD-ROM	Human Sciences (UN)	+++
Chemweb	Science and Agriculture(UN)	+
EBSCOhost	Commerce and Administration (UZ), Arts (UZ), Human Sciences (UN) and Science & Agriculture(UN)	+++++++ ++++
EBSCOMed	Human Sciences (UN)	+
Elsevier.com	Science and Agriculture(UN)	+
Emerald	Human Sciences (UN)	++
Epnet	Science and Agriculture(UN)	+
ESARBICA	Human Sciences (UN)	+
Firstsearch	Arts (UZ) and Human Sciences (UN)	++
Google	Human Sciences (UN) and Science and Agriculture(UZ)	++
<a href="http://www.journals.uchicago.edu/PBZ/">Http://www.journals.uchicago.edu/PBZ/</a>	Science and Agriculture(UN)	+
<a href="http://www.bou.org.uk/pubis.html">Http://www.bou.org.uk/pubis.html</a>	Science and Agriculture(UN)	+
<a href="http://www.journals.uchicago.edu/AN/journal">Http://www.journals.uchicago.edu/AN/journal</a>	Science and Agriculture(UN)	+
Idealibrary.com	Science and Agriculture(UN)	+
IFLA	Arts (UZ)	+
Ingenta	Human Sciences (UN) and Science and Agriculture (UN)	++++
LIASA	Arts (UZ)	+
Library Literature	Human Sciences (UN)	+
LISA	Arts (UZ)	+
Math SCI Net	Science and Agriculture(UN)	+
Medline	Science and Agriculture(UZ) and Human Sciences (UN)	++
Multimedia	Human Sciences (UN)	+
Nexus	Science and Agriculture(UN)	+
Phytomedica	Science and Agriculture(UZ)	+
Phytopharmacology	Science and Agriculture(UZ)	+
Popline	Human Sciences (UN)	+
Pubmed	Human Sciences (UN)	+
Pubscience	Human Sciences (UN)	+
Popline	Human Sciences (UN)	+
Sabinet	Human Sciences (UN), Arts (UZ) and Commerce & administration (UZ)	+++++++
Social Science Citation Index	Human Sciences (UN)	++
Swets	Human Sciences (UN)	+
Uncover	Human sciences (UN)	+
Waicent	Human Sciences (UN)	++

#### **4.2.25 Use of electronic journals for the publication of research projects**

Respondents were requested to indicate if they use electronic journals for preparing and publishing their research results. They were to choose between 'yes', 'no' and 'not sure'. This question targeted 110 respondents, 35 (32%) from University of Zululand and 75 (68%) from the University of Natal. 31% of the respondents indicated that they were engaged in electronic publishing, 11% were not, 53% of the respondents were undecided while 15% did not answer the question. The faculty of Science and Agriculture (UN) was the highest in selecting a positive response for electronic publishing by 43%, followed by the Human Sciences by 38%, Commerce and administration by 33%, Arts by 24% and Science and Agriculture (UZ) by 21%. However, the highest percentage came from respondents who either indicated that they do not use electronic journals for publishing research projects (Law (UZ) with 100%), or that they were not sure (Law (UN) with 100%, Commerce and Administration with 67% and Science and Agriculture (UZ) with 64%).

Results show that these two institutions are not yet engaged in electronic publishing as the highest percentage, i.e. 54% for University of Zululand and 52% for University of Natal indicated that they were not sure Results are summarised in table:23 on the next page.

#### **4.2.25 Use of electronic journals for the publication of research projects**

Respondents were requested to indicate if they use electronic journals for preparing and publishing their research results. They were to choose between 'yes', 'no' and 'not sure'. This question targeted 110 respondents, 35 (32%) from University of Zululand and 75 (68%) from the University of Natal. 31% of the respondents indicated that they were engaged in electronic publishing, 11% were not, 53% of the respondents were undecided while 15% did not answer the question. The faculty of Science and Agriculture (UN) was the highest in selecting a positive response for electronic publishing by 43%, followed by the Human Sciences by 38%, Commerce and administration by 33%, Arts by 24% and Science and Agriculture (UZ) by 21%. However, the highest percentage came from respondents who either indicated that they do not use electronic journals for publishing research projects (Law (UZ) with 100%), or that they were not sure (Law (UN) with 100%, Commerce and Administration with 67% and Science and Agriculture (UZ) with 64%).

Results show that these two institutions are not yet engaged in electronic publishing as the highest percentage, i.e. 54% for University of Zululand and 52% for University of Natal indicated that they were not sure Results are summarised in table:23 on the next page.

**Table:23 The use of electronic journals for publishing research projects N=110**

Electronic publishing	Arts (UZ)		Commerce & Admin (UZ)		Human Sciences (UN)		Law (UN)		Law (UZ)		Science & Agriculture (UN)		Science & Agriculture (UZ)		ACADEMIC STAFF				POSTGRADUATE STUDENTS				TOTAL	
	N=17		N=3		N=48		N=6		N=1		N=21		N=14		UN=24		UZ=15		UN=51		UZ=20		N=110	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Yes	4	24	1	33	18	38	0	0	0	0	9	43	3	21	9	36	3	20	18	35	4	20	34	31
No	1	6	0	0	5	10	0	0	1	100	2	9	2	14	4	17	3	20	4	8	1	5	12	11
Not sure	7	41	2	67	24	50	6	100	0	0	10	48	9	64	11	46	8	53	28	55	11	55	58	53
No response	5	29	0	0	1	2	0	0	0	0	0	0	0	0	0	0	1	7	1	2	4	20	6	5
TOTAL	17	100	3	100	48	100	6	100	1	100	21	100	14	100	24	100	15	100	51	100	20	100	110	100

**Table: 24 Type of media sufficient for the publication output N=110**

Type of media sufficient for publication output	Arts (UZ)		Commerce & Admin (UZ)		Human Sciences (UN)		Law (UN)		Law (UZ)		Science & Agriculture (UN)		Science & Agriculture (UZ)		ACADEMIC STAFF				POSTGRADUATE STUDENTS				TOTAL	
	N=17		N=3		N=48		N=6		N=1		N=21		N=14		UN=24		UZ=15		UN=51		UZ=20		N=110	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Print	8	47	1	33	17	35	5	83	1	100	7	33	4	29	12	50	8	53	17	33	6	30	43	49
Electronic	0	0	0	0	0	0	0	0	0	0	2	10	0	0	2	8	0	0	0	0	0	0	2	2
Both	8	47	2	67	29	60	1	17	0	0	12	57	9	64	10	42	7	47	32	63	12	60	61	55
No response	1	6	0	0	2	4	0	0	0	0	0	0	1	7	0	0	0	0	2	4	2	10	4	4
TOTAL	17	100	3	100	48	100	6	100	1	100	21	100	14	100	24	100	15	100	51	100	20	100	110	100

#### **4.2.26 Type of media sufficient for the publication output**

The research question, which followed that of electronic publishing, was the type of media sufficient for the publication output. The purpose of the question was to find from the respondents the type of media that they use for their publication output. The target number of respondents here was 110 as this was the number of respondents, who were using electronic journals. 35 (32%) respondents came for the University of Zululand while 75 (68%) came from the University of Natal. Respondents were required to select between printed media, electronic media or both. The response reflects 55% for both media, 39% for printed media, 4% non-response and 2% for electronic media. Results are summarised in table: 24.

The Faculty of Law (UZ) was the highest in selecting printed media by 100%, followed by the Law (UN) by 83%, Arts by 47%, Human Sciences by 35%, Commerce and administration and Science and Agriculture (UN) by 33% and Science and Agriculture (UZ) by 29%. The Science and Agriculture (UN) was the only faculty to select electronic media by 10%. Most faculties opted for both media, Commerce and Administration (67%), Science and Agriculture (UZ) (64%), and Human Sciences (60%). The Academic Staff respondents from both institutions selected printed media (50% and 53%) more than both media (42% and 47%), whereas the postgraduate students selected both media (63% and 60%) more than the printed media (33% and 30%).

#### **4.2.27 Correlation between high research and publication output and the use of electronic media**

*Respondents were asked to indicate if according to their opinion they feel that there is a correlation between high research and publication output and the use of electronic journals as opposed to other media. The target group for the question was 110, 35 (32%) for the University of Zululand and 75 (68%) for the University of Natal. The highest response received for this question was 53% for undecided. 29% of the respondents indicated a correlation. Results reflect that there is no correlation as the highest percentage of respondents indicated that they were undecided (53%) whereas only 29% indicated that there is a correlation. Results are presented in table 25 on the next page.*

**Table: 25 Correlation between high research and publication output and the use of electronic media N=110**

Correlation between ...	Arts (UZ)		Commerce & Admin (UZ)		Human Sciences (UN)		Law (UN)		Law (UZ)		Science & Agriculture (UN)		Science & Agriculture (UZ)		ACADEMIC STAFF				POSTGRADUATE STUDENTS				TOTAL	
	N=17		N=3		N=48		N=6		N=1		N=21		N=14		UN=24		UZ=15		UN=51		UZ=20		N=110	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Yes	6	35	1	33	15	31	2	33	0	0	5	24	3	21	6	25	5	33	16	31	5	25	32	29
No	2	12	0	0	5	10	1	17	1	100	2	9.5	3	21	3	13	2	13	5	10	4	20	14	13
Undecided	8	47	2	67	27	56	3	50	0	0	12	57	7	50	13	54	8	54	29	57	9	45	59	53
Other	0	0	0	0	1	2	0	0	0	0	2	9.5	0	0	2	8	0	0	1	2	0	0	3	3
No response	1	6	0	0	0	0	0	0	0	0	0	0	1	7	0	0	0	0	0	0	2	10	2	2
TOTAL	17	100	3	100	48	100	6	100	1	100	21	100	14	100	24	100	15	100	51	100	20	100	110	100

#### **4.2.28 Perceived impact that electronic journals have on the dissemination of information**

The respondents were required to give their own opinions regarding the impact that electronic journals have or may have on the dissemination of information. The question was directed to 110 respondents, 35 (32%) from the University of Zululand and 75 (68%) from the University of Natal. Respondents were required to select between strong impact, minimal impact, and no impact or not sure. The overall result indicates a strong perceived impact of 72%. The highest number here indicated a perceived strong impact. The Faculty of Law (UZ) was the highest with 100%, followed by the faculty of Human Sciences with 77%, Science and Agriculture (UN) with 76%, Commerce and Administration with 67%, Science and Agriculture (UZ) with 64% Arts with 59% and Law (UZ) with 50%. The “no impact” selection was not included in the table because it was not selected by the respondents.

The Academic Staff respondents of the University of Natal scored more than those of the University of Zululand by 58% against 53%, but their score was less than both Postgraduate Student respondents, which were 82% for the University of Natal and 75% for the University of Zululand. It is important to note that respondents were giving their perceptions when answering this question. Some even mentioned that *electronic journals have a potential impact*. Results are summarised in table: 26 on the next page:

**Table: 26 The perceived impact that electronic journals have on the have on the dissemination of scholarly information N=110**

Perceived impact of electronic journals	Arts (UZ)		Commerce & Admin (UZ)		Human Sciences (UN)		Law (UN)		Law (UZ)		Science & Agriculture (UN)		Science & Agriculture (UZ)		ACADEMIC STAFF				POSTGRADUATE STUDENTS				TOTAL	
	N=17		N=3		N=48		N=6		N=1		N=21		N=14		UN=24		UZ=15		UN=51		UZ=20		N=110	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Strong impact	10	59	2	67	37	77	3	50	1	100	16	76	9	64	14	58	8	53	42	82	15	75	79	72
Minimal impact	3	18	0	0	8	17	1	17	0	0	0	0	1	7	5	21	2	13	4	8	2	10	13	12
Undecided	3	18	1	33	3	6	2	33	0	0	5	24	3	22	5	21	4	27	5	10	2	10	16	14
No response	1	5	0	0	0	0	0	0	0	0	0	0	1	7	0	0	1	7	0	0	1	5	2	2
TOTAL	17	100	3	100	48	100	6	100	1	100	21	100	14	100	24	100	15	100	51	100	20	100	110	100

#### **4.2.29 Recommendations**

This was the last question of the questionnaire for the Academic staff and Postgraduate Students. Here respondents were required to give their recommendations on what academic libraries could do in order to improve the exploitation and use of scholarly journals, particularly, electronic journals. The following issues emanated from the recommendations given by respondents from both institutions:

- Marketing electronic services;
- Provision of facilities in the library;
- Research
- User education
- Cost implications
- Involvement of the users

##### **4.2.29.1 Marketing electronic services**

It was obvious from the recommendations given by the respondents that they feel that the services, especially, electronic services need to be marketed to the users in order to make them aware of what the library provides:

“... Library must educate users, in order to promote awareness on electronic journals, and on how users can access them.”

“... Electronic journals should be advertised in a ... of each department according to the context of its classification. If it is recognised that they could be useful for a particular department, they could be advertised there to the staff and students of that particular department.”

“Library should send all staff a printed list of electronic journals that we can access.”

“... Most electronic journals require some number for one to be able to access full text. It would be advisable for the library to avail that information freely if available.”

“... Short advert of what our local library has in stock.”

“... I would like to know more about journals in my discipline which are available in electronic format.”

“... Urge lecturers to refer students to these specific journals... and to refrain from providing handouts, photocopies.”

“... Influence authorities to give incentives for publishing in these journals, ... have librarians too, publishing in these journals.”

#### **4.2.29.2 Provision of facilities in the library**

It transpired from the responses mostly from the University of Zululand that the services offered by their academic library are inadequate as most of the recommendations concerning the provision of facilities in the library came from them, such as the following:

“... The library should offer electronic classrooms where students can access electronic journals on their own.”

“... Provision of online terminals / enough computers in the library to open access to electronic journals.”

“... Would like that a computer lab with full Internet facility be stationed right in the library for research students.”

“... The library should have enough equipment for students and academic staff.”

“... A centre for regular use by students should be established within the UniZul-Library.”

“... Provide facilities in the library, specifically, for electronic journals and subscribe to some of these for students to access and print from such services free.”

“... Allow all students (1<sup>st</sup> to postgraduate) to have access themselves to these electronic journals not via Subject Librarians in order to speed up deliverance and access to information.”

“... Purchasing more of electronic facilities that are adequate and efficient in speed of retrieval, access.”

#### **4.2.29.3 Research**

It was evident from the responses received that respondents felt that there should be thorough research done by the library in order to find the views of users.

“... Perhaps a survey should be done department by department to determine who uses what and how often. My personal experience is that many of the journals at the library go unread – what a waste of money! Look also at the research output of departments. Those who are active should surely warrant a wider subscription to electronic journals of their choice.”

“... Research should be done on levels of accessibility and exploitation.”

“... Get the views of library users, particularly the scholars.”

#### **4.2.29.4 User education**

User education was also brought up by the responses that were received as the respondents were of the opinion that users need to be educated and trained in the use and the importance of using electronic journals.

“... The users need to be trained on how to access the electronic journals. When you know how to retrieve them and how to search them it is very easy to get information required at a very short time.”

“... Teaching techniques should be improved to increase accessibility, ...Lecturers should also teach studies on the importance of electronic services.”

“... All library users, i.e. students and staff should be empowered in the use of electronic journals and other electronic resources.”

“... ABC lesson leaflets on how to use this.”

“ ... Research centre teaching us how to use electronic journals.”

“ ... Students should be educated on the use, given assignments and projects in order to learn to use electronic journals successfully.”

“ ... Offer workshops on available databases for different discipline for beginners, advance researchers and students on an ongoing training workshops.”

“ ... Scholars should be made aware of how to use electronic journals.”

“ ... Courses on the use of electronic journals should be offered by tertiary institutions to students.”

“ ... It could be appreciated if all institutions of higher learning could teach students on the use of electronic journals.”

“ ... We need basic instruction based on the usage of electronic journals.”

#### **4.2.29.5 Cost Implications**

Other respondents mentioned the issue of cost implications for electronic journals, which are high subscription charges, as well as cost for printing.

“ ... It is all a question of money. The best thing a library can do is maximise its journal holdings, but the cost of journals places severe restrictions on the number of journals a library can subscribe to. The form they're in (printed or electronic is of secondary importance). If electronic journals were cheaper, then, certainly, electronic would be the way to go, but, unfortunately, at this stage, they seem to be no cheaper than the printed journals. Perhaps an efficient system of sharing between libraries would help, i.e. interlibrary loans. Our University currently has such a system which I have found to be efficient, copies of papers I've requested are photocopied and sent to me electronically in Ariel format.”

“... Paying for access to e-journals is creating an imbalance in all researchers access to information. The underlying principle of education is free access to information to all individuals not discriminating against less fortunate people...”

“... Most electronic journals that I desire have to be subscribed for, i.e. you have to be a registered member of the organization before you can access these journals, which mean that a lot of financial commitment has to go into that. One interesting feature that I have encountered is that of the ... for Microbiology. All articles in their journals that have been published about six months earlier are released free for download by anyone, anywhere in the world. Most electronic journals do not have that facility but it would be nice that such free downloads could be printed at no charge for research students in the library.”

“... Often met with a situation where journal subscriptions are terminated without informing us, or bound volumes simply disappear. This kind of situation begs for electronic journal supports where we don't even have to leave our offices. Unfortunately we are always told that the financial situation at the University does not allow for such subscriptions.”

### **4.3 RESPONSES FROM THE LIBRARY STAFF**

The second set of questionnaires was administered to the library staff of the Universities of Natal and Zululand Libraries. The purpose of this questionnaire was to get their views on the type of service that they offer and to find out if they do provide electronic journals. The target audience for this questionnaire was the professional staff, mostly Subject Librarians from the two institutions. These were selected, as they are the people who communicate with library users most of the time. All professional librarians were therefore targeted which were

#### **4.3.1 Institutional Affiliation**

Respondents were requested to indicate their institutional affiliation selecting between the University of Natal (Pmburg), University of Natal (Durban), University of Natal (Medical Library), University of Zululand (Main Campus) and the Durban Umlazi Campus Library. The target number of respondents was 34, 25 from the University of Natal and 9 from the University of Zululand. Sampling was not used in this case because of the difference in staff numbers. Therefore all Professional Librarians were targeted. The response rate was 14 (56%) from the University of

Natal and 8 (89%) from the University of Zululand. Results from the first three are combined as they all belong to the University of Natal, and the last two who belong to the University of Zululand are also combined. The overall response was 22 (65%) and non-response was 12 (35%). The non-response at the University of Natal was 11 (44%) whereas at the University of Zululand it was 1 (11%). The reason for this non-response rate, particularly from the University of Natal might be the fact that questionnaires were hand-distributed to the library staff to be collected on the following day. Arrangement was made to collect them from one point, that is, from one subject librarian. The researcher was therefore able to collect those that were returned. The respondents did not return other questionnaires that were sent by electronic mail.

#### **4.3.2 Position or rank of Library Staff**

The second question of the questionnaire, which was the last question of section one, required the respondents to indicate their positions. The purpose of the question was to identify the respondents. The target audience was 22 respondents who had returned their questionnaires, 14 (63%) from the University of Natal and 8 (36%) from the university of Zululand. Respondents constituted of 1 (4.5%) Deputy University Librarian from the University of Zululand, 4 (18%) Senior Librarians (2 (9%) from each Library), 14 (64%) Subject / Librarians (11 (50%) from the University of Natal and 3 (14%) from the University of Zululand). 2 (9%) respondents were Assistant Librarians from the University of Zululand and 1 (4.5%) respondent, from the University of Natal, selected other and specified the rank as Library Technical Officer.

#### **4.3.3 Academic Library and electronic journal access**

This was the first question of Section 2 where respondents were asked questions relating to the use of electronic journals. They were to indicate by 'yes' or 'no' if their libraries offer electronic journals. The target number of respondents was 22, 14 (64%) from the University of Natal and 8 (36%) from the University of Zululand. 20 (91%) respondents said that their libraries are offering electronic journals while 2 (9%) were not. Results summarised according to institutions reflect that 14 (100%) respondents from the University of Natal Libraries and 6 (75%)

from the University of Zululand indicated that their libraries do offer electronic journals. 2 (25%) from the University of Zululand, Branch Library, indicated that their library does not offer access to electronic journals.

#### **4.3.4 The use of electronic journals by the library staff**

Respondents were asked if they use electronic journals. This question was asked in order to determine the level of assistance given to the users by library staff. The target number of respondents was 20 excluding the two who had indicated that their library was not offering electronic journals. This number comprised of 14 (70%) from the University of Natal and 6 (30%) from the University of Zululand. 19 (95%) respondents were using electronic journals while 1 (5%) respondent indicated was using them but not much. When summarised according to institution these results reflect that 13 (93%) respondents from the University of Natal and 6 (100%) respondents from the University of Zululand indicated that they use electronic journals. 1 (7%) from the University of Natal indicated non-use of electronic journals.

#### **4.3.5 Purpose of using electronic journals**

This question required the respondents to state their purpose of using electronic journals. The aim was to find out if they use electronic journals for their own benefit or on behalf of the users. They were given multiple purposes of using electronic journals to select from including "other" where they could specify their selections. The purposes given were research, learning, teaching, or on behalf of the end-users. The target number of respondents for this question was 19 (95%) who had indicated that they use electronic journals. 17 (90%) respondents selected multiple choices where their selections always included "on behalf of the end-users". 1 (5%) used them for learning purposes while the other 1 (5%) was using them on behalf of the end-users only.

Results indicate that the Library Staff of both institutions uses electronic journals for multiple purposes including using them on behalf of the end-users. The Library Staff did not select teaching as a purpose of using electronic journals.

#### **4.3.6 Type of users served by the Library Staff**

Respondents were required to indicate the type of users that they normally serve. The purpose of this question was to find out if the scholarly community being investigated in this research does receive some kind of assistance from the library. 19 respondents, 13 (68%) from the University of Natal and 6 (32%) from the University of Zululand were the *target group of respondents* for this question. They were provided by a *multiple selection* to choose from which was; Academic Staff, Postgraduate Students, all registered students, all of the above, or other. 11 (58%) respondents selected “all of the above”, 5 (26%) selected multiple choices consisting of the Academic Staff and Postgraduate Students, 2 (11%) selected “all registered students” and 1 (5%) selected “Academic Staff”. Results indicate that the Academic Staff and Postgraduate Students were selected more than other type of users as they were selected under “all of the above” as well as “multiple choice” which consisted only of the combination of the two.

#### **4.3.7 The number of full-text databases offered by the libraries**

This question had one main question and three sub-questions. The *main question* required respondents to state the number of full-text databases that their academic libraries offer, and the sub-questions required them to list at least three full-text databases, abstract databases and bibliographic information databases. The target number of respondents for this question was 20, 14 (70%) from the University of Natal and 6 (30%) from the University of Zululand. The responses received for the main question varied. Some did not answer while some gave different numbers. The highest number given for the University of Natal was 14 while the highest number for the University of Zululand was 10. Other respondents indicated that there were many databases without stating the exact number.

4.3.7.1 List of at least three databases of full-text, abstracts and bibliographic information

<b>LIST OF DATABASES</b>	<b>ACADEMIC LIBRARY</b>	<b>FREQUENCIES</b>
<b><i>FULL-TEXT DATABASES</i></b>		
EBSCOhost	UN & UZ	++
Academic Search Premier	UN & UZ	++++
Business Source Premier	UZ & UN	++++
Master File Premier	UZ & UN	+++
Newspaper Source	UZ & UN	++
Medline	UZ	+
NISC – African Studies and South African Studies	UN	+
General Business File	UN	++
Econlit	UN	+
Humanities Full-text (HW Wilson)	UN	+
Medscape	UN	+
Financial Mail	UN	+
Cochrane Library	UN	+
EbscoMed	UN	+++
Government Gazette	UN	+
<b><i>ABSTRACT DATABASES</i></b>		
African Studies	UN	+
Firstsearch	UN	++
South African Studies	UN	+
Compendex Plus	UN	++
Nexus	UN & UZ	++
Sabinet	UN & UZ	+++
Econlit	UN	+
Sociological Abstracts	UN	+++
Wilson Humanities	UN	+
Ovid Medline	UN	+++
ISI	UN	+
CAB	UN	+
Cambridge Life Sciences Collection	UN	+
Science Citation Index	UN	+++
Medline	UN	+
Education Abstracts	UN	+
Social Science Abstracts	UN & UZ	++
Psych Information	UN	+
Water Resources Worldwide	UN	+
ISAP	UN & UZ	+++
Human Sciences Abstracts	UN	+
LISA	UZ	++
Article First	UZ	++
ASTA	UZ	+

MUSICLITERATURE	UZ	+
ART Abstracts (Firstsearch)	UZ	+
<b>BIBLIOGRAPHIC INFORMATION DATABASES</b>		
Sabinet	UZ & UN	++++
URICA	UZ & UN	+++++
SACAT	UZ & UN	++
UCTD	UZ & UN	++
World Cat	UZ	+
Article First	UZ	+
Agricola (Firstsearch)	UZ	+
BioAg Index	UZ	+
Nexus	UN	+
First Search Databases	UN	+++
ISI Databases i.e. Citation Index, Social Science and Humanities	UN	++
Math Sci, Current Contents, Agricultural & Behavioural & Environmental Sciences	UN	+

#### 4.3.8 What does the Library / Library Staff do to make users aware of the existing facilities?

Respondents were offered the following suggestions to choose from Publicity of new & free products & services through Intranet or web page. Through workshops, training and educating the users on how to exploit the products and services. Provision of online terminals in the library. Through word of mouth; and through electronic mail; or other where they could specify. This question emanated from the previous question where respondents were asked to list databases offered by their libraries. The purpose of this question therefore was to find out if the information concerning the availability of electronic journals is disseminated to the users. The target number of respondents for this question was 20, 14 (70%) from the University of Natal and 6 (30%) from the University of Zululand. The response to this question reflects that most of the suggestions are used by these libraries to make users aware of the services, because 85% of the respondents chose multiple options. This result per institution was 13 (93%) for the University of Natal, and 4 (66%) for the University of Zululand. 'Other' was selected by the University of Natal respondents who specified it as marketing their services through online and printed newsletter as well as open-days.

#### **4.3.9 Librarians' preferences with regard to users searching electronic journals**

Respondents were offered three suggestions, 'Librarians conduct searches for users', 'users conduct their own searches' or 'both' to choose from. The purpose of this question was to find out whether the library staff prefer users to conduct their own searches or that librarians conduct searches on users' behalf. The target number of respondents was 20. 14 (70%) of the respondents were from the University of Natal while 6 (30%) were from the University of Zululand. The response rate indicate that 11 (55%) respondents preferred that the users conduct their own searches while 9 (45%) preferred both. Results indicate that 10 (71%) respondents from the University of Natal preferred that users conduct their own searches while 5 (83%) from the University of Zululand preferred both options.

#### **4.3.10 Users' satisfaction / feedback**

Respondents were asked to indicate the kind of feedback that they receive after performing literature searches for the users. This question intended to determine the level of interaction between the library staff and the users. The target number of respondents was 19, 13 (68%) from the University of Natal and 6 (32%) from the University of Zululand. One respondent from the University of Natal who indicated not using electronic journals much, was therefore not Targeted for this question. The respondents were to select between 'very satisfied', 'satisfied', 'dissatisfied' and 'no feedback'. 8 (61%) from the University of Natal and 3 (50%) from the University of Zululand said the users were very satisfied. The overall score here was 58%. 3 (50%) from the University of Zululand and 3 (23%) from the University of Natal selected satisfied, the overall percentage being 32%. 1 (5%) respondent indicated non-receipt of any feedback, while another 1 (5%) did not answer the question.

11 (58%) respondents indicated that they receive feedback of "very satisfied" from users while 6 (32%) receive feedback of "satisfied". 1 (5%) respondent indicated that he received "no feedback", while the other 1 (5%) respondent did not answer the question.

#### **4.3.11 Librarians' preferences between electronic journals and print journals**

This question required the library staff respondents to indicate their choice between electronic and printed journals. They were required to indicate their preference if they could be given a choice to provide scholarly journals to users either through 'print', 'electronic' or 'both' formats. They were also required to justify their choices. The target number of respondents was 22 consisting of 14 (64%) respondents from the University of Natal and 8 (36%) from the University of Zululand. 8 (36%) respondents would prefer electronic format, 4 (18%) print, while 10 (46%) would prefer both.

63% respondents from the University of Zululand and 21% from the University of Natal preferred electronic journals while 29% from the University of Natal preferred printed journals. 50% from the University of Natal and 37% from the University of Zululand preferred both formats. Among the reasons given for both media were that both electronic and print journals are advantageous to the users. Electronic journals allow quick online access to full-text articles whereas print journals are advantageous for those users who do not have an access to the Internet or who are not computer literate. Another reason was that electronic media is excellent except when the system is down, then the print media is the best as there are no down times with printed media. Amongst the reasons given for providing scholarly journals through electronic media were that they could be accessed easily, save time, are readily available and can be accessed by many people simultaneously, could be used anywhere without visiting the library, save space and could not be misplaced or missed. Reasons for offering print journals were that electronic journals are expensive and need license agreements, are much easier to handle, browse and read.

#### **4.3.12 Librarians' perceptions about the role of electronic journals in the dissemination of scholarly information**

The last question of the questionnaire required the respondents to give their opinions and perceptions with regard to the role that may be played by electronic journals in the dissemination of information. The respondents here stressed the issue of easy access and up-to-date of information used for learning, teaching and

research. They also raise the fears of costs that hinder the provision of electronic journals. The following points are therefore librarians' perceptions and opinions:

- “Electronic journals may provide scholars with up-to-date and researched information.”
- “ I see electronic journals as a source of information for academics and researchers. They have useful features, alerting feature and searching feature that minimise the time / effort in finding information.”
- “ It is certainly much quicker to disseminate information, and they play this role in facilitating access when they do not cost astronomical subscriptions.”
- “ Electronic journals disseminate information as they are published and do not undergo a lot of processes before being available. They are up-to-date.”
- “ Electronic journals facilitate the research process and learning process.”
- “ To provide up-to-date information. In most cases electronic journals are produced before the print is available. There are also no postal delays.”
- “ In order to compete globally and be part of a knowledge sharing network it is imperative that we take the electronic route. E-journals are by far the way to go to enhance global research and easy access.”
- “ If you can separate the provision of information from cost, they could play a huge role in promoting learning, teaching and research. However, Journal Publishers seem determined to carry on making huge profits for as long as possible irrespective of the effects on academic effort.”

#### **4.4 CONCLUSION**

This study revealed that the level of electronic journal use by the scholarly community of the two institutions is still low. They seem to be dependent on the printed journals. The respondents indicated lack of adequate facilities for accessing journals as a factor that hinders them to use electronic journals. This information was therefore useful in studying the research objectives of this study. Other factors

that came to light were the needs for marketing the existing services as well as the training of the users in using such services. The following chapter will discuss the findings of the results from this chapter.

## **CHAPTER 5 : DISCUSSIONS OF THE FINDINGS**

### **5.1 INTRODUCTION**

The aim of this chapter was the discussion of issues that emerged through data analysis presented in chapter: 4, which were obtained from the Academic Staff and Postgraduate Students respondents as well as the Library Staff. The aim of this study was the determination of the use of electronic journals in the dissemination of scholarly information. The intention of this chapter therefore is to discuss the findings obtained from the results that are relevant to the use of electronic journals. The chapter covers the discussion of research findings using research objectives of the study.

### **5.2 Personal Information of the Respondents**

#### **5.2.1 Institutional affiliation**

There was a large gap between the number of questionnaires sent to University of Natal and Zululand for both sets of questionnaires. For the first set two different scores were used. 20% sample was used for the Academic Staff and 10% sample was used for the Postgraduate Students. The researcher did not use equal sample for both groups, as this would have resulted in stratum not being represented in the sample, more especially the Faculties of Law and Commerce and Administration.

Other faculties were left out because the researcher wanted to compare similar faculties from both institutions. Therefore faculties that were included were the faculty of Arts, Commerce and Administration, Human Sciences, Law and Science and Agriculture, from both institutions.

For the Library Staff all Professional, particularly, Subject Librarian were targeted. Because of the very few numbers in Subject Librarians, all the professional librarians were targeted whereas at the University of Natal only Subject Librarians were targeted. Subject Librarians are professional librarians who specialize in particular subject fields or faculties. The target number of respondents was 34, 25 from the University of Natal and 9 from the University of Zululand. Sampling was not used in this case because the population to be studied

was manageable. The response rate was 14 (56%) from the University of Natal and 8 (89%) from the University of Zululand.

What can be deduced from the difference in numbers of the two sets of questionnaires may be the historical background of the two institutions. The University of Natal has more registered students, approximately 21000, as compared to the University of Zululand with approximately 6628 registered students. The gap in the number of students being served results in the gap also in number of staff employed by the two institutions.

### **5.2.2 Academic Status**

Respondents were required to indicate if they were academic staff or postgraduate students. This was important for the researcher to be able to categorise the responses accordingly. 50 (30%) responses were received from the Academic Staff and 118 (70%) received from the Postgraduate Students. According to table 1 of chapter 4, 100% response rate was received from the Postgraduate Students of the University of Zululand. This may be attributed to the fact that questionnaires sent out were more than the required 10% sample for each faculty. When responses were received they were first separated according to faculties, and then according to level of study. The simple random sampling as explained in Neuman (1997:208) was followed in order to select the respondents. The required 10% sample for the University of Zululand was therefore easily reached. The same procedure was employed with the University of Natal, but unfortunately responses received were less than the required 10% sample, therefore all of them were included. The required sample for the University of Natal postgraduate students was 154 but only 75 was received which made it impossible to do simple random sampling that was done with University of Zululand.

### **5.2.3 Faculty**

All selected faculties were represented in the sample. The results summarized in table 2, chapter 4, clearly indicate the representation of each faculty. The inconsistency in the number of staff was caused by the lack of uniform number of staff in each faculty. Thus Academic Staff members had less representation such as

the Law and Commerce and Administration at the University of Zululand, each with 2 and 7 respectively.

#### **5.2.4 Academic Status / Rank**

All academic ranks were almost represented in the sample. What could be noted is that one questionnaire was sent out to University of Zululand for a researcher, but responses from researchers ended up being four. The reason for this was that some questionnaires that were sent to Professors came back with statuses of researchers. This was easily detected because some were hand-distributed at the University of Zululand while others were sent out by electronic mail. The reason for this might be that these professors saw the use of electronic journals for the dissemination of scholarly information more related to research. This was noted also with Lecturers. Some Questionnaires sent out to Lecturers came back with the status of Senior Lecturers. The reason here might be the fact that their promotions were not yet reflected in the Latest University Calendars that were used for stratification purposes. The Library Staff was also required to indicate their positions for identification purposes. 73% came from the Subject Librarians who were also found to communicate more with users than other staff members.

#### **5.2.5 Level of Study**

All levels of study i.e. Honours, Masters and Doctorate degrees were represented in the sample. The lowest representation was that of the Doctorate Degree. This might be attributed to the fact that most Doctorate degree students are not around campus. Similarly, the number of Doctorate students in an institution is normally smaller than that of other category of postgraduate students.

#### **5.2.6 Computer Access, location and Internet access**

Out of 168 responses received 157 (93%) had an access to the computer, while 11 (11%) had no access to the computer. All these as table 5 reflects, came from the Postgraduate Students of the University of Zululand. As shown on table 6, most respondents have their computers located either in their offices, both home and offices or University LANs. This was supposed to be advantageous for the easy access of electronic journals. 156 (99%) out of 157 respondents who had indicated

that they had access to the computer on table 5, also indicated access to the Internet. This 156 was 93% of the original 168 responses that were initially received. This could mean therefore that 93% respondents have access to the Internet while 12 (7%) respondents, who were all postgraduate students from the University of Zululand had no access. This information is clearly indicated in tables 5 and 7. This could be attributed to the lack of facilities for electronic resources provided by the University of Zululand library. Responses did not reflect any lack of access from the University of Natal.

### **5.3 The level of electronic journal use by the scholarly communities of the Universities of Natal and Zululand**

#### **5.3.1 Use of scholarly journals**

Out of 168 responses 148 (88%) respondents indicated that they use scholarly journals. These results therefore indicate that the scholarly community use scholarly journals. This was the number of respondents that might be expected to use electronic journals as well, therefore were included in the succeeding research questions. All Academic Staff respondents were using scholarly journals while the 12% non-use came from the Postgraduate Students.

#### **5.3.2 Purpose of using scholarly journals**

Responses received for this aspect indicated that respondents were using scholarly journals for the dissemination of information. Teaching and research were included in the Multiple suggestions given to respondents as they both play a role in the dissemination of information (Ocholla, 1999:141). Another reason for the inclusion of these suggestions was that they all feature in the mission statements of the two institutions (University of Natal – Information 2001; University of Natal Library Annual Report 2000 & University of Zululand Library Annual Report 2000). Only the Faculties of Arts (8%) and Human Sciences (2%) indicated that they were using scholarly journals for teaching only. This low score could be attributed to the fact that other respondents from the two above-mentioned faculties as well as other faculties selected teaching with other options that included research. Research seemed to be popular among the scholarly community because it was the highest to be selected among the three suggested purposes whereas it was also selected along

with other options. The reason for this may be attributed to the fact that most of the methods of disseminating information as tabulated by Ocholla (1999:141) are supported by thorough research. Therefore it may be deduced from these findings that the scholarly community of the two institutions do use scholarly journals for the dissemination of scholarly information.

### **5.3.3 Type of scholarly journals used most**

Results emanating from this section reflect that the scholarly community is still dependent on the print journals for their scholarly activities. This was evident when they were asked to indicate the type of scholarly journals that they use most, 61% selected printed journals. 36% selected both print and electronic and only 2% selected electronic journals. It was noted that the University of Natal scholarly community had more responses (41%) for using both print and electronic journals than the University of Zululand (24%). This may suggest that they use electronic journals more than the University of Zululand. Table 10 reflects this.

### **5.3.4 Awareness of the availability of electronic journals**

Almost all respondents (93%) were aware of the availability of electronic journals except for 7% who were either not aware or did not respond. The non-response could also indicate the unawareness. Results reflect that the University of Natal scholarly community are more aware (94%) of the availability of electronic journals than that of the University of Zululand (91%). This concurs with the results found from the Library Staff where respondents from the University of Natal indicated more marketing methods of their services (93%) than the University of Zululand Library Staff respondents (66%). They even included under "other" methods of marketing services through online and printed newsletter as well as open-days. This may be one of the reasons that makes the Scholarly Community of the University of Natal to be more aware of the availability of electronic journals than that of the University of Zululand.

### **5.3.5 The use of electronic journals**

The question targeted 138 respondents who had previously indicated that they were aware of the availability of electronic journals. The reason for excluding those who were not aware was that, obviously, they could not be in a position to use electronic journals if they were not aware of their existence. 110 (80%) of the respondents were using electronic journals while 28 (20%) respondents were not using electronic journals. The reason for this could be that respondents are still dependent on the traditional print journals as some had stated that they still need some time in learning and adjusting themselves into using the latest technology. One academic respondent said that he preferred to use print journals because he can't make annotations and underline from screen whereas this is possible with printed journals. Another reason might be the lack of information technology facilities as Chan (1999) had indicated that electronic journals rely on technology and equipment that is rather expensive and not affordable by poor users or libraries. The scholarly community of the University of Zululand indicated more use of electronic journals (83% for both Academic Staff and Postgraduate Students) than that of the University of Natal (80% for Academic Staff and 77% for the Postgraduate Students). With the Library Staff, also the University of Zululand displayed more use of electronic journals by 100% than the University of Natal by 93%. The Library Staff respondents had indicated that they also use electronic journals on behalf of the end-users. The reason for this might be that there were respondents who, though aware of the availability of electronic journals, were not using them.

### **5.3.6 Frequencies on the use of electronic journals**

Those who use electronic journals daily, several times a week or once a week accounted for 66%. These three groups of respondents could be regarded as respondents who use electronic journals frequently. Other frequencies that were once a month (12%) and other (22%) where respondents specified several times a month or when there is a need could not be regarded as frequent users of electronic journals. Evidently, there is a frequent use of electronic journals.

### **5.3.7 List of electronic and printed journals that are normally used most by respondents**

The target number of respondents was 110 who had indicated that they were using electronic journals. Titles listed ranged between three, two and one or none at all. Some wrote “many” without listing them or even “forgotten”. Titles listed by 110 respondents could have been 330. 202 (61%) titles were received from the respondents instead. These titles are listed in table: 17. In cases where one title was listed by more than one respondent an indication was made by number of frequencies instead of repeating it. It was noted that titles were not always spelled correctly, the scholarly community was aware of the electronic journals in their fields. Although, it was not the aim of the study to create a useful list for journal acquisition, it was noted that a useful list can be compiled by using similar approach. The target number for listing printed journals was 148. These were respondents who had indicated that they were using scholarly journals. They were therefore asked to list at least three titles of print journals that they normally use. The same happened here as with the electronic journals where respondents either listed three, two, one or none titles but the response rate was far much better than that of electronic journals. Out of 444 titles that were expected from 148 respondents 339 (76%) titles were received. Some respondents who had indicated that they were using electronic journals were not able to list them but managed to list print journals. This was an indication that although they do use electronic journals, they are still more dependent on the print journals. Similar observation made with electronic journals requiring spelling use and acquisition apply.

## **5.4 The perceived impact that electronic journals have on the scholarly community**

### **5.4.1 Purpose of using electronic journals**

The three suggestions for the purpose of using electronic journals were the same as those given earlier for scholarly journals, i.e. teaching, research and learning. It was noted that teaching unlike research and learning, was not selected alone but

was combined with other options. Research was also popular in this case. It had the highest score (45%) and was also selected with other options where respondents selected more choices (33%). Teaching was combined with research by most academic staff respondents, whereas mostly Postgraduate Students respondents also combined learning with research. 17% of the respondents who were most Postgraduate Students selected learning as their purpose of using electronic journals. 5% of the respondents did not respond to the question. The reason for this could not be determined. The Library Staff respondents were also given the same choices but “on behalf of the end-users” was added to the selection. Most of them selected this last option together with other choices. The Library Staff respondents from the University of Natal selected multiple choices (92%) while the University of Zululand’s was 83%. This shows that the Library Staff does offer their assistance to end-users whilst they themselves are also engaged in research and learning for academic and personal development. The results obtained from the Academic Staff and Postgraduate Students means therefore that the scholarly community does use electronic journals for the dissemination of information.

#### **5.4.2 Use of electronic journals for the dissemination of information**

All faculties except for the Faculty of Law (UZ) use electronic journals for the dissemination of information. The overall response rate was 72%. The Academic Staff respondents use electronic journals more (96% for UN and 93% for UZ) than the Postgraduate Students (61% for UN and 55% for UZ). This concurs with the purposes of using electronic journals mentioned earlier where the Academic Staff respondents chose teaching and research more than the Postgraduate Students. The University of Natal Postgraduate Students scored 61%, which was 6% more than the 55%, scored by the University of Zululand. Few Academic Staff respondents (4% for UN and 7% for UZ) indicated non-use of electronic journals for the dissemination of information, whereas more Postgraduate Students (39% for UN and 40% for UZ) indicated non-use. This may be attributed to the fact that postgraduate students use electronic journals more for learning purposes than for research. It should also be recognised that research is a component of learning.

### **5.4.3 Type of electronic information normally used**

It was noted that respondents use full-text articles more than other types of electronic information. This was shown in the relatively high score for their use (29%), whereas the score for combined choices where full-text articles featured with other types of information was 41%.

### **5.4.4 Perceived impact that electronic journals have on the dissemination of information**

It was not possible to measure the impact that electronic journals have on the dissemination of information, therefore the study required the respondents to give their perceptions on this regard. The response rate indicates 72% for a strong impact and 12% for a minimal impact. The Academic Staff respondents of the University of Natal scored more than those of the University of Zululand (58%) against 53%, but their score was less than both Postgraduate Student respondents, which were 82% for the University of Natal and 75% for the University of Zululand. It is important to note that respondents were giving their perceptions when answering this question. Some even mentioned that electronic journals have a potential impact. This means that even if the level of electronic journals might be low at the present moment, a potential for their growth and use is being noticed. The difference between the responses from the two institutions and user categories is insignificant.

## **5.5 The attitude of the end-users to the use of electronic journals**

### **5.5.1 Electronic journal access**

The Academic Staff respondents of the University of Natal felt that electronic journals were easy to access (67%) more than the University of Zululand (40%). On the overall the University of Natal indicated that electronic journals were easy to access by 72%. The highest score from the University of Zululand was 40% for difficult to access. An enormous difference between the two institutions is noted here. One has to view the electronic services that are offered by both institutions through their Academic Libraries. Surely the excellent or sufficient resource support offered by the Academic Library will increase the easy access to electronic journals.

## 5.6 The role of the Academic Libraries

5.6.1 Logically, academic libraries should play a major role in access and exploitation of the scholarly journal. In order to establish this assumption respondents were to identify other methods of accessing electronic journals that was intended to lead to the academic library. This question was merely intended for the respondents who had no access to the computer or, and the Internet. The respondents were given suggestions including Subject Librarians, Colleagues and other. The “ Subject Librarians ” were included because at the University of Zululand Library where the researcher is a Subject Librarian there are no computer terminals in the library where users can access electronic journals on their own. The Subject Librarians do help users by searching on their behalf and either print, save on disks, or forward information to end-users by electronic mail. The question was therefore essential to find out if users do use such a service. 42% of the respondents indicated that they access electronic journal through Subject Librarians. This concurs with the results found from the Library Staff respondents who indicated that they normally serve Academic Staff and all registered students (61%) for the University of Natal and 50% for the University of Zululand. 4.5% respondents indicated that they access electronic journals through colleagues. These might be users who are either assisted by their colleagues to obtain information or who use colleague’s Personal Computers. 4% selected other where they said that there had never been a need for alternative access methods. These were from the University of Natal. 4.5% selected both Subject Librarians and colleagues while 45% did not respond to the question. It is speculated that respondents who did not respond were those who were able to access electronic journals on their own without the help of Subject Librarians. It is also possible that this non-response came from the respondents who were not aware that there is such a service offered by their library. The highest non-response came from the Academic Staff respondents from both institutions. Results here also reflected that the Postgraduate Students at the University of Zululand use the Subject Librarians more (60%) than those of the University of Natal (45%). Results from the Library Staff respondents (table: 33, chapter: 4) indicate that Librarians’ choices for the University of Natal were that users should conduct their own searches (71%), while the University of Zululand Library Staff felt for both, i.e. Librarians conduct searches for users and users conduct their own searches. The reason for this might be

because the University of Zululand Library still lacks the resource support where users can conduct their own searches while this is not a problem at the University of Natal. This explains the picture therefore of having more dependence of the users to Subject Librarians at the University of Zululand than University of Natal.

Receiving any feedback after serving the users by library staff with the aim to determine if there is any interaction with the Library Staff and the users, a “very satisfied” response was indicated by both institutions (61% for UN and 50% for UZ). Other respondents indicated a “satisfied” response received from the users (23% for UN and 50% for UZ). 16% from the University of Natal was for “no feedback” and no response. The reason for this might be that users served were not satisfied, or may be it was because they did not come with any feedback to the Librarians.

### **5.6.2 Academic Library and electronic journals**

71% of the respondents indicated that their Academic Libraries do offer electronic journals. 4% said that their libraries do not offer electronic journals, 24% was not sure, while 1% did not respond. The response from the University of Natal indicated by 80% that their Academic Library does offer electronic journals, while the University of Zululand was 51%. Results from the Library staff supports this by 100% from the University of Natal, and 75% from the University of Zululand. The score from the Postgraduate Student respondents was 60% as compared to that of the Academic Staff, which was 40%. This difference in response between Academic Staff and Postgraduate Students might be attributed to the fact that Students consult the Subject Librarians more than the Academic Staff. Another factor might be that of the lack of marketing services on the part of the Academic Library. This supports the number of respondents who gave negative responses.

## **5.7 The resource support for accessibility**

### **5.7.1 The resource support for accessibility offered by academic libraries**

This question was directed to 78 (71%) respondents who had indicated that their libraries offer electronic journals. 22% of the respondents rated the resource support offered by their Academic Libraries as excellent, 59% said that it was

sufficient, while 19% felt that it was minimal. The highest score from the University of Natal (65%) was for sufficient, while that of the University of Zululand was between sufficient and minimal (39%) for both. The highest score for “minimal support” came from the Academic Staff of the University of Zululand. This reflects to the lack of services that may be provided by their Academic Library.

### **5.7.2 List of hosts / databases used for accessing electronic journals**

This question was aimed at testing the knowledge of respondents concerning methods of accessing electronic journals. The respondents from the University of Natal listed more sources than those of the University of Zululand. The Library Staff respondents were also required to list databases of full-text, abstracts and bibliographic information. Unlike the first group they were not asked to list at least three of these, but were just asked to list them according to their knowledge. Also with the second group few databases were listed. It was noted that the lists were not generally accurate, which casts doubt on knowledge of the databases. What can be deduced from this is that the University of Zululand Academic Library is lagging behind that of Natal in the provision of access to electronic journals.

## **5.8 Relationship between research and publication output by staff and use of either print or electronic journals**

### **5.8.1 Use of electronic journals for the publication of research projects**

According to Ocholla (1999:141) research is completed when it is published. This question was intended to find out if respondents or their institutions do publish electronically, more especially research projects that the institution produce. For example, the South African Journal of Information Management (SAJIM) published by the Department of Information Studies at the Randse Afrikanse University, publishes peer-reviewed articles as well as student work (van Brakel, 1999). This supports the statement made by Eason, Carter & Harker (1997) that research results may be distributed in electronic format. Results found for this question reflect that these two institutions are not yet engaged in electronic publishing because only 31% indicated a positive response for this.

### **5.8.2 Type of media sufficient for the publication output**

Respondents were required to indicate the type of media that they find sufficient for the publication output. The purpose of the question was to determine the type of media that respondents use for the preparation of publishing their research results. 55% of the respondents opted for both print and electronic, 39% for print media, 2% for electronic media and 4% non-response. This is a clear indication that the scholarly community of the two institutions is more dependent on print media than electronic media as indicated by 2%. However, opting for both media means that they do use them but not as they use print media. The non-response rate of 4% could mean that respondents are not engaged in publishing as it came from Postgraduate Students. Some Postgraduate Students had earlier on indicated learning as their purpose of using electronic journals. The reason for non-response may therefore emanate from this point. The Faculties that reflect a strong dependence on print media were the Law (UZ) with 100% and Law (UN) with 83%. Responses from the Postgraduate Students from both institutions show a less dependence on print media than the Academic Staff. The reason for this could not be determined at this stage.

### **5.8.3 Correlation between high research and publication output and the use of electronic media**

The respondents had to give their own opinions regarding the above matter. 29% indicated a correlation whereas 13% indicated no correlation. A large response was received from respondents who were undecided. This means therefore that there is no correlation between high research and publication output and the use of electronic journals as opposed to other media. High research and publication output does originate from the use of print media even if used alone.

## **5.9 Recommendations**

Respondents were required to give their recommendations on what academic libraries could do in order to improve the exploitation and use of scholarly journals, particularly, electronic journals. The following issues emanated from the recommendations given by respondents from both institutions:

- Marketing electronic services;
- Provision of facilities in the library;
- Research
- User education
- Cost implications
- Involvement of the users

### **Marketing electronic services**

It was obvious from the recommendations given by the respondents that they feel that the services, especially, electronic services need to be marketed to the users in order to make them aware of what the library provides:

### **Provision of facilities in the library**

It transpired from the responses mostly from the University of Zululand that the services offered by their academic library are inadequate as most of the recommendations concerning the provision of facilities in the library came from them.

### **Research**

It was evident from the responses received that respondents felt that there should be thorough research done by the library in order to find the views of users.

### **User education**

User education was also brought up by the responses that were received as the respondents were of the opinion that users need to be educated and trained in the use and the importance of using electronic journals.

“ ... The users need to be trained on how to access the electronic journals. When you know how to retrieve them and how to search them it is very easy to get information required at a very short time.”

## **Cost Implications**

Other respondents mentioned the issue of cost implications for electronic journals, which are high subscription charges, as well as cost for printing.

### **5.10 CONCLUSION**

There is a big difference between population numbers of the two institutions. This was reflected in the number of respondents received. Those of the University of Natal were more than those of the University of Zululand, although there was a 100% response rate from the University of Zululand Postgraduate Students. The historical background of the two institutions was noted which might be the cause of the imbalance as the latter belongs to the Historically Disadvantaged Institutions. Lack of facilities from the Academic Library was reflected from the University of Zululand responses. Hopefully, this situation will improve when the European Union programs, for supporting the Historically Disadvantaged Institutions, is in place.

It became evident that the scholarly communities of the two institutions are still dependent on print journals, although they do use electronic journals. The University of Natal was found to be using electronic journals more than the University of Zululand. Research was found to be more popular among the Academic Staff respondents while learning was more popular among the Postgraduate Students respondents.

There is an interaction between Subject Librarians and the Academic Staff and Postgraduate Students, although minimal. The University of Zululand Postgraduate Students were found to be more dependent on Subject Librarians than those of the University of Natal. This dependency seemed to result from the lack of facilities where users could conduct their own searches in the library. There seemed to be an important need of marketing the existing services that are available from the Academic Libraries. Whereas it was expected that there would be a correlation between high research in publication output and the use of electronic media, this suggestion has not been confirmed by respondents.

Most responses received from the University of Natal and the University of Zululand did not exhibit sufficient differences in race despite their historical background.

The information obtained from this chapter was used to draw conclusions and recommendations, which were presented in chapter: 6.

## **CHAPTER 6:SUMMARY, RECOMMENDATIONS AND CONCLUSIONS**

### **6.1 INTRODUCTION**

The objectives of this study were to determine the following:

- The level of electronic journal use by the scholarly communities of the University of Natal and the University of Zululand;
- The perceived impact these journals have on the scholarly community;
- The attitudes of the end-users to the use of electronic journals;
- The difference between various disciplines in the use and understanding of electronic journals;
- Whether the academic libraries are playing their role in assisting the end-users;
- The resource support for accessibility;
- To establish whether there is any relationship between research and publication output by staff and use of either print or electronic journals.

The following hypothesis was formulated:

- The scholarly community at the University of Natal and the University of Zululand do not use electronic journals for research and information dissemination
- Electronic journals have no impact on research and information dissemination to the scholarly community of the two universities because of reliance on print journals and other media
- The scholarly community of the two communities have a negative attitude towards electronic journals
- The use of electronic journal vary from discipline to discipline
- Lack of adequate resources affect the use of electronic journals

- There is a correlation between high research and publication output and the use of electronic journals as opposed to other sources.

In order to determine the above the researcher studied relevant literature and conducted survey research. The aim of this chapter is to give a summary of the findings, recommendations and conclusions. Conclusions are drawn from the findings of the literature study and survey research. Recommendations are made for improving the access and use of electronic journals for the dissemination of scholarly information. Suggestions for further research related to this study are also made.

## **6.2 SUMMARY OF FINDINGS BASED ON RESEARCH OBJECTIVES**

### **6.2.1 The level of electronic journal use by the scholarly communities of the Universities of Natal and Zululand**

Although 80% of the Academic Staff and Postgraduate Students respondents from both institutions said that they were using electronic journals the level of their electronic journal use was found to be still low. This was reflected in the responses received for the type of journals that they normally use. 61% selected print journals while only 2% selected electronic journals. Also when they were required to list at least three electronic and print journals that they use most, a less score was given to the electronic journals than that of print journals. The level of using print journals was therefore found to be higher than that of the electronic journals. The study, however, was not aimed at comparing the two types of media.

The low level was also reflected when respondents were required to list host or databases used for accessing electronic journals. Very few respondents were able to list this information. Respondents were also required to indicate the type of media sufficient for the publication output. Only 2% selected electronic media. What was discovered was that respondents who use electronic journals always selected them together with print journals i.e. they opted for both media. This did not obscure the evidence that electronic journals are less used.

### **6.2.2 The perceived impact that electronic journals have on the scholarly community**

Since the impact that electronic journals have on the scholarly community could not be measured in this study, respondents were required to give their perceptions regarding the impact. The electronic journals therefore display a strong impact. One respondent even indicated that potentially they have strong impact. This means that in future they might play an important role, which may even supersede that of print journals. It all depends on the advancement and provision of Information Technology by the responsive institutions as well as marketing the services available.

### **6.2.3 The attitudes of the end-users to the use of electronic journals**

More users felt that electronic journals were easy to access. Users indicated a perception of strong impact, which means that their attitude towards the electronic journals is that they will be used more than the print media, in future. Respondents who displayed a negative attitude towards the use of electronic journals said that they prefer print journals because they are more easy to use, they could make annotations whenever they want to, which is not possible with print journals.

### **6.2.4 The difference between various disciplines in the use and understanding of electronic journals**

There is a slight difference between the various disciplines in the use and understanding of electronic journals. The Faculties of the Human Sciences (UN) and the Science and Agriculture (UN) rated higher than other faculties by 68%, followed by the Faculty of Science and Agriculture (UZ) by 62%, Arts (UZ) by 61%, Commerce and Admin (UZ) by 60%, Law (UN) by 51% and lastly, Law (UZ) by 45%. The ratings was found by adding all scores and divide them by the number of questions that were relevant to determining the use and understanding of electronic journals. On the average there seemed to be less difference between the disciplines as well as between the two institutions. However, the University of Natal was found to be ahead of the University of Zululand in the use and

understanding of electronic journals. The difference between the two institutions was about 10%.

#### **6.2.5 Whether the Academic Libraries are playing their roles in assisting the end-users**

Although the academic libraries have limited resources, they do offer electronic journals to the users. The responses from the University of Natal indicated that they have more facilities than the University of Zululand of offering electronic journals. This was evident in the response rate received from the two institutions, which was 80% for UN and 51% for UZ. The responses from the Library Staff also concur with this as 100% response rate was received from the UN Library staff as compared to 75% received from the UZ Library Staff. When the Librarians were requested to indicate their purpose(s) of using electronic journals, all choices from the UN Library staff included using electronic journals on-behalf of the end-users, while at the UZ Library 17% of the responses was for learning. Since learning may be associated with personal development, this means therefore that there are Librarians from the University of Zululand who may not be using electronic journals to assist the end-users.

For marketing the existing services the Librarians from the two institutions indicated that they do market their services. The University of Natal Library Staff as compared to those of the University of Zululand displayed more marketing methods and skills. Feedback received from the end-users also reflect that the Academic Libraries do play their roles is assisting them.

#### **6.2.6 The resource support for accessibility**

The resource support for the University of Natal is sufficient while that of the University of Zululand is in between sufficient and minimal.

#### **6.2.7 Relationship between research and publication output by staff and use of either print or electronic journals**

Results obtained indicate a relationship between research and publication output and the use of electronic media although it is also still low as compared to print

media. This was reflected by the respondents' selections when required to indicate the type of media that is sufficient for the publication output. 55% of the respondents opted for both print and electronic, 39% opted for print and only 2% opted for electronic media. Because there are respondents who use both media, the relationship that electronic media has could therefore not be missed.

### **6.3 SUMMARY OF FINDINGS BASED ON RESEARCH HYPOTHESES**

#### **6.3.1 The scholarly community at the University of Natal and the University of Zululand do not use electronic journals for research and information dissemination**

This hypothesis was rejected because results obtained reflected that the scholarly communities of the two institutions do use electronic journals for the above mentioned purposes even though they use them in combination with print journals.

#### **6.3.2 Electronic journals have no impact on research and information dissemination to the scholarly community of the two universities because of reliance on print journals and other media**

This hypothesis was also rejected because 72% of the respondents felt that electronic journals have a strong impact in research and dissemination of information. This was also supported by the Librarians' responses where 36% chose electronic media and 45% chose both electronic and print media.

#### **6.3.3 The scholarly community of the two communities have a negative attitude towards electronic journals**

The scholarly community of the two Universities has a positive attitude towards electronic journals. Even those who indicated that they do not use electronic journals seemed to have a positive attitude towards them because they indicated that they need these services to be marketed to them. They need to be educated and trained on how to use them.

#### **6.3.4 The use of electronic journals vary from discipline to discipline**

This hypothesis was accepted. On the overall assessment the Faculty of Science and Agriculture leads in the use and understanding of electronic journals, followed by the Human Sciences, Arts, Commerce and Administration and then the faculty of Law. When the analysis was done according to the two institutions there was a tie between the faculties of Science and Agriculture (UN) and the Human Sciences (UN), followed by the faculty of Science and Agriculture (UZ), Arts, Commerce and Administration, Law (UN) and lastly, Law (UZ). The faculty of Science and Agriculture (UZ) therefore was leading at the University of Zululand.

#### **6.3.5 Lack of adequate resources affect the use of electronic journals**

This was accepted. The University of Zululand was found to be lagging behind the University of Natal in the provision of facilities such as the computer classrooms in the library where users could conduct their own searches in the library. The provision of electronic resources was also lagging behind at the University of Zululand. As a result more respondents 44% of the original 62 responses that were received from the University of Zululand was not using electronic journals, as compared to 29% of the original 106 responses received from the University of Natal.

#### **6.3.6 There is a correlation between high research and publication output and the use of electronic journals as opposed to other sources**

This hypothesis was rejected because only 29% of the respondents indicated that there is a correlation while 53% was undecided and 18% indicated that there is no correlation. When respondents were required to indicate the type of media sufficient for the publication output they either opted for print media or both. See tables 23 – 25.

## **6.4 RECOMMENDATIONS AND CONCLUSIONS**

### **6.4.1 RECOMMENDATIONS**

The recommendations made are based on the findings from literature and survey research. The following recommendations are therefore made:

#### **6.4.1.1 Provision of IT facilities in the library**

Provision of such facilities in the library may enhance the use of electronic journals by users, more especially students. This could be done by having electronic classrooms with sufficient electronic equipment to be used by the users, and a trained person who will always be available to help and train users.

#### **6.4.1.2 Marketing of electronic services**

There is an urgent need of marketing the existing services, more especially at the University of Zululand Library, where the Library Staff respondents indicated very few methods of marketing their services. The marketing methods may include publicizing of new and existing electronic services through the Library's web page, listserver and intranet, conducting workshops to educate the users on how to exploit the products and services, and through online and printed newsletters.

#### **6.4.1.3 User education**

The users need to be trained and educated in the use and importance of electronic journals. This process calls for an interaction between the academic staff and the library staff. Having the library staff marketing the services and educating the academic staff on the use of such services could do this. Then the academic staff in turn will be able to pass the information to the students possible by recommending to them to make use of the services and consultation with the library staff for assistance. Short courses on the value, availability and use of electronic journals should be offered.

#### 6.4.1.4 Electronic publishing

The scholarly community should be encouraged to publish in electronic journals. This in turn will improve their use and understanding of electronic journals.

#### 6.4.1.5 Sell the services to the Top Management

The Library Management needs to “sell” the electronic services to the Top Management in order to gain financial support, because, without this support it may not be possible to achieve the required goals, i.e. providing the comprehensive electronic service.

#### 6.4.1.6 Electronic resources Librarian

The academic library, more especially, at the University of Zululand, should have the electronic resources librarian who will be solely responsible for collection as well as management of electronic journals.

#### 6.4.1.7 Methods of access

An alphabetical list of electronic journals available for access by end-users should be provided on library’s home page and access to such a list should be at least one or two clicks away from the library’s home page. Registered students and staff should have an easy access to the electronic journals offered by the library

### 6.4.2 **RECOMMENDATIONS FOR FURTHER STUDIES**

It is recommended that:

- A comprehensive study of the use of electronic journals be conducted after the subjects had received basic training on their use
- The similar study be extended to the Kwa-Zulu Natal Universities and other tertiary institutions in Kwa-Zulu Natal

- How the academic libraries market their services, particularly electronic services
- A similar study may be extended to the South African Universities.

### 6.4.3 CONCLUSIONS

The literature study revealed that academic libraries, academic staff and students, publishers of academic journals and books have an important role to play in the system of scholarly communication (Milne, 1999). The scholarly community of the two institutions also has the components mentioned above. The mission statements of the two institutions revealed that they are engaged in teaching, learning, research and development, which are parts of the scholarly communication process. This process involves the use of scholarly journals, which play a role in the dissemination of scholarly information. The scholarly communication system may therefore be transformed by the use of electronic journals, but as Harter (1998:507) cautions, they can only succeed in this transformation if they are integrated in the process of scholarly communication. This integration was found to be lacking with the two institutions under investigation. Although the impact that electronic journals have on the dissemination of scholarly information could not be determined, this study was able to measure the perceived impact from the respondents. A strong perceived impact was revealed in this study.

The level of use and understanding of electronic journals was found to be low as compared to the use of print journals. The scholarly community was found to be more reliance on print journals. There was a slight difference in the use of electronic journals by various disciplines and the two institutions.

Studies support the notion that lack of adequate resources and facilities affect the use of electronic journals as technology and equipment may not be affordable by poor libraries and users (Chan, 1999). This study found the lack of adequate resources and electronic facilities, more particularly at the University of Zululand. This in turn has an effect on the use of electronic journals by the scholarly community concerned.

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**APPENDIX A**  
**QUESTIONNAIRE FOR THE ACADEMIC STAFF & POSTGRADUATE**  
**STUDENTS**

**SECTION 1: PERSONAL INFORMATION**

**1. Please indicate your institutional affiliation**

- University of Zululand (Main Campus) [ ]
- University of Zululand (DUC) [ ]
- University of Natal (Durban) [ ]
- University of Natal (Pmburg) [ ]
- University of Natal (Medical School) [ ]

**2. Are you an academic staff or postgraduate student?**

- Academic staff [ ]
- Postgraduate student [ ]

**3. Faculty (e.g. Faculty of Arts, Community & Development Disciplines, etc.)**

Faculty of .....

**4. Please indicate your department**

Department of .....

**5. If Academic staff, please state your academic status/rank**

- Professor [ ]
- Associate Professor [ ]
- Senior Lecturer [ ]
- Lecturer [ ]

Junior lecturer [ ]

Researcher [ ]

Other .....

**6. If a Postgraduate student, please indicate the level of study**

Honours [ ]

Masters [ ]

Doctorate [ ]

**7. Do you have an access to the computer?**

Yes [ ]

No [ ]

**8. If yes, where is your PC stationed?**

Office [ ]

Home [ ]

Both [ ]

Other (Please specify) .....

**9. Do you have an access to the Internet?**

Yes [ ]

No [ ]

**SECTION 2: USE OF SCHOLARLY JOURNAL**

**1. Do you use scholarly journals?**

Yes [ ]

No [ ]

**2. For what purpose do you use scholarly journals? (You can tick more than one option).**

- Teaching [ ]
- Research [ ]
- Learning [ ]
- Other ( please specify) .....

**3. What type of scholarly journals do you use most?**

- Electronic journals [ ]
- Printed journals [ ]
- Both [ ]

**If your answer to number 3 above is yes, please proceed to Section 3**

**SECTION 3: THE USE OF ELECTRONIC JOURNALS**

**1. Are you aware of the availability of electronic journals?**

- Yes [ ]
- No [ ]

**2. Do you use electronic journals?**

- Yes [ ]
- No [ ]

**3. How often do you use electronic journals?**

- Almost daily [ ]

Several times a week [ ]

Once a week [ ]

Once a month [ ]

Other (please specify) .....

**4. For what purpose do you use scholarly electronic journals? ( You can tick more than one option)**

Teaching [ ]

Research [ ]

Learning [ ]

**5. Do you use scholarly electronic journals for the dissemination of information?**

Yes [ ]

No [ ]

**6. How do you find electronic journals?**

Easy to access [ ]

Difficult to access [ ]

Other ( please specify) .....

**7. What type of electronic information do you normally use?**

Full-text articles [ ]

Abstracts [ ]

Bibliographic information [ ]

Other ( please specify) .....

**8. Please list at least three electronic journals that you use.**

- 8.1 .....
- 8.2 .....
- 8.3 .....

**9. Please list at least three print journals that you often use.**

- 9.1 .....
- 9.2 .....
- 9.3 .....

**10. If you do not have an access to the Internet what other methods do you use for obtaining electronic journals?**

- Through Subject / Librarians [ ]
- Through colleagues [ ]
- Other ( please specify) .....

**11. To your knowledge does your academic library offer electronic journals?**

- Yes [ ]
- No [ ]
- Not sure [ ]

**12. If yes, what is the resource support for accessibility?**

- Excellent [ ]
- Sufficient [ ]
- Minimal [ ]

**13. Please list at least three host / databases for electronic journals, e.g. EBSCOhost**

13.1 .....  
13.2 .....  
13.3 .....

**14. Do you or your institution use electronic journals for publishing research projects?**

Yes [ ]

No [ ]

Not sure [ ]

**15. What type of media do you find sufficient for the publication output?**

Printed media [ ]

Electronic media [ ]

Both [ ]

**16. In your opinion is there a correlation between high research and publication output and the use of electronic journals as opposed to other media?**

Yes [ ]

No [ ]

Undecided [ ]

Other ( please specify) .....

**17. What do you perceive as an impact that electronic journals have on the dissemination of scholarly information?**

Strong impact [ ]

Minimal impact [ ]

No impact [ ]

Not sure

[ ]

**SECTION 4:           RECOMMENDATIONS**

What recommendations can you give (on what the library can do) to improve the exploitation and use of scholarly journals, particularly, electronic journals?

.....  
.....

## **APPENDIX B**

### **QUESTIONNAIRE FOR THE LIBRARY STAFF**

#### **SECTION 1: PERSONAL INFORMATION**

**1. Please indicate your institution**

University of Natal (Pietermaritzburg Campus) [ ]

University of Natal (Durban Campus) [ ]

University of Natal (Medical School) [ ]

University of Zululand (Main Campus) [ ]

University of Zululand (DUC) [ ]

**2. Please indicate your position**

University Librarian [ ]

Deputy University Librarian [ ]

Senior Librarian [ ]

Librarian / Subject Librarian [ ]

Assistant Librarian [ ]

Other (please specify) .....

**SECTION 2: THE USE OF ELECTRONIC JOURNALS FOR THE  
DISSEMINATION OF SCHOLARLY INFORMATION**

**1. Is your library offering access to electronic journals for the users?**

Yes [ ]

No [ ]

**2. Do you use electronic journals?**

Yes [ ]

No [ ]

**3. If you do, for what purpose do you use electronic journals? (You can choose more than one options)**

Research [ ]

Learning [ ]

Teaching [ ]

On behalf of the end-users [ ]

Other (please specify) .....

**4. If you use electronic journals on behalf of the end-users, what type of users do you normally serve? (You may choose more than one options)**

Academic staff [ ]

Postgraduate Students [ ]

All registered students [ ]

All of the above [ ]

Other (please specify) .....

5. How many full-text databases are offered by your academic library?.....

5.1 List at least three of the following databases used by your library to provide information to the academic community.

5.1.1 Full-text databases. ....

.....  
.....  
.....  
.....

5.1.2 Abstracts databases. ....

.....  
.....  
.....  
.....

5.1.3 Bibliographic Information databases. ....

.....  
.....  
.....  
.....

6. What does the library / library staff do to make users aware of the existing facilities? (You may choose more than one options)

Publicity of new & free products & services through Intranet or Web page [ ]

Through workshops, training and educating the users on how to exploit the products and services [ ]

Provision of online terminals in the library [ ]

Through word of mouth [ ]

Through electronic mail [ ]

Other (please specify) .....

**7. What do you prefer most?**

- Librarians conduct searches for users [ ]
- Users conduct their own searches [ ]
- Both of the above [ ]

**8. If you perform electronic literature searches for the users what kind of feedback do you receive?**

- Very satisfied [ ]
- Satisfied [ ]
- Dissatisfied [ ]
- No response [ ]

**9. If you are given a choice to provide scholarly journals to users either through print or electronic journals, which one would you prefer?**

- Electronic Journals [ ]
- Print Journals [ ]
- Both of the above [ ]

Justify why you have chosen the above answer .....

**10. In your opinion what do you perceive as a role of electronic journals in the dissemination of scholarly information .....**

.....  
.....  
.....

**APPENDIX C: LIST OF ELECTRONIC JOURNALS N=110**

<b>Titles of electronic journals</b>	<b>Faculty</b>	<b>Frequencies</b>
Africa Insight	Arts & Human Sciences	++
Africana	Commerce and Admin (UZ) & Human Sciences	+++
African Journal of Hydrobiology and Fisheries	Science & Agriculture (UN)	+
African Journal of International Affairs and Development	Human Sciences	+
African Journal of Library, Archives & Information Sciences	Human Sciences (UN) and Arts	+++
African Journal of Political Science	Human Sciences	+
African Sociological Review	Arts & Human Sciences	++
African Studies Quarterly	Human Sciences	+
American Business Perspectives	Human Sciences	+
American Economic Review	Human Sciences	+
American Journal of Botany	Science & Agriculture (UN)	+
Annual Review of Biochemistry	Science & Agriculture(UN)	+
Annual Review of Psychology	Arts and Human Sciences	++
Any Onomastic Journal	Arts (UZ)	+
Aquatic Biology, Aquaculture and Fisheries Resources	Science & Agriculture (UZ)	+
Banking Strategies	Human Sciences	+
Behaviour Science Research	Human Sciences	+
Biochemical Education	Science & Agriculture (UZ)	+
Biochemistry	Science & Agriculture(UZ) and (UN)	++
Biochemistry and Cell Biology	Science & Agriculture (UN) & (UZ)	++
Biophysical Chemistry	Science & Agriculture (UN)	+
Botanical Review	Science & Agriculture(UN)	+
British Journal of Guidance and Counselling	Human Sciences and Arts	++
British Journal of Clinical Pharmacology	Science & Agriculture(UN) and (UZ)	++
Bulletin of Environmental Toxicology and Chemist	Science & Agriculture (UZ)	+
Business and Politics	Human Sciences	+
California Law Review	Law(UN)	+
Canadian Journal of History	Human Sciences	+
Canadian Modern Language Review	Arts and Human Sciences	++
Child and Family Social Work	Arts	+
Child Care, Health and Development	Human Sciences	+
Child Development	Human Sciences	+
Chronicle of Higher Education	Human Sciences (UN)	++
Clinical infections Disease	Science & Agriculture (UZ)	+
CMA Magazine	Human Sciences	+
Cognitive Psychology	Human Sciences	+
Cognitive Therapy and Research	Human Sciences	+
Columbia law Review	Law(UN)	+
Communication Studies	Human Sciences	+

Comparative Literature and Culture	Human Sciences(UN)	+
Co-ordination Chemistry Review	Science & Agriculture (UZ)	+
Counselling Psychology Quarterly	Human Sciences and Arts	++
Critical Quarterly	Human Sciences and Arts	++
Cross Cultural Research	Human Sciences	+
Development Southern Africa	Arts and Human Sciences	++
East African Agricultural and Forestry Journal	Science & Agriculture (UN)	+
Ecology	Science & Agriculture (UN)	+
Economic Development Quarterly	Human Sciences	+
Economist	Human Sciences	+
Electronic Journal of Communicative Psychoanalysis	Commerce and Admin (UZ)	+
Environmental Ethics Journal	Human Sciences(UN)	+
Environmental Quality Management	Human Sciences	+
European Business Review	Human Sciences	+
Essays in Criticism	Human Sciences	+
Experimental Marine Biology & Ecology	Science & Agriculture (UZ)	+
Families in Society	Human Sciences	+
FAST	Science & Agriculture (UZ)	+
Feminist Review	Arts and Human Sciences	++
Financial Mail	Human Sciences (UN)	+
Financial Management	Human Sciences (UN)	+
Fisheries Management and Ecology	Science & Agriculture(UN) and (UZ)	++
Fisheries Research	Science & Agriculture (UN)	+
Forest Ecology & Management	Science & Agriculture (UN)	+
Food and Nutrition Bulletin	Science & Agriculture (UZ)	+
Gender Issues	Human Sciences	+
Geographical Journal	Science & Agriculture(UN)	+
Harvard Business Review	Human Sciences (UN)	+
Harvard Environmental Law Review	Law(UN)	+
Harvard Journal of Law and Public Policy	Law(UN)	+
Human Rights Quarterly	Law(UN)	+
IEEE Transactions on Communications	Human Sciences (UN) & (UZ)	++
IFLA	Human Sciences (UN)	+
Industrial Relations Journal	Human Sciences	++
Information Development	Human Sciences (UN)	++
Information Management Journal	Human Sciences	+
Information Today	Arts and Human Sciences	++
Inorganic chemistry	Science & Agriculture (UZ) and (UN)	++
Innovation	Human Sciences (UN)	+
Institute of African Studies Review	Human Sciences	+
Interlibrary Loan, Document Delivery & Resource Sharing	Human Sciences	+
International Economic Review	Human Sciences	+
International Journal of Climate	Science & Agriculture (UZ)	+
Journal of Abnormal Psychology	Human Sciences	+
Journal of Accountancy	Human Sciences	+
Journal of Advertising	Arts	+
Journal of Applied Ecology	Science & Agriculture (UN)	+
Journal of Applied Science and Technology	Science & Agriculture (UN)	+

Journal of Aquatic Sciences	Science & Agriculture (UN) & (UZ)	++
Journal of Avian Biology	Science & Agriculture (UN)	+
Journal of Biological Chemistry	Science & Agriculture(UN)	+
Journal of Chemical Society	Science & Agriculture (UN)	+
Journal of Climate	Science & Agriculture (UZ)	+
Journal of Clinical Microbiology (jcm.asm.org)	Science & Agriculture (UZ)	+
Journal of Clinical Psychology	Human Sciences	+
Journal of Conflict Resolution	Human Sciences	+
Journal of Organic Chemistry	Science & Agriculture (UN)	
Journal of the American Mathematical Society	Science & Agriculture (UN) & (UZ)	++
International Journal of Conflict Management	Human Sciences	+
Journal of Chromatography B	Science & Agriculture (UN)	+
International Journal of Cultural Studies	Human Sciences & Arts	++
International Journal of Philosophical Studies	Arts	+
Journal of Enzyme Inhibition	Science & Agriculture (UN)	+
Journal of Experimental Marine Biology and Ecology	Science & Agriculture(UZ) and (UN)	++
Journal of Extension	Human Sciences (UN)	+
Journal of Ethnopharmacology	Science 7 Agriculture (UZ)	+
Journal of Geophysical Research	Science & Agriculture (UN)	+
Journal of Hospital Infection	Science & Agriculture (UZ)	+
Journal of Humanities	Human Sciences	+
Journal of Humanistic Psychology	Commerce and Admin (UZ) and Human Sciences	++
Journal of Hydrology	Science & Agriculture (UN)	+
Journal of Information Science	Arts (UZ)	+
Journal of Marital and Family Therapy	Human Sciences	+
Journal of Materials Chemistry	Science & Agriculture (UZ)	++
Journal of Mathematical Chemistry	Science & Agriculture (UN)	+
Journal of Mathematical Physics	Science and Agriculture(UZ) and (UN)	++
The Journal of Modern History	Human Sciences	+
Journal of Multimedia History	Human Sciences	+
Journal of Personality and Social Psychology	Human Sciences and Arts	++
Journal of Public Administration	Commerce and Admin (UZ)	+
Journal of Public Policy and Marketing	Human Sciences	+
Journal of Science and Technology	Science & Agriculture (UN)	+
Journal of Social Psychology	Arts and Human Sciences	++
Journalism and Mass Communication Quarterly	Arts (UZ)	+
Journalism Studies	Arts (UZ)	+
Knowledge Management	Human Sciences (UN)	++
Labour Studies Journal	Human Sciences	+
Law Journal	Law(UN)	+
Lexicos	Arts (UZ)	+
LIASA	Human Science (UN)	++
Library Management	Arts (UZ)	+
LIBRES	Arts (UZ)	+
Marine Pollution Bulletin	Science & Agriculture (UZ)	++
Marketing	Human Sciences (UN)	+
Microbiology	Science & Agriculture(UN) and (UZ)	++

Microbiology and Molecular Reviews	Science & Agriculture(UN)	+
Onoma	Arts (UZ)	+
Perspectives on Political Science	Human Sciences	+
Physiological Biochemistry & Zoology	Science & Agriculture (UN) and (UZ)	++
Phytochemistry	Science & Agriculture (UN) & (UZ)	++
Plankton Research Journal	Science and Agriculture (UZ)	+
Politei	Commerce and Admin (UZ)	+
Political Quarterly	Human Sciences	+
Proceeding of the American Mathematical Society	Science & Agriculture (UN)	+
Pure and Applied Chemistry Journal	Science & Agriculture (UN)	+
Psychology, Culture and Evolution	Arts and Human Sciences	++
Review of Southern African Studies	Human Sciences (UN)	++
SIAM Journal of Applied Mathematics	Science & Agriculture (UN)	+
SIAM Journal on Numerical Analysis	Science & Agriculture (UN)	+
Sociology	Human Sciences & Arts	++
Southern African feminist Review	Human Sciences (UN)	+
South African Journal	Human Sciences (UN)	+
South African Journal of Chemistry	Science and Agriculture(UN)	+
South African Journal of Library Science	Human Sciences (UN)	+
South African Journal of Science	Science & Agriculture (UN)	+
Southern Humanities review	Human Sciences(UN)	+
Thermal Biology	Science & Agriculture (UN)	+
Thin Solid Films	Science & Agriculture (UN)	+
Toxicology and Environmental Chemistry	Science & Agriculture (UN)	+
Urban Studies	Human Sciences and Arts	++
Water Research	Science & Agriculture (UZ)	+
Water Resources Research	Science & Agriculture (UN)	+
Water Resources World-wide	Science & Agriculture (UZ)	+
Water South Africa	Science & Agriculture (UZ)	+
Women in Business	Human Sciences	+
Women's Studies Quarterly	Human Sciences	+

**APPENDIX D: List of print journals that are normally used N=148**

<b>Titles of journals</b>	<b>Faculty</b>	<b>Frequencies</b>
Accountancy	Commerce & Administration	+
Accounting South Africa	Human Sciences	+
Accounting and Business Research	Human Sciences	+
Accounting Review	Human Sciences	+
Acta Biochimica et Biophysica	Science and Agriculture(UN)	+
Acta Classica	Human sciences	+
Acta Juridica	Law(UZ) and Law(UN)	++
Acta Mathematica	Science & Agriculture (UN)	+
Administration & Society	Human Sciences (UN)	+
Administrative Law Review	Law(UN)	+
Advances in Applied Mathematics	Science and Agriculture(UN)	+
Advances in Consumer Research	Human Sciences (UN)	++
Advances in Mathematics	Science and Agriculture(UN)	+
Africa Insight	Arts and Human Sciences	++
Africa Today	Human Sciences	++
Africa: Journal of the International African Institute	Arts	+
African Journal of Aquatic Science	Science and Agriculture(UZ)	+
African Journal of Library, Archives and Information Science	Human Sciences	++
African languages and Cultures	Human Sciences	++
African Studies	Arts and Human Sciences	++
Agrekon	Human Sciences	+
American Business Law Journal	Law (UN)	+
American Journal of Botany	Science & Agriculture(UN)	+
American Journal of Physics	Science & Agriculture(UZ)	+
American Journal of Science	Science & Agriculture(UN)	+
American Journal of Sports Medicine	Science & Agriculture(UZ)	+
American Journal of Botany	Science and Agriculture(UZ)	++
American Journal of Psychology	Arts	+
American Quarterly	Human Sciences	+
American Sociological Review	Human Sciences	++
Analytical Biochemistry	Science & Agriculture(UN)	+
Annals of Botany	Science & Agriculture(UN)	+
Annual Review of Physical Chemistry	Science & Agriculture(UN)	+
Annual Review of Materials Science	Science & Agriculture(UN)	+
Annual Review of Sociology	Human Sciences	++
Aquaculture	Science & Agriculture(UN)	+
Aquatic Botany	Science & Agriculture(UN)	+
Banking Law Journal	Law(UN)	+
Basic and Applied Social Psychology	Human Sciences	+
Behaviour Research and Therapy	Human Sciences	++
Biochemistry	Science & Agriculture(UN)	+
Boardroom	Commerce & Administration and Human Sciences	++
British Journal of Political Science	Human Sciences	++
Bulletin Research in the Humanities	Human Sciences	++

California Law Review	Law(UN)	+
Cambridge Law Journal	Law(UN)	+
Canadian Journal of Botany	Science and Agriculture(UN)	+
Canadian Journal of Experimental Psychology	Arts	+
Canadian Journal of Physiology and Pharmacology	Science and Agriculture(UN)	+
Canadian Journal of Zoology	Science and Agriculture(UN)	+
Canadian Public Policy	Human Sciences	+
Child Development	Human Sciences	+
Chemistry of Materials	Science & Agriculture(UN)	+
Canadian Social Work Review	Arts	+
Child Welfare	Human Sciences	+
Climate Research	Science and Agriculture(UN)	+
Climatological Bulletin	Science and Agriculture (UN)	+
Cognition	Human Sciences	+++
Cognitive Psychology	Human Sciences	+
Cognitive Therapy and Research	Human Sciences	+
College & Research Libraries	Human Sciences	++
Columbia Law Review	Law(UN)	+
Communication	Arts	+
Communications in Algebra	Science and Agriculture(UN)	++
Comparative Biochemistry & Physiology B	Science and Agriculture(UZ), (UN) and (UZ)	+++
Comparative Studies in Society and Industry	Human Sciences	+
Computational Geometry: Theory and Applications	Science and Agriculture(UN)	+
Computer Applications in the Biosciences	Science and Agriculture(UN)	+
Computational Mechanics	Science & Agriculture(UN)	+
Computers and Chemistry	Science and Agriculture(UN)	+
Community Development Journal	Human Sciences	+
Conflict	Human Sciences	++
Conradiana	Arts and Human Sciences	++
Contributions in Political Economy	Human Sciences	+
Counselling Psychologist	Arts	+
CRC Critical Review in Biotechnology	Science & Agriculture(UN)	+
Critical Quarterly	Human Sciences	++
Crop Science	Science & Agriculture(UN)	+
Current Musicology	Arts	+
Cultural Anthropology	Human Sciences	+
Cultural Studies	Human Sciences	++
De Jure	Law(UZ)	+
Developmental psychology	Human Sciences	+
Development Southern Africa	Human Sciences	+
Ditto 10.1	Science and Agriculture(UZ)	+
Ditto 10.2	Science and Agriculture(UZ)	+
Ecology	Science & Agriculture(UN)	+
Economics Letters	Human Sciences	+
Economist	Human Sciences	++
Electronic Library	Human Sciences	+
English in Africa	Arts and Human Sciences	++

English Language Teaching	Human Sciences	+
English Literary History	Arts	+
English Quarterly	Human Sciences	++
English Studies	Human Sciences	+
Environmental and Experimental Botany	Science & Agriculture(UN)	+
Environmental Management	Science and Agriculture(UN)	+
Enzyme and Microbial Technology	Science & Agriculture(UN)	+
Essays in Criticism	Arts & Human Sciences	++
Estuaries	Science and Agriculture(UZ) and (UN)	++
Estuarine Coastal and Shelf Science	Science and Agriculture(UZ) and (UN)	++
Ethnomusicology	Arts	+
European History Quarterly	Human Sciences	+
European Journal of Cell Biology	Science and Agriculture(UN)	+
Farmers Weekly	Science and Agriculture(UN)	+
Financial Management	Human Sciences and Commerce	++
Financial Mail	Human Sciences, Commerce and Arts	+++
Finance Week	Arts	+
Food and Nutrition Bulletin	Science & Agriculture(UZ)	+
Forest Ecology and Management	Science & Agriculture(UN)	+
Freshwater Biology	Science & Agriculture(UN)	+
General Linguistics	Human Science	+
Genetics	Science & Agriculture(UN)	+
Geojournal	Science & Agriculture(UN)	+
Geological Society of American Bulletin	Science & Agriculture(UN)	+
Government Information Quarterly	Human Sciences	++
Harvard Business Review	Commerce and Administration & Human Sciences	++
Harvard Law Review	Law(UN)	++
Historian	Human Sciences and Arts	++
Historical Studies	Human Sciences	+
History in Africa	Human Sciences	+
Human Rights Law Journal	Law(UZ) & (UN)	++
IEE Computer Graphics and Applications	Science and Agriculture(UN)	+
Indian Journal of Biochemistry and Biophysics	Science & Agriculture (UN)	+
Industrial Relations Journal	Arts and Human Sciences	++
Industrial and Labour Relations Review	Arts and Human Sciences	++
Information Development	Human Sciences	+
Information Processing and Management	Human Sciences	+
Innovation	Human Sciences	+
Inorganic Chemistry	Science and Agriculture(UZ) and (UN)	++
International Journal of African Historical Studies	Arts	+
International Journal of American Linguistics	Arts and Human Sciences	++
International Journal of Antimicrobial Chemotherapy	Science and Agriculture(UZ)	+

International Journal of Anthropology	Human Sciences	+
International Journal of Electronics	Science & Agriculture(UN)	+
International Journal of Information Management	Human Sciences	++
International Journal of Labour Review	Human Sciences	+
International Journal of Law and the Family	Law (UN)	+
International Journal of Management	Human Sciences	+
International Journal of Science Education	Science and Agriculture(UN)	+
International Journal of the Sociology of language	Arts	+
International Journal of Women Studies	Human Sciences	+
International Philosophical Quarterly	Human Sciences	+
International Political Science Review	Human Sciences	+
Journal of Abnormal Psychology	Arts	+
Journal of Accountancy	Human Sciences	+
Journal of African History	Human Sciences	+
Journal of Algebra	Science and Agriculture(UN)	+
Journal of Applied Physiology	Science and Agriculture(UN)	+
Journal of American Society of Information Science	Arts	+
Journal of Asian and African Studies	Human Sciences	+
Journal of Biological Chemistry	Science and Agriculture(UN)	+
Journal of Cell Biology	Science & Agriculture(UN)	+
Journal of Child Psychology and Psychiatry and Allied Disciplines	Human Sciences	+
Journal of Clinical Microbiology	Science and Agriculture(UZ)	+
Journal of Commonwealth and Comparative Politics	Human Sciences	+
Journal of Communication	Arts and Human Sciences	++
Journal of Conflict Resolution	Human Sciences	+
Journal of Co-ordination Chemistry	Science and Agriculture(UZ) and (UN)	++
Journal of Documentation	Arts	+
Journal of Economic Behaviour and Organisation	Human Sciences	+
Journal of Economic Issues	Human Sciences	+
Journal of Economic Perspective	Commerce & Administration	+
Journal of Education for Library and Information Science	Human Sciences	+
Journal of Experimental Marine Biology and Ecology	Science & Agriculture(UZ)	++
Journal of Chemical Society	Science & Agriculture(UZ)	++
Journal of Communication	Arts	+
Journal of Folklore Research	Human Sciences	++
Journal of Horticultural Science	Science & Agriculture (UN)	+
Journal of Hospital Infection	Science & Agriculture(UZ)	+
Journal of Human Resources	Human Sciences	+
Journal of Hydrologic Engineering	Science & Agriculture(UN)	+
Journal of Hydrology	Science and Agriculture (UN)	+
Journal of Linguistics	Human Sciences	++
Journal of Literary Semantics	Human Sciences	+

Journal of Marital and Family Therapy	Human Sciences	+
Journal of Marriage and the Family	Human Sciences	+
Journal of Materials Chemistry	Science & Agriculture(UN)	+
Journal of Modern Literature	Human Sciences	+
Journal of Musicological Research	Arts	+
Journal of Natural Products	Science and Agriculture(UZ)	+
Journal of Library Administration	Human Sciences	++
Journal of Library and Archives	Human Sciences	++
Journal of Fish Biology	Science and Agriculture(UZ)	+
Journal of Mathematical Physics	Science and Agriculture(UZ) and (UN)	+
Journal of Nursing Administration	Arts	+
Journal of Peasant Studies	Human Sciences	+
Journal of Plankton Research	Science & Agriculture(UN)	+
Journal of Politics	Human Sciences	++
Journal of Professional Nursing	Arts	+
Journal of Pure and Applied Physics	Science and Agriculture(UN)	+
Journal of Rural Studies	Human Sciences	+
Journal of Social Issues	Human Sciences	+
Journal of Strategic Information Systems	Science & Agriculture (UN)	+
Journal of Systems and Software	Science & Agriculture(UN)	+
Journal of the World Aquaculture Society	Science and Agriculture(UN)	+
Journal of Zoology	Science and Agriculture(UN)	+
JRAI Man	Arts	+
Labour Law Journal	Law (UN)	+
Language in Society	Arts	+
Law Quarterly Review	Law(UZ) and (UN)	++
L'Epoque Conradienne	Arts	+
Library and Information Science Research	Human Sciences and Arts	++
Library Trends	Arts	+
LIBRI	Arts and Human Sciences	++
Limi	Arts	+
Limnology and Oceanography	Science and Agriculture(UZ)	+
Linguistics	Human Sciences	++
LISSA	Arts	+
Long Range Planning	Human Sciences	+
Marine Biology	Science and Agriculture(UZ)	+
Marine Freshwater Research	Science and Agriculture(UZ)	+
Materials Chemistry	Science and Agriculture(UZ) and (UN)	++
Mathematics Teacher	Science & Agriculture(UN)	
Microbiologica	Science and Agriculture(UN)	+
Microbiological Reviews	Science and Agriculture(UN)	+
Materials Chemistry and Physics	Science and Agriculture(UN)	+
Mouaion	Arts & Human Sciences	++
Modern Fiction Studies	Human sciences	+
Modern Law Review	Law(UN)	+
Modern Language Journal	Arts and Human Sciences	++
Nature	Science and Agriculture(UN)	+
Nomina Africana	Human Sciences and Arts	+++
Nurse Practitioner	Arts	+
Online Information Review	Human Sciences	+

People Dynamics	Commerce and Administration	+
Philosophy	Arts	+
Philosophical Quarterly	Arts and Human Science	++
Phonology	Human Sciences	+
Physical Review	Science & Agriculture(UZ)	+
Physics Education Research	Science & Agriculture(UZ)	+
Phytochemistry	Science & Agriculture(UZ)	+
Phytotherapy Research	Science & Agriculture(UN)	+
Plant Physiology	Science & Agriculture(UN)	+
Progress in Communication Sciences	Arts	+
Psychological Assessment	Arts	+
Remote Sensing of Environment	Science & Agriculture(UN)	+
Research in Phenomenology	Human Sciences	+
Review of African Political Economy	Human Sciences	+
Review of Metaphysics	Arts	+
Social Service Review	Arts	+
South African Irrigation	Science and Agriculture(UN)	+
South African Journal of African languages	Arts Human Sciences	++
South African Journal of Animal Science	Science and Agriculture(UN)	+
South African Journal of Botany	Science and Agriculture(UZ) and (UN)	+
South African Journal of Business Management	Human Sciences	+
South African Journal of Folklore Studies	Arts and Human Sciences	++
South African Journal of Physics	Science and Agriculture(UN)	+
South African Journal of Psychology	Arts	+
Synthetic Communications	Science and Agriculture(UZ)	+
Journal of Erthnopharmacology	Science and Agriculture(UZ)	+
The Journal of Horticultural Science	Science & Agriculture(UZ)	+
Journal of Hydraulic Engineering	Science & Agriculture(UN)	+
Transformation	Human Sciences	+
Trends in Linguistics	Human Sciences	+
Resource Sharing and Information networks	Human Sciences	+
South African Law Journal	Law(UZ)	+
South African Journal for Library and Information Science	Arts	++
Synthetic Materials	Science & Agriculture(UZ) and (UN)	++
South African Journal of Botany	Science & Agriculture(UN)	+
South African Journal of Business Management	Human Sciences	+
SAFOS	Arts	+
SAIPA	Arts	+
South African Journal of Aquatic Sciences	Science and Agriculture(UZ) and (UN)	++
South African Library and Information Science Journal	Human Sciences	+
South African of Mercantile Law Journal	Law (UN)	+
Tanzania Journal of Agricultural Sciences	Human Sciences	+
The Conradian	Arts	+

The Journal of Algebra	Science and Agriculture(UN)	++
The Journal of Pure and Applied Algebra	Science and Agriculture(UN)	+
Journal of Information Science	Human Sciences	+
Water Resources Research	Science and Agriculture(UN)	+

## APPENDIX E: WORKPLAN

Item No.	Activity	Timeline
1	Registration	February 2001
2	Development of Research Proposal (RP)	February 2001
3	Submission & approval of RP	February/March 2001
4	Devt, submission & correction of Chapter One: Introduction	March 2001
5	Development & delivery of Chapter Two: Literature Review	April 2001
6	Development and submission of Chapter Three: Research methodology	May 2001
7	Compilation of instruments for field research	May 2001
8	Approval of research instruments	June 2001
9	Conducting pilot study and modification of research instruments	June 2001
10	Preparation for field research	June 2001
11	Field research	July – October 2001
12	Development and delivery of Chapter Four: Analysis of Results	November 2001
13	Correction and submission of Chapter Four	December 2001
14	Development, correction and submission of Chapter Five: Discussions	January 2002
15	Development, correction and submission of Chapter Six: Summary, Recommendation and Conclusions	January 2002
16	Submission and correction of draft dissertation	January 2002
17	Submission of final dissertation for examination	February 2002
18	Examination of Dissertation	February 2002
19	Correction based on examiners report	March / April 2002
20	Submission of final bounded dissertation to examination section	May 2002
21	Graduation with Masters Degree	May 2002