

## CHAPTER TWO

### REVIEW OF LITERATURE

#### Introduction

The purpose of this study was to determine the information needs of the academic staff at University Malaya in a digital environment. A literature search was conducted to examine previous studies on information needs, library use and services for guidance and comparison. Various information tools were consulted, including print indexes, electronic databases, Internet, the University of Malaya's on-line library catalogue as well as other university library catalogues.

The primary print index consulted was *Library Literature*. Most information sources were found through the electronic databases and abstracts, namely Education Resources Information Center (*ERIC*), *Library and Information Science Abstracts* (*LISA*) and *Dissertation Abstracts On-line* (*DAO*). The search terms used for most of the sources were 'information use', 'user survey', 'information needs', and 'information seeking behaviour' and 'library survey'. When searching the *ERIC* database, 'information needs', 'academic libraries and college faculty', 'scholars and information needs' were also used as search terms. For the *LISA* database, combined search terms including 'information needs and academic libraries' and 'users needs and academic libraries' were used. Single search terms were useful when searching the print indexes such as *Library Literature*. However single search terms were not useful when searching the online databases because they gave a wide range of unrelated citations. Using combined search terms for online databases gave the most relevant

references. The full texts were then consulted from the library and information science journals and microfilms.

From the literature search, no research study could be located on the information needs of academic staff at the University of Malaya. However, there were many related and similar studies on information needs that had been carried out at universities elsewhere. Similar studies on information needs in other fields, including health science professionals, journalists, information system professionals, librarians and students were also found. These studies were useful as background material, but the user group surveyed was different from this study.

It was found that a particular organisation, institution, or university library or resource centre conducted most of the studies. These studies were carried out in order to enhance their services and develop new services, as well as in planning new information technologies for their communities. These include more advance training programs, on bibliographic instruction, and physical access of new technologies, databases, and many more.

Many studies found in the area of information needs or assessments were associated with the library use and services. The literature showed that information needs studies have used various approaches. Early studies looked into the theory and concepts of information needs and information seeking behaviour among the scientists and humanities researchers. With the understanding of the importance of the information use studies, more studies were conducted among other groups of users such as students, academics, and the administrative and managerial staff of higher education institutions.

These studies used various approaches. Some of the studies compared information needs among different disciplines. Other studies investigated the relationship between academic roles with the information seeking behaviour. Yet other studies explored factors affecting the information needs of particular user groups or fields in institutions of higher education.

With the advent of information technology, some researchers attempted to look into the information needs of university academic staff, administrators and managerial staff in networked environment. Many studies investigated the use, barriers and factors that influenced the use of new information technologies. Studies on the use of Internet were also found to be increasing, with the finding that a small percentage of academic faculties actually used Internet facilities that were provided to them (Brown, 1994; Ashley, 1995; Zainab, 1998).

This review of literature will attempt to discuss briefly the importance of information needs studies, information needs among different disciplines, the relationship between work role and information needs, and the information needs, expectations and obstacles in the networked environment. The perceptions on the role and services of the library are also discussed based on the findings from the literature.

### **Importance of Information Need Studies**

Reviews of the literature revealed the importance of information needs' or use studies for academic libraries, universities and information professionals. Most of the early studies carried out needs assessments to determine the awareness and satisfaction with library services. There was less focus on the new information technologies use,

probably because not many of these technologies were incorporated in libraries during the 1970's and 80's. The more recent studies have included aspects of improving or incorporating new information systems or services based on their staff's current information needs.

Watson and Boone (1989) in their study suggested that understanding the information needs of academic administrators and the developing of services to meet those needs would enhance the library's institutional position.

Dennis and Harrington (1990) conducted a study, which discussed the faculty's visions for the use of technology in teaching, research and publishing. He concluded "since faculty members exert a major influence on the research directions of their institutions, therefore librarians need to look at technology from the faculty viewpoint in order to develop effective bibliographic instruction."

Sherratt (1992) highlighted some of the current issues faced by academic libraries. These issues included the increasing variety of electronic resources, growing use of personal computers, financial constraints, the growing amount of literature and its cost, and the high cost of new technology systems. In consideration of these issues, she indicated that several libraries have regenerated efforts to consult their communities directly in their planning process.

Christ, Daub and MacAdam (1994) stated that the University of Michigan believed in the incorporation of library users' opinions in decisions about the functions of public service. The university conducted a library user survey of graduate, undergraduate students and faculty in response to accountability demands and encouragement to adopt total quality management. Other reasons were the need for



user training in new electronic sources, adjustment to a growing diverse population, and the need to reallocate resources in the library. The findings suggest that areas like access to materials, library communication with patrons, and staffing arrangements need to be further considered.

Abels, Liebscher and Denman (1996) stated that "...knowledge of differences in the use of electronic network among faculty by discipline would assist in determining levels of connectivity, priority in providing connections and services offered".

Information use studies are also important for service providers. Shaw (1997) reviewed the significant changes in information technology over the last 50 years and considered the many implications for information services. Shaw noted that information service providers were facing challenges from the growing global access to distributed information sources, Internet, and remote users. He further noted that as resources proliferate, the information professional must develop new methods for locating and accessing them. Reliance on publishers and reviews was no longer sufficient. Therefore, in order to serve the diverse clientele, information service providers must be aware of the greater range of information needs and styles of information seeking of its clientele.

Bancroft (1998) claimed that a library user survey can reveal interesting and important information about user perceptions and priorities. A library user survey or information use survey is a useful tool in planning library services, budgeting and allocating limited resources in planning new services. She further claimed that surveys help justify library needs, services, and priorities to university administrators, state legislators, and others involved in budget allocations.

Ucak and Kurbanoglu (1998), in their study, indicated that an understanding of user information seeking behaviour from different disciplines can help to design services and products which would transmit the required information most effectively. They further explained that such different needs in turn might necessitate offering different services in academic libraries depending on the academic discipline of the user.

In general, the results from current information needs' and expectations surveys among academic staff suggest directions for the improvement or increase of campus networks and the development of library services in support of faculty needs and information seeking patterns in an electronic or digital environment. Such surveys also help the information professionals to decide which products will best serve the needs of the institution based on their budget. In addition, system designers and information professionals can evaluate their products and see if their systems serve their purpose of meeting their user's needs. As mentioned by Westbrook (1993), "the ultimate goal of an information system is to provide what is required to meet the user's need. Only by understanding the user, can system designers and information professionals be sure that they have accomplished their goal."

### **Information Needs Among Different Disciplines**

Many of the earlier studies on information needs focussed upon the needs of scientists and humanities researchers. Based on the review of literature, studies which made comparisons of use and needs among different disciplines or university staff members showed similarities in findings. A number of findings revealed that different

disciplines required different sources of information. However this difference may occur due to a lack of information sources for certain disciplines in the library and in the network. The types of resources used among different disciplines also revealed similarities. Most studies showed journals were the preferred source of information among the academic staff of different disciplines.

In general, formal sources of information were considered to be more important than informal sources. Chen's (1974) study of information needs of scientists and Guest's (1987) study of the use of bibliographic tools by humanities faculty showed that formal sources of information were more important than informal sources of information among the users. Some recent studies by Hart (1997) and Ucak and Kurbanoglu (1998) found similar results as Chen and Guest.

A study of information seeking patterns of selected professionals conducted by Prentice (1980) found that each category of professionals had their own special information needs based on their profession. In all fields, current information was essential but often hard to locate. Most of the information was obtained from their co-workers and libraries were rarely used.

In terms of library use, Linton (1980) conducted a survey among the faculty and undergraduate at the College of Charleston's library on the use of their materials and services. The findings showed that the majority of the faculty did use the library. Books and periodicals were used at least once a semester to support their research activities. However they stressed that the collections of these materials were inadequate. Interlibrary loan services too played an important role in supporting the literature needs of the faculty. A majority of the respondents indicated that they would

use computerised literature search services if available at the library.

Folster (1989) in her study of the use of information sources by social science researchers noted that high percentage of the faculty members did not make much use of the library catalogue or reference librarians when searching for information.

Results from Razzaghi's (1990) research on information needs of selected faculty in seven medical schools, indicated that most respondents found the information they sought through a personal trip to the library. Journals were the major source for the information they needed. The information was mainly used for research purposes.

Jacob (1990) conducted a pilot study among the faculty members and their assistants who used the library for them on the role of the Library of the Health Sciences at University of Illinois at Chicago. Both the faculty and assistants expected the library to have more formalised communication pertaining to library resources and services. They also indicated a need for a reassessment of the location of certain reference materials in the multi-site library system.

Sherratt's (1992) study of information gathering among faculty, research staff and students in three disciplines, viz. Brain and Cognitive Sciences, Management Science, and Materials Science and Engineering, found not much difference among the three disciplines in types of sources used. Most scholars learned about references relevant to their work in a variety of ways. A majority of the respondents consulted on-line databases and CD-ROM databases rather than printed indexes. Journals were the most heavily used source of information among all users.

Hartmann's (1993) findings show that journals were the most important

information source among the anthropologists. A majority of the respondents indicated that most of their information needs were met by their university's library. Younger scholars preferred to use databases. Some respondents also expressed a great desire for a database, which would include current references, abstracts and articles in anthropology.

Straw (1993) in his study of information use among historians and political science researchers showed similarities in resource use among these two groups but there were differences in approach and the method used to consult these resources. Historians preferred to use older print sources, while political science scholars preferred more current up to date resources like CD-ROMs and on-line databases.

Hart (1997), in his study on the formality and globality of faculty information-gathering behaviour, revealed that use of books and journals varied across disciplinary areas. Scientists, followed by social scientists and humanities scholars, heavily used journal literature. Monographic literature, on the other hand, was heavily used by humanities scholars followed by social scientists and scientists accordingly. His survey also revealed that faculty members at the comprehensive college at the State University of New York (SUNY) were active in their information gathering. In terms of the importance of formal sources and informal sources of information, the study revealed that formal sources (personal library, college library and other libraries) were considered to be more important than informal sources (departmental, other on-campus and off-campus colleagues).

Ucak and Kurbanoglu (1998) reported interesting results of their research conducted at Hecettepe University at Ankara, Turkey. They examined the effects of

occupational factors on information need, information seeking behaviour and library usage of the scholars in science, engineering, social sciences and humanities. Their findings noted that there were major differences in the needs and information seeking behaviour among the members of major disciplines, but there were strong similarities within each discipline. Many similarities were found among engineers and scientists followed by social scientists and humanities scholars, but great differences were noted between engineers and humanities scholars. Engineers and scientists preferred to use current information provided by periodicals. Humanities scholars mostly sought books. Social scientists too preferred books to periodicals, but they were also heavy users of periodicals compared to the humanities. Scientists and engineers utilised the electronic retrieval systems more than their colleagues in other disciplines. Social scientists admitted a lack of familiarity with the electronic retrieval systems. Formal and informal channels were both used to acquire needed information. However the respondents preferred formal to the informal sources, if given a choice.

### **Relationship between Work Role and Information Needs**

Studies which explore the information-seeking behaviour of faculty members in a given task or role show that an individual's information-seeking behaviour varies significantly as they are involved in varying roles, because different tasks require different sources of information (Salem, 1989; Hart, 1998).

Regina (1984) interviewed 229 teaching staff about their roles as information producers, disseminators and users, and their views on the library's role in teaching. The findings showed that the lecturers recognised the importance of library, but they

made little use of the library and did not encourage student use. This resulted from inadequate library services, resources and facilities. However these lecturers did nothing in the way of actively collaborating with the library to adapt services to teaching needs.

Abels, Liebscher and Denman (1996) studied the factors that influenced the use of electronic networks by science and engineering faculty at small institutions. Their findings indicated that a majority of the network users were using electronic services such as e-mail, discussion groups, electronic databases and others mainly for teaching and research, compared to administration, social interaction and current awareness tasks. In comparing teaching and research, they found that research required wider use of electronic networks.

Pearce's (1997) study at University of Venda resulted in some interesting findings about the information needs and expectations of the university academic staff. It was learned that their needs and expectations were determined by their academic activities. Assessment of library use revealed that the academics' awareness and knowledge of the library were limited. Based on their experiences in using libraries in developed societies, the academic staff found that their library did not fulfil all their needs. Due to such circumstances, the academic staff used supplementary information distribution channels. The academic staff also indicated that they faced various problems when dealing with the library and its staff. The academic staff expected the library to perform on the high level, despite its rural setting.

Wilkins and Leckie (1997) studied the information needs and seeking of university professional and managerial staff at University of Western Ontario. A large

number of the respondents indicated that the Internet was a frequently used source for retrieving quick information. The use of the library system was low among majority of the respondents when engaged in daily and short term work activities. This was because consulting departmental resources and colleagues fulfilled their information needs. However the library was used intensively when they were engaged in longer-term activities such as project development or report writing.

Hart's (1998) study indicated that faculty work roles such as teaching, research and service did affect the information gathering. The findings also revealed that the faculty member's age, possession of a doctoral degree, and quality of the doctoral degree had a relationship to their commitment to research.

Yang (1998), in a similar study, reviewed studies related to the information needs and communication behaviour of scientists in order to find factors that influenced their needs and methods of problem solving. It was found that the work environment did affect the information needs of the scientists. The scientists preferred the information to be comprehensive, accurate and easily available. The findings also revealed that factors such as convenience of information access had a direct influence on the efficiency of a scientist's research, but a lack of confidence in applying the solutions provided by librarians limited the scientists to more traditional ways of finding information in libraries.



## **Information Needs, Expectations and Obstacles in a Networked Environment**

Current studies on information needs or use tend to focus on the new information technologies and their effect on library patrons as well as information users. Some researchers have attempted to look into the various obstacles encountered by users when using the new information technologies, such as CD-ROMs, online databases and the Internet. Some studies have revealed a change in information seeking patterns and increased expectations among the information users, particularly the academic staff in a networked or digital environment.

Generally, the majority of academic staff is positive towards the use of new information technologies especially the Internet. Studies have revealed that the computers and the Internet are used for e-mail, discussion groups, access to electronic journals, news, and searching bibliographic databases. However the respondents have noted the obstacles they encounter when using these technologies.

Studies have indicated that many users demand easy access to information, an increase in subject databases, new information technology systems and effective bibliographic instruction. Studies have also revealed that the library still plays an important role in meeting their information needs, although there is a growing access to more advanced information retrieval systems, such as the Internet and CD-ROMs, which are available at any place. In some cases, the studies revealed that there are inequities in access to electronic technologies among the disciplines. These may contribute to differences in information seeking or use among the disciplines.

Studies in higher education institutions that have not incorporated the new information technologies in their libraries show different types of expectations or

desires among their users. In general, users who are aware of the importance of new computerised information technologies, such as online databases, Internet and CD-ROMs, have demanded that these technologies be incorporated into their library services.

Users' expectations for services also increase with new technologies. Sherratt's (1992) study participants stressed the importance of convenient access to information and desire for on-line services including bibliographic databases on the network, table of contents, abstracts, and full texts of journals on the network or Internet.

A needs' assessment conducted by Bush (1994) among university students, faculty and staff revealed similar findings as Sherratt's. His findings also highlighted the greatest interest related to electronic services including bibliographic databases and access to non-bibliographic electronic materials among the respondents.

Adams (1993, 1995) in his needs assessment studies in an electronic information environment among faculty, administrators and other academic professionals at four Graduate University Centres of the State University of New York provided some interesting results. The findings showed that there were inequities in access to electronic technologies among the disciplines. Humanities faculty members had less access to computer and communications equipment and software, and to the campus network compared to the social science and science faculties as well as the professional schools. The study also reported that a lack of knowledge about the availability of electronic information resources was the most common obstacle to the use of information. The findings indicated that there was a high demand for user training by the respondents. There was also a strong interest in initiating various library

transactions via e-mail or campus wide information system. Interlibrary loan was the most desired library transaction by computer from home or office, followed by renewals and recall services. Other desired services included reference questions and placing materials on reserve. Document delivery was the least desired option. Other findings from the study were that about 40% of the respondents indicated that they would use an expedited document delivery service if it were free, most of the respondents used personal funds to buy needed publications and they reported using interlibrary loans but not frequently.

Berger and Hines (1994) conducted a library user survey among graduates, undergraduates and faculty in hard sciences and social sciences at Duke University. The participants were asked about their experiences in seeking information and perception of the future structure for information. The findings show that current information resources are highly used among the participants. This indicated a growing acceptability of computerisation by many respondents. However among the three user groups, faculty members were least oriented toward computerised access, and were most likely to utilise the more private collections. Responding to the question on types of resources desired to be made available via computer, more than half of the respondents choose journals articles, card catalogues, bibliographies, newspaper and magazine articles, conference proceedings and books. The perception on the library of the future showed respondents desired a library which could quickly and easily provide accurate information. They wanted the best-computerised access, which was more through, efficient and sophisticated.

Sprague (1994) examined the information seeking patterns of university

administrators and non-faculty professional staff members at Ohio State University. The results showed that administrators and non-faculty professional staff members preferred interpersonal contacts, namely staff members, faculty members as well as colleagues outside Ohio State, compared to convenient print materials. Among the users of library print materials, few used access aids such as on-line catalogues, a librarian, printed indexes or electronic databases. Most cited that prior experience or knowledge led them to the most helpful source. However they were satisfied with the library services. Both groups' valued accurate, current and understandable information, but were less concerned about its cost. In assessing library use by professional staff, only 36% of respondents used the library in relation to their work. Patterns of library use differed with demographic characteristics. Individuals with higher levels of education tended to use the library more frequently, and younger respondents also used the library more regularly than others. Sprague concluded that although the respondents reported that they did not need libraries in their information seeking, it was apparent they often were unaware of the extent of services and materials available through the library system.

White (1995) conducted a survey on the use and impact of computers among faculty members in mass communication and related disciplines. The findings showed that a majority of the faculty used computer-mediated communication, with younger faculty members and female faculty members showing significantly higher use than the general population.

Ashley (1995) in a study on Internet use by 888 faculty members at the University of Arizona discovered that respondents use between 20 to 30 percent of

available network information retrieval (NIR) technologies.

King's College London and the British Library Research and Development Department funded a two-year Information Access project to investigate the effects of information technology, the electronic library and the Internet on the information seeking behaviour and research behaviour of academics in higher education. Barry (1996), in a report on the project, discussed the changes in information activity, changed boundaries and speeding up of the work of the research community, increased visibility for researchers and formalisation of the pre-print process. Replacement of formal with informal peer review improved access to more current information and a demise in the use of libraries. He also reported the drawbacks of the findings, which included limitations of reliance on single information sources in terms of their focus, and the decline in creative active information seeking.

Abels, Liebscher and Denman (1996), conducted a survey to determine the factors that influence the adoption and use of electronic networks and network services among the science and engineering faculty in small universities and colleges. The survey was conducted using self-administered questionnaires and interviews with faculty members and administrators at the chosen campus. It is found that factors which influenced the adoption of the network were different from those that influenced the intensity of use and the number of services used. Physical access to a network workstation seemed to be the biggest determinant of network adoption. Based on the findings, to increase the use of electronic networks more advance training programs were needed.

Bell (1997) conducted a survey among University of Wales Cardiff researchers

to examine the impact of electronic information on the academic research community. Her study revealed that print material from the university library was one of the most important sources of information for research, accompanied by contacts with other researchers. The staff predicted that electronic publications would become more important over the next few years but would not reduce the importance of printed materials. Bell, through her literature review, encountered that attitudes to electronic sources were generally positive among the researchers, but printed sources of information were preferred by most academics contributing to published studies. A number of issues currently restrained user acceptance and consequently limited the impact of electronic information sources.

Another study by Budd and Connaway (1997) on uses and attitudes of faculty towards network information reported that many faculties use networked information for some kind of communication and information-seeking activities. This study was conducted using mailed questionnaires among all faculties in six different departments at eight universities across United States to gather information on accessibility to networks, submission or subscription to electronic journals, use of networks and effects of network information on collaboration. It was reported that 91.6% of the respondents had access to Internet at work and almost 87% of the respondents accessed the Internet more than once a week. Among the respondents, 43.4% used electronic resources to gain access to data or information such as statistics or texts in their research, 55.3% of the respondents used the Internet to search bibliographic databases and almost 60% had used networks to search the library catalogues of institutions other than their own. Finally the findings show that networked information

did have an impact on their behaviour and work.

Lazinger, Bar-Ilan and Peritz (1997) conducted a study on the faculty members of the School of Medicine of the Hebrew University of Jerusalem. This study was undertaken to provide answers to questions about differences in usage, training and perceived importance of the Internet. Based on the responses of 462 faculty members, 83.3% used the Internet, the majority for e-mail. The Internet users also used other services such as discussion groups and search interfaces. Question about the influence of the Internet on the respondents revealed that better co-operation with colleagues had improved their research and teaching via the Internet. Fast access to databases and research updates were also considered to be the best ways in which Internet had influence their lives. However 55% of the respondents expressed an interest to enrol in a formal course to learn Internet services.

Bancroft (1998) and her other research members conducted a library user survey at Washington State University libraries to gain information about current library use, the perceptions on available services and resources, and ascertain patrons' interest in potential services and resources. The study was conducted among faculty members, graduate and undergraduate students. The findings showed that faculty members were satisfied with the overall library services. Circulation services scored highest rate of satisfaction among the faculty members. OPAC and circulation services listed as the most important services to their work. The overall rating of satisfaction with print materials of the library holdings was positive. The materials, which were found most important to the faculty member's work, were research journals and research books. The faculty members wanted to see the journal holdings improved.

The overall services of electronic resources in the library were also satisfactory to most of the respondents. The library OPAC scored the highest satisfaction rate. Most respondents found it as the most important electronic resource for their work.

Greenstien and Porter (1998) conducted a study of scholarly users needs in an information technology environment among arts and humanities scholars. This study was directed to identify the devices for encouraging scholars to make more effective use of digital resources and information technologies. The study attempted to acquire information on the current use of digital resources and information technology, the benefits they obtain from using these resources, their requirement for effective use of digital resources and information technology, how their requirement were being met currently, the obstacles faced in using these resources and their suggestions on how to reduce these obstacles. The findings revealed that scholars benefited from a range of data, information and training services in the use of information technologies and digital resources. Digital resources, namely reference resources, secondary and primary mixed media materials, and information technology as a means of creating new kinds of information objects and artefacts, were widely used by arts and humanities scholars. Greenstien's study indicated too that scholarly use of digital resources was stratified by discipline as well as by resource type. The findings revealed various factors pertaining the use of digital resources and information technology within the disciplines. This included the availability and accessibility of appropriate digital resources, available evidence that using a digital resource offered significant scholarly advantage and the extent to which computer-based research and teaching were recognised as acceptable scholarly practice. Obstacles hampering greater scholarly exploitation of digital



resources and information technology too were found from the study. These included the high cost of creating and acquiring high-quality data resources, training and organisational issues, lack of awareness about availability of appropriate data resources and information technology applications, information and training that was relevant to its use, and lack of professional recognition, criteria and mechanisms for accessing computer based research and teaching.

Wenxian (1998), in his study of college faculty and staff on the use of library electronic technologies and resources revealed that the college library played an important role in providing information access to the campus community. Most respondents were satisfied with the library services. However with the emergence of new information technologies, demands for a system that provided accurate, reliable and sufficient information services were high among the respondents. The study also revealed that Internet was increasingly becoming a very important source of information among the faculty and professional staff.

Bao (1998) reported interesting results of the library survey of Internet users at Seton Hall University. This survey was conducted among the graduate, undergraduate students and faculty members in order to allow the librarians, faculty and administration to analyse these user's satisfaction with information services provided through the Internet's World Wide Web. The result shows that 80% of the respondents reported that they used the web on a daily or weekly basis. The rest of the respondents seldom or never used the Internet. Students and faculty searched the Internet for information related to both their academic and non-academic needs. Questions regarding the Internet search results and problems found three major

problems encountered by users when searching the Internet, namely too many hits, not finding the information needed, and no full-text information could be cited for academic study or research.

Some studies of information needs among university scholars or academic staff showed that technological changes did not cause changes in the way they sought for information. Shoham (1998) conducted a survey among faculty members of two Israeli universities to determine if changes in technology had brought about changes in the way they obtained information. The results showed that patterns for obtaining information remained conservative and resisted transformation. Professional periodicals were still the most important tools for obtaining professional information and monographs still played a major role.

Zainab and Meadows (1998) conducted a study on computer use and types of usage among academic engineers and scientists at University of Malaya and National University of Malaysia. Their finding showed that more than 90% of the respondents used computers, which were available on their desks. They were also frequent users of computers mainly for word processing (90.4%) followed by sending/receiving e-mails (71.6%), obtaining information from the Internet (51.0%), preparing graphics (47.8%) and creating databases (41%). Computers were least used for keeping a personal bibliographical index.

Generally there are various factors and obstacles that influence the use of network and any other information source. Abels, Liebscher and Denman (1997), categorised these factors as system factors (related to the computing environment), personal and professional factors, and institutional factors. These include ease of use,

availability of the information source or channel, personal and professional factors (e.g. academic discipline, task and perceived utility) and prior experience with the source. There are a number of studies, which have examined the factors that influence the selection, and use of print and non-print information sources and channels. Rosenberg (1967) in her study found that ease of use has been found to be an important factor in studies of electronic communications. Gerstberger and Allen (1968) discovered that an information source is used more often when it is perceived to be accessible even if the information source is not considered by the user to be high technical quality. Wilson (1977) and Culnan (1985) related the use of information source with user experience with the source.

## **Summary**

This chapter reviewed the literature relevant to information needs of academic staff before and in a digital environment. It was organised into four broad areas: importance of information needs studies, information needs among different disciplines, relationship between work role and information needs and lastly information needs, expectations and obstacles in a networked environment. The first section provided an overview of the importance of information needs studies for universities, academic libraries and other libraries as well as information professionals. In general, an understanding of academic staff or information user's needs would provide feedback on the types of information services and systems that best serve the needs of higher institutions. The second section provided a picture of information needs of users in different field of studies or faculties. The literature revealed that

formal sources of information were more important than informal sources of information among the faculties. Journals were the most important sources of information among all disciplines. However they consulted references relevant to their disciplines in their own various ways. The following section explained the information needs of academic staff based on their work roles namely research publishing and teaching. The information was mainly used for research purpose. Most studies found that different tasks required different sources of information. The fourth section described the use of new information technologies by academic staffs. Overall the academic staffs were positive towards the use of new information technologies and desired more on-line services to be available to them. However print materials were still their major preferences to obtain information. Availability and accessibility of appropriate resources and information technology applications were the main obstacles encountered by academic staff when using digital resources.

The next chapter describes and explains the methodology used in the study.