

CHAPTER 3

A PROFILE OF ACADEMICS AND RESEARCHERS AS INFORMATION USERS

3.1 INTRODUCTION

In chapter 2, current collection development and management policies, standards and guidelines in academic libraries were examined. Several factors were found to have an impact on such policies and practices. The goals and objectives formulated by the libraries and by their parent institutions provide parameters for the development and management of library collections. The information needs of the library's clients must also be taken into account. It was found that collection development policies are important tools for developing library collections. National and international standards regarding materials budgets allocated to libraries and those relating to acceptable minimum collection size must be taken into account. As it is impossible to own every available information resource in an academic library, resource sharing has become an important factor in collection development. This is mainly achieved through collaborative collection development, participating in library consortia, and through interlending and document delivery services. Every academic library should evaluate its collection regularly to ascertain its value for users. This is usually done through the use of conspectus methods.

In addition, academic libraries must decide who will be primarily responsible for the selection of library material. It is essential that this be a collaborative effort involving academics and library professionals. Policies and guidelines regarding the library's adoption of either a just-in-case or a just-in-time model of collection development must be formalised. Libraries collections have become more contents-based than format-based. The variety of formats in which information is made available must be evaluated and decisions must be made about the optimal composition of the library's

collection. There should also be a policy about the relative value of owning information resources or providing access to such resources.

The purpose of this chapter is to provide a profile of researchers and academics. It is the information behaviour of these library users specifically that are examined in this study. Although both men and women are academics and researchers, only the masculine form of pronouns will be used in this thesis for the sake of simplicity. Whereas most academics are expected to be involved in research as part of their job descriptions, not all researchers are necessarily academics. However, researchers will be treated as a sub-category of academics because they have the higher level of information needs and expectations that all academics share. With the evolution of technikons into universities of technology, research is becoming a more pressing activity of academics in these institutions. The extent of their involvement in this part of their scholarly pursuits will be investigated because this impacts significantly on the level of their information requirements.

3.2 DUTIES AND ACTIVITIES OF ACADEMICS

Essentially the tasks performed by academics include conducting research, publishing, teaching, participating in academic administration and involvement in community service (Ocholla 1999:122).

They are expected to communicate with other scholars in their field both nationally and internationally using all of the communication channels available to them, including personal dialogue, visiting research stations and laboratories, participating in conferences, seminars and workshops, conducting research and reporting on their results (Myburgh 1997:42; Ocholla 1999:121). Myburgh (1997:42) adds that academics must deal with grant applications, identify relevant literature and see to the collection of data.

In the Aulich Report (1990) brought out in Australia, academics are described as those who are competent in the sciences and the arts underlying the practice of their professions. They must have a sound understanding of the society in which they work and must be able to look at problems from different perspectives. They must analyse,

gather evidence, synthesise and be creative thinkers who have a capacity for lifelong learning to keep abreast with changes in their field. Academics must be good communicators both orally and in writing.

Academics can also be defined according to the posts they hold at institutions of higher education. According to Ocholla (1999:121): “Academics are university teaching and research staff sometimes called ‘dons’ or scholars that include professors, associate professors, senior lecturers, lecturers, junior [or] assistant lecturers, tutorial fellows and other research staff”.

In essence, academics are thus teaching and, or research staff at institutions of higher education who are expected to teach, conduct research, publish their findings, broaden their knowledge of their field of study, assist with academic administration and be involved in community service. The latter two responsibilities will not be covered in this study as they are not dependent on information-seeking and are not critical information needs of academics and researchers. The work of academics and researchers is central to the process of scholarly communication.

3.3 THE ACADEMIC AS CREATOR, USER AND DISSEMINATOR OF INFORMATION

The nature of work performed by academics chiefly involves the creation, use and dissemination of information. Myburgh (1997:42) states that the work of academics is centred on information. He includes here the discovery, understanding, processing, communication and dissemination of information. Ocholla (1999:122) concurs with this. Indeed, all the processes of scholarly communication are the working tools of academics and researchers. The main reasons why academics need information are: for career development, to enlighten others, to meet a professional need and to refute issues, according to a survey conducted by Ocholla (1999:139). He also found that they seek information for personal prestige, to justify the existence of their departments, to announce priority and ownership of findings, to improve teaching material, to supervise graduate students, to teach, conduct research and to publish.

Academics interact with both information and knowledge. Knowledge is the experience gained from encounters with the outside world, the environment around us and the written and spoken word. Knowledge is gained through transforming what has been discovered and storing this in one's mind (Orna 1995:16). Information, on the other hand, is the audible or visible form into which knowledge is transformed when there is a need to transfer the knowledge to others. According to Orna (1995:16), information is "knowledge put into the outside world for use". Information is not static. It moves about from person to person. It is collected, received, acted upon, converted or translated and is then diffused to others (Palmer & Neumann 2002:87). Due to the research, teaching and publishing responsibilities of academics, they are pivotal cogs in the process of transforming knowledge into information to share with others, and also of transforming information into new knowledge through merging and synthesising it with other tacit knowledge they possess.

Research and scholarship entail the creation of knowledge, the preservation of information and the communication of knowledge gained during the research process (Herman 2001a:388).

The creation of knowledge starts with researchers and scholars reviewing, analysing and synthesising all the information available to them either through the written or spoken word in conjunction with the knowledge they have already gained about the subject in question. The information is transferred to the researchers through reading, note-taking, conference and seminar attendance, thinking, brainstorming, and communicating with other scholars in their field (Ocholla 1999:138; Palmer & Neumann 2002:100). The raw data gathered are then processed through the intuition and reasoning of the researcher to become new knowledge. This is then formalised by the researcher or scholar in new publications which in turn become the raw materials for a new link in the cycle of research (Herman 2001a:388). Herman (2001a:393) describes this process of using data to inform other researchers as follows:

[E]very scholar can be seen as a link in the information chain, on one side receiving scientific advances from his own and other fields of interest, on the

other side processing the results of his own research into information for the benefit of others. ... [T]he researcher, aspiring to modify the existing state of knowledge by a new contribution, links together individual pieces of scholarly work.

It can be said that the scholar feeds off the information disseminated by other scholars and researchers and also feeds new information into the ever-growing pool of knowledge and information for the benefit of future scholars.

The preservation of information is a critical part of the research process. Scholars must take care to describe their work so that their peers can critique their findings and scholarly writings and then use this information in the future as reference in their own research and scholarly writings. It is only their ensuring that all research findings are recorded that the body of information in scientific research can grow and develop.

Once the information has been preserved, scholars and researchers must ensure that the information is made available to their peers. Most academics disseminate their information through either teaching or publishing what they have discovered through the process of research (Ocholla 1999:133). As scholarly communication develops, academics and researchers are increasingly using developing technologies and communication channels to disseminate their knowledge and information. The new information and communication technology (ICT) channels are causing evolutionary changes to occur in the methods scholars use to disseminate their findings.

3.4 THE ACADEMIC AS TEACHER

One of the academics' principle functions is to teach. They must impart their expertise and knowledge about their area of study to students who wish to become experts in their own right in that field. They also have to teach their students research methodology. Academics are given responsibilities in the tuition of both under- and postgraduate students. The curricula they deal with must be of such a nature that upon graduation, their students will have enough expertise to enter the workplace or

follow a calling in a field where superior subject knowledge is required.

Although the expectations of academics embrace considerably more than just teaching, Ocholla (1999:121) found that academics who do not conduct much research and who do not publish are more inclined to see teaching and community service as their most vital responsibilities. Conversely, teaching is less important to academics who are more involved in research and authorship.

It stands to reason that academics who must impart their expertise to students must themselves have advanced academic qualifications or be studying to improve these. Master's or doctoral degrees have been the basic qualifications expected in universities for a long time. In the University of Zululand it was found in a survey that most of the staff there were studying part-time for higher qualifications whilst carrying out their teaching responsibilities (Ocholla 1999:135). In order to complete postgraduate studies, academics require information to support their research. In technikons, and subsequently also in universities of technology in South Africa, the need for higher qualifications is of even greater importance because, in the past, these lecturers required only a National Higher Diploma to hold a lecturer's post. Even before the Technikon Act was passed in 1993, academics at technikons had been urged to improve their qualifications (Henning 1990:48). In the Technikon Act, technikon academics were urged again to improve their qualifications - preferably to a doctoral level (Ogude & Motha 2001:60). In latter days, human resource research skills at technikons are largely measured in terms of staff qualifications, as well as in research activities and publications amongst academics (Netswera & Mavundla 2001:154)

Some senior academics are entrusted with the supervision of students' research projects (Ogude & Motha 2001:60) and this activity also entails the use of information. In order to carry out the work of a supervisor or promoter, academics need knowledge of the field of study in which their students are conducting research. They also need a complete understanding of the research process and methods. Here again there is a backlog amongst technikon academics who were found in a recent study (Netswera & Mavundla 2001:159) to lack the necessary knowledge of research methodology and of statistical methods used to process research findings. They were

also found to lack research orientation, which is crucial to competent supervision of postgraduate projects.

The process of curriculum development is another information-intensive activity carried out by academics as teachers. Through constantly scanning publications covering their fields of study and participating in conferences, seminars and workshops all new discoveries or scholarly opinions should be incorporated in curricula so that students are always taught the very latest developments in their field. Academics as teachers must remain informed about every progressive step taken in their discipline.

Ogude and Motha (2001:58) found in their survey that the typical teaching load in most technikons is around 25 hours of lecturing time per week. This heavy teaching load and the lack of a strong research ethos at such institutions means that academics at technikons have less time and inclination for research and publishing.

3.5 THE ACADEMIC AS SCHOLAR AND RESEARCHER

Academics are expected to be experts in their disciplines (Gericke 2001:75). They are expected not only to be up to date with the latest developments, but they are also expected to be actively involved in the development of their subject fields.

Gericke (2001:61) defines a scholar as “a learned person, usually someone who regularly reads, studies, does research and publishes his or her work. Researchers and scientists are typical scholars”. As this thesis is concerned only with the scholar in his capacity as an academic, a scholar can be considered as a learned person affiliated in a lecturing or research capacity to an institution of higher learning. A scholar conducts research, publishes or presents his work and keeps up to date with his field of study through monitoring information disseminated in his field of expertise.

One of the main tenets of the academic ethos is that of academic freedom. This means that at least in theory, the scholar is completely autonomous in his choice and treatment of the subject of his investigation (Herman 2004a:35). This does not preclude the possibility of scholars working together on projects. The sharing of

information is a large part of scholarly endeavours, especially in the sciences, but also to a lesser degree in the social sciences and in the humanities (Herman 2004a:38).

3.5.1 Gathering scholarly information

The academic as scholar is expected to read extensively in order to keep abreast of developments and also of the work undertaken by his peers. Palmer and Neumann (2002:110) have identified different types of reading undertaken by scholars; these are scanning, reading deeply and repetitively and consulting a text to verify a point when writing a paper. These different modes of reading are undertaken at different stages of their scholarly endeavours, and scholars move from one type of reading to another during the course of a project. Kircz (1998:210-213) categorises scientific readers as informed readers who know their way around the literature easily, and partially informed readers who are not familiar with a field of research, but are interested in some aspects that could be useful in their own studies. Then there are also uninformed readers who need to know something new in the exploratory stage of their investigation.

Herman (2004a:42) discovered that there are differing degrees of urgency in the current awareness activities in different disciplines. Although she found that information is important to all scholars for keeping abreast of new developments, scientists demonstrated a greater need to keep abreast of new information. This is because they usually have to prove the priority of their discoveries. She adds that even humanists and social scientists have a need to know about new contributions in their subject fields. She concluded that all scholars are always conscious of the need to keep up to date. They must ensure that they have gathered all relevant information on a topic before they can embark on a new investigation.

Budd (1989:4-5) concurs that humanists' reading habits are less urgent because their disciplines tend to be non-paradigmatic and the focus of their studies is usually less tangible.

Because of the importance of reading new material as soon as it becomes available, scholars now use technological innovations to alert them of new publications. One of

the academics Herman (2004a:39) interviewed subscribes to several mailing lists, alerting services and subscriptions and uses other means to interact with a variety of information.

In order to have some control over the quality of information going out to scholars, some authorities in their fields take upon themselves the function of gatekeepers of information in their disciplines. This they do by writing review articles and by maintaining websites covering the latest developments in their fields (Herman 2004b:123).

Contrary to expectations, all the academics in Herman's (2004a:37) study in Israel were grateful for the vast amount of information available to them in the new online environment. The interviewees found the information overload a blessing which makes their scholarly pursuits easier. Although some academics expressed concern about the lowering of academic standards caused by the profusion of publications, they felt that this could be overcome through being selective in what one reads (Herman 2004b:122). There seems to be a point at which any further reading would just be superfluous and redundant and at which a scholar should decide he has enough information on a topic (Herman 2004a:37). Although some scholars believe that they can benefit from the proliferation of information in their fields of study, there are many who are frustrated that they might not be able to keep up with the important literature in their fields. This came to light in a survey carried out by the American Council of Learned Societies (ACLS) (Epp & Segal 1987:64).

3.5.2 Scholarly writing

As academics are amongst the most highly qualified persons in their disciplines, they are expected to bring about a growth in the knowledge base in those fields of study. Not only is it incumbent on them to write and disseminate their new knowledge and insights as concerned scholars, but their publishing output is critical to their tenure at the institutions. As Herman (2004a:37) says: "... the ubiquitous 'publish or perish' sword of Damocles forever hang[s] over the heads of academics." Epp and Segal (1987:64) also found that scholars in universities are under a great deal of pressure to publish. In South Africa, the new funding formula for public higher education

institutions increases the pressure on academics to publish as this form of research output has a considerable effect both on the government grant given to the institution as well as on research grants from organisations such as the National Research Foundation (NRF). The benchmark for publication as used in the formula is 1,25 articles per year per university lecturer and 0,5 per technikon lecturer.

The scholarly reputation of each academic depends largely on the amount and quality of work they publish. Indeed, they can be said to boost their academic status through publishing their research findings in a manner that reflects a high level of information manipulation and use (Ocholla 1999:121). Even researchers' choice of publications to which they submit manuscripts reflect a desire to elevate their reputation as scholars and researchers. Publicker and Stoklosa (1999:15) found, for example, that researchers at the National Institute of Health prefer to publish their work in peer-reviewed journals with known reputations and not in journals available only online. This is done for the prestige involved as well as for the incentives available when publishing through this medium.

Frequency of citations is recognised as an indicator of scientific excellence and dominance (Aman 1998:5). Scholars communicate with one another through personal contact, but also in more formal communication channels including journals, presentations and communication at conferences and seminars (Myburgh 1997:42). In the chain of scholarly communication, citations are then made to these communications by other scholars. The number of times citations occur in Science Citation Index (SCI), Social Science Citation Index (SSCI) and the Arts and Humanities Citation Index (AHCI) indicate to scientists, administrators, *et cetera*, what the scholar's national and international standing is in his field (Aman 1998:6).

The scholar's reputation amongst his peers and fellow researchers is vital as it affects appointments, promotions, accreditation, admission to review boards and most aspects of his affirmation in the academic world both nationally and internationally. This is chiefly achieved by publishing extensively in universally accredited publications (Herman 2001a:389).

All research findings and scholarly treatises are subject to a process of peer review by an editorial committee before they are accepted for publication. This process serves as a way to guarantee quality control amongst academia (Herman 2004b:123). Peer review applies not only to publication in journals, but also to new material presented at conferences, in published proceedings and in monographs (Myburgh 1997:42). Acceptance of new material by review committees affirms to the academia that the work of that scholar and researcher is acceptable and can be used as a basis for future scholarly work.

Because universities worldwide are competing for the world's brainpower through trying to entice top scholars and researchers into their institutions, the international reputation of scholars is very important. Aman (1998:9) found that Kuwaiti researchers prefer to publish in foreign journals especially those published in the US and Europe because this confers more prestige of the researcher and the readership is wider. This finding could be generalised to apply to scholars in developing countries such as South Africa as well. Herman (2004b:127) found that Israeli scholars and researchers also strive for international recognition. They prefer to publish in English because this is the lingua franca of international academic circles. Herman found further that scholars consider the research of some countries to be superior to that of others in quality and quantity of research.

One of the problems for researchers in developing countries is the difficulty of having their research published in European or American journals. Often research that is highly relevant to developing countries, holds little interest for editors and scholars in developed countries. An added problem for researchers and scholars in developing countries is that journals published in such countries are often not purchased by developed countries. This lack of exposure makes it extremely difficult to establish an international reputation. The so-called North-South divide is well established in scholarly communication and places a stumbling block in the way of South African academics and researchers. To exacerbate the situation, the number of accredited scholarly journals in South Africa has been decreased, making it increasingly difficult to have an article accepted for publication. All of these factors make it difficult for scholars in South Africa and other developing countries to be recognised.

Academics, as leaders in their fields, must be cognisant of all developments in their areas of expertise and must create, manipulate and use information constantly as scholars. They are expected to publish extensively in accredited media and must be aware of new findings and theories relating to their disciplines. Scientists in particular cannot afford to lag behind in the assimilation of new information relating to their field of study. Research outputs in the pure and applied sciences are higher in terms of publications than those in the social sciences and humanities (Ocholla 1999:135).

3.5.3 The academic as researcher

An academic cannot be an acclaimed and accredited scholar unless he is actively involved in research. This is the way in which knowledge is developed to higher levels and in which existing knowledge and information is tested. It is also the way in which new knowledge and information are gained. Academics in universities have always been expected to conduct research and those at technikons and universities of technology are increasingly experiencing pressure to do the same.

Research can be defined as being (*Longman dictionary of contemporary English* 1995:1205) “serious study of a subject, that is intended to discover new facts or test new ideas”. *Merriam-Webster online* (2005) broadens the definition of research as follows:

... studious inquiry or examination; especially : investigation or experimentation aimed at the discovery and interpretation of facts, revision of accepted theories or laws in the light of new facts, or practical application of such new or revised theories or laws.

Research implies searching for information, interpreting this information to make new knowledge and then transforming this knowledge into information again so that it can be transferred to others (Gericke 2001:75).

Herman (2001a:393-394) defines scientific research in the following terms:

[Research in the sciences] is painstaking experimental work, founded on previous findings and aiming at the accumulation of new discoveries and the scientist deals with the realities, with phenomena amenable to mathematical investigation.

She says that researchers in the humanities endeavour to “reconstruct, describe, and interpret the activities and accomplishments of men and women by establishing and studying documents and artefacts created by those men and women”. Herman (2001a:394) describes research in the social sciences as similar to that in the sciences in that problems are stated, hypotheses are proposed, data are gathered and conclusions are drawn.

In this study, research will be defined as an intellectual activity in which phenomena are scrutinised practically and, or through literature review in order to arrive at new knowledge. In this process information is gathered, analysed and synthesised to arrive at fresh insights and new truths.

There is a fair amount of overlap when considering the academic as a scholar and the academic as a researcher, as scholarship is intrinsically linked to research. Both entail the use, manipulation and creation of information. As the universe of knowledge grows, so the boundaries between disciplines are changing. This means that research is becoming increasingly inter- and multidisciplinary. This need to sometimes research areas out of one’s original discipline means that the information needs of researchers are also changing. This new environment means that researchers have begun to embark increasingly on collaborative research ventures. They might also decide to extend their knowledge base by mastering other domains or they sometimes merely try to make do with a basic level of information in the new field of study (Herman 2004a:37). Another development in research is that it is becoming increasingly specialised. Because of this, the researcher must remain very focused on the problem or topic he has chosen to study and ensure that the study meets the standards of scientific investigation and writing (Herman 2004a:36).

It would not be possible to conduct research without making use of the prevailing information on the subject selected for further investigation. Researchers must make

use of formal communication channels such as libraries and information services. They also exchange and present papers at conference, professional meetings and seminars. They use information channels such as the invisible college, electronic mail (email) and many other means of communicating with other researchers in their field (Gericke 2001:78).

The cycle of creation, manipulation and use of information is central to research. Information discovered by researchers will often spark off fresh ideas for a new research project (Herman 2004a:45). The choice of a topic for the investigation is the focal point in research and dominates the information review undertaken in the elementary stages of the project. Although many factors influence the researcher's decision to embark on specific research projects, the most important is usually the researcher's governing interest (Herman 2004a:36).

Once the topic has been chosen, the researcher must review the existing information to find out what knowledge already exists in that field and what the new developments are (Herman 2004a:39). At this stage the researcher ascertains how his ideas, theories, hypotheses and predictions fit in with what has already been written on the subject. Looking at previous research and opinions and at his target readership, the researcher will also decide on how balanced or biased his approach to the source material should be (Barford 1997:56). Different projects require different approaches to the data, knowledge and information the researcher will work with. The researcher himself will always be the best judge of the relevance of a document. Only he can conceive how each document fits into the emerging research scheme (Bruce 2001:163). So, out of the vast amount of information the researcher is likely to find on the topic under investigation, certain items will be chosen as relevant to the problem under consideration and these will then form the bibliography used by the researcher.

Different kinds of information will be required to meet the needs of the researcher. These are likely to occur as different stages of the research project. Factual information can be found in resources such as conference proceedings, theses, published monographs, reports, government documents, professional papers and journal articles. If the researcher requires an overview of opinions, influences or

trends, however, these are more likely to be reflected in monographs and journals (Barford 1997:54). Due to this reliance on information to researchers and academics, Netswera and Mavundla (2001:158) concluded that it is essential to have access to an efficiently run library in order to establish a research culture and a healthy academic ethos at an institution.

Once the literature review has been carried out, the researcher creates new information by carrying out the empirical component of the project and publishing the findings.

3.6 THE ACADEMIC IN A TECHNIKON OR UNIVERSITY OF TECHNOLOGY

As this thesis investigates academics and researchers at universities of technology, it is crucial to look specifically at the academic ethos and research culture at these institutions. One must also examine technikons, because these are the institutions from which universities of technology have developed. They are unique institutions in that within a short period of 14 years (1979-1993) technikons have had to make a transition from technical college with no research infrastructure to technikons with full research status (Ogude & Motha 2001:60). In the following 10 years, they have had to evolve further into universities of technology on a par with existing universities in South Africa.

Traditionally universities have carried out pure research, while technikons have carried out developmental or applied research (Henning 1990:24). Even in the Technikons Act, 40 of 1968, one of the functions of academics in technikons was listed as the promotion of knowledge in one's discipline through research and publication (Henning 1990:27). This shows that research has always been expected of academics in technikons. They were given the task of providing highly skilled manpower for certain industries in South Africa and to do research to solve specified problems (Henning 1990:61). Ogude and Motha (2001:58-59) claim that technikons have always been strategically positioned to conduct applied research due to the fact that they work in close collaboration with industry. Historically, research in technikons has been mainly driven by the needs of industry. Since 1993 the fifteen

technikons that operated in South Africa in the old dispensation have been engaged in developing the research culture in an attempt to play a role in the research endeavour of the country (Ogude & Motha 2001:59)

Despite many years of involvement in research, in practice Ogude and Motha (2001:58-59) found that technikon academics and students have conducted very little research compared to universities. According to their study, research at technikons is still in an embryonic stage and there is not a strong research ethos at these institutions. In a study carried out in 1992 they found that the research climate in technikons is poor and only 25% of the academics in their study were involved in research projects. This finding is confirmed by Netswera and Mavundla (2001:156) who found that the research output in terms of publications in either accredited or unaccredited journals was low amongst academics at technikons. This indicates that research is not a high priority amongst academics at technikons. Another conclusion that can be deduced from this finding is that the motivation to publish which is a driving force amongst academics at universities, is lacking at technikons. Whilst recognition by peers is a major reason academics at universities conduct research, this is not necessarily the case at technikons. Furthermore, research plays a major role in the criteria for promotion at universities but this has not been the case at technikons (Ogude & Motha 2001:61).

These research findings show that many academics at technikons lack the research and scholarly orientation of those affiliated to universities. Ogude and Motha (2001:59) see this as a problem that needs to be addressed as a matter of urgency. They found that technikons, and subsequently universities of technology must accept that:

... research is crucial for scholarship and for stimulating a climate of inquiry, enhancement of the quality of teaching and creating an academic climate that can attract able and experienced staff.

Renowned scholars and researchers will continue to gravitate towards institutions reputed to have a good standing in terms of scholarship and research. Technikons and universities of technology are unlikely to attract staff with high research ratings unless

they are involved in intensive research programmes and have the infrastructure in which scholars can advance themselves as scholars, researchers and teachers.

3.7 CONCLUSION

Academics are entrusted with ensuring that the population is trained and equipped to function productively in the working environment of their choice. This they do through educating their students to a high level of enlightenment in their discipline. To equip themselves to impart this information to their students, they themselves must be at the forefront of their disciplines. This they do through reading extensively both in their own disciplines and in others that impact on their field of interest. They have to interact with other scholars both personally and through reading or listening to what they have disseminated. Academics then have to create new information through theorising and conducting research. Their new knowledge then has to be disseminated to other scholars by publishing their findings or by presenting these at other forums. In addition to this, academics are expected to be involved in community service in order to uplift people not affiliated to their institutions.

Academics at technikons and universities are expected to be involved in all of the facets of teaching, scholarship, research and community service. Due to historical factors, the primary focus at technikons and universities of technology remains teaching. As these institutions have recently undergone radical changes, mergers and transformation of a few institutions to universities of technology, efforts to conduct more research and increase research outputs by way of publishing and disseminating information have been stepped up. It is envisaged that academics at universities of technology will soon fall into line with those at other universities regarding all aspects of their tasks, including research and scholarship.

In the next chapter, the information needs of academics and researchers will be investigated. Much research has been conducted nationally and internationally about the needs of these scholars and researchers. In the 21st century, digital information media are increasingly ubiquitous. The relative value of traditional and digital media for researchers and academics will be studied. Research findings give a consistent picture of what scholars require to further their academic pursuits. A review of the

literature published about these needs gives a broad picture of the information requirements of academics and researchers.