The emerging market for information professionals in Botswana, and the skills requirements

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This study investigated the status of the emerging market for information professionals in Botswana. The respondents were the Masters graduates from the University of Botswana Library and Information Studies (LIS) program from 1996 to 2003 who are currently employed, and four employing organizations – the University of Botswana (UBL), Botswana National Library Service (BNLS), Botswana Institute for Development Policy Analysis (BIDPA), and Botswana National Productivity Centre (BNPC). The study was qualitative and used interviews as the major tool to collect information. The majority of respondents (both graduates and employers) were convinced that there is an emerging market for information professionals in Botswana, but that society still perceives the librarianship profession negatively, which suggests that the MLIS graduates are yet to prove the worth of their degree in society. The respondents suggested skills requirements of the graduates to effectively serve in the emerging information market.

1. Introduction

An important dimension of quality in higher education is the quality of the outcomes achieved (i.e. fitness for purpose). Higher education adds value by developing job-related skills and competencies that prepare students for the work place. In other words, the purpose of higher education is to instill in graduates particular competencies relevant to community and work involvement (Carmichael; Finn; and Mayer [1]). Karmel, and Borthwick [2], define competence as the ability to use skills and knowledge effectively to achieve a purpose. According to the Mayer Committee, competence is viewed as the demonstrated capacity to do a specific task that involves both the ability to perform in a given context and the capacity to transfer knowledge and skills to new tasks and situations. Competence depends on both skill and knowledge-based understanding. They are important contributors to the employee's ability to successfully perform in the workplace (Carmichael; Finn; and Mayer [1]). According to Warn and Tranter [2], when graduates see such competencies to have been developed in their degree programs, then they see their degree as preparing them for the work place.

The environment that is developing for graduates of Library and Information Science (LIS) schools and comparable institutions defines the emerging market for

information professionals, and the kind of personal, technical, and professional attributes the market demands. Cronin et al. [3] classify the market for information professionals into three: the *heartland, the hinterland*, and the *horizon*. The authors define the heartland in terms of traditional library or information units, largely staffed and managed by graduates of library and information science programs. They situate the hinterland in the world of libraries-without-walls and distributed information systems, where perceived competence and adaptability are highly valued compared to disciplinary pedigree and professional affiliation. Within this layer, the diverse groups, ranging from information systems analysts through information scientists to communications specialists are said to happily co-exist and inhabit a wide array of occupational niches. The authors describe the horizon market as the natural habitat of software engineers, business computing specialists, and telecommunications managers, and tend to focus on a hardware or systems component, rather than information content and packaging.

The market indicators for such an environment as described above are usually reflected in the labels used to identify job opportunities in the information sector. Some of these have no overt information orientation, such as project manager or sales representative, while others are highly explicit, such as technical online researchers. Some also use traditional nomenclature but in the context of non-traditional settings. The labels of "librarian" and "information specialist" have also splintered dramatically to reflect the pluralistic character of the marketplace. There is now some degree of specificity in job titles; examples are drug information specialist, network system analyst, data specialist, computer network specialist, information technology specialist, information systems manager, and network support specialist. This proliferation of job titles is a reflection of increasing specialization in the workplace, and thus an indication of an expanding market for information professionals.

Other indicators include credentials and experience. Credentials often required, preferred, or considered include an accredited Master of Library Science (MLS), MLS equivalent, a Master of Business Administration (MBA), either with, or instead of, the MLS, or an MLS (or equivalent) combined with a particular kind of academic background, such as a Bachelor of Science (BS) in physics, pharmacy, chemistry, biomedical sciences, business or journalism [3].

In some cases, according to Cronin et al., particular skills, competencies, or work experience were preferred over paper qualifications (e.g. "Ability to manage complex technical planning procedures and implement large computer-based systems and telecommunications operations"; "working knowledge of Ethernet and X-25 communication, and of Decnet, TCP/IP, SNMP, IPSPX and OSI"). Many job adverts also require experiences such as "5–8 years experience in an academic health sciences environment"; "proven achievements in the introduction and development of innovative programs"; "1–2 years experience managing a systems design team highly preferred"; "experience with online database searching especially with scientific, technical, business and legal databases is ideal". There is therefore a measurable

market for information professionals who have requisite talents, know-how, and experience.

Employers and academics in library and information services are increasingly linking organizational performance to employee skills, competencies, and the ability to adapt to changing organizational needs [4]. However, the market is diffuse and owes no allegiances to any established professional body or disciplinary task. Many organizations including government, for example, according to Aina [5] are actively looking for information professionals who possess skills beyond traditional librarianship, hence are beginning to hire only information professionals with combined skills in librarianship, computer and communications technology, and publishing. As observed by Aina and Moahi [6], traditional libraries are also slowly turning to the use of information technology, and would therefore be looking for information professionals with skills in using it. In a tracer study of the University of Botswana's LIS graduates conducted by Aina and Moahi [7], the graduate respondents advocated the strengthening of the information technology component of the curriculum in order to be able to function effectively in the emerging information market. Graduate respondents in the study conducted by Kisiedu [8] at the Department of Library and Archival Studies of the University of Ghana, also suggested strengthening the program with courses on application of "new technologies" expressing "new technologies" variously as "computer applications in libraries", "information technology", "automation", and "computer studies".

Cronin et al. [3] also found that both subject expertise and business savvy are considered essential, independently or conjointly, by employing agencies. In Onadiran's [9] study of past graduates of Ahmadu Bello University in Nigeria, many of the respondents themselves were found to be in favour of additional academic disciplines in other fields such as sciences, arts and the social sciences, while many graduate respondents in Aina and Moahi's tracer study [7] considered marketing and publicity/public relations to be essential. Thus subject expertise, business savvy, marketing and public relations are crucial elements for successful information professionals.

Although some evidence of concentration exists, the opportunities are scattered across a wide range of industrial sectors [3]. A recent study on manpower needs in information handling in Kenya revealed that out of the 191 vacancies advertised in the newspapers over two years, 60% were outside traditional library work. Most of the positions were for management information systems, editorial and publishing work and records management [5]. The emerging market for information professionals thus calls for the examination of capabilities that are required to perform information work in the changed context and setting through competence definition. This refers to generic knowledge, skills and attitudes of a person that are related to effective behaviour as demonstrated through performance (Griffiths and King [10]). Such performance may have immediate effects on a situation, service users, or patterns of use of services. As reflected in the indicators, librarians will not only need the basic core of traditional skills and professional knowledge, but a new list of requirements identified in Buttlar and Du Mont [11] as flexibility; lifetime learning; people skills;

technological skills; business skills including marketing, negotiation, and strategic planning; and valuing diversity.

2. Library and information services environment in Botswana

The world at large is moving from an industrial economy to an information economy, under which all organizations and by extension, nations including Botswana do business. However, major information custodians in Botswana are the libraries. These libraries include the Botswana National Library Services (BNLS) and the University of Botswana Library (UBL), and many specialized libraries/information units independent of BNLS. Many of these libraries or information units are staffed and managed by graduates of LIS programs.

Provision of library services by BNLS is through a network of public, educational and special libraries such as ministerial, departmental, and institutional libraries [12]. Specialised libraries have the responsibility of providing information for the support of their organization's mission objectives. Specialised libraries in Botswana include the libraries and/or information centres of: the Botswana National Productivity Centre (BNPC), Botswana Institute for Development Policy Analysis (BIDPA), Botswana Technology Centre (BOTEC), Bank of Botswana (BoB), British Council, Institute of Development Management (IDM), Southern African Centre for Cooperation in Agricultural Research (SACCAR), Southern African Development Community (SADC), Roads Training Department, Central Statistics Office (CSO), Botswana Bureau of Standards (BoBs), Madirelo Training and Testing Centre (MTTC), and Emang Basadi [12,13].

Of these libraries, only a few are not automated. They all have Internet connectivity but with many (UBL is an exception – it has over 200 computers) having limited number of personal computers ranging from one to six [13,14]. In addition to print resources they provide information services through online and electronic access to information. For example, the UBL delivers information through its online catalogue, subscriptions to CD-ROM databases, campus-wide provision of Internet access to staff and students through the computer centre, and subscriptions to commercial databases.

Under the coordination of BNLS, the Department of Agricultural Research Library provides information services through subscription to CD-ROM databases and the Internet. The Department of Geological Survey Library is also partly automated. The collections of consultants' and internal reports have been computerized using CDS/ISIS, while MS ACCESS is being used to computerize other collections. Similarly, the Southern African Centre for Cooperation in Agricultural Research (SACCAR) Library is automated using CDS/ISIS and Dbase program. Botswana National Archives and Records Services (BNARS) are automated using CDS/ISIS, while the Department of Curriculum Development and Evaluation is automated using the Hypercard System [12]. The Botswana Institute for Development Policy Analysis

(BIDPA) and the Bank of Botswana Libraries are automated using the ADLIB Information System (UK). The Botswana National Productivity Centre (BNPC) Library is migrating to LIBWIN. The Southern African Development Community (SADC) Library is automated using CDS/ISIS and is now being upgraded to WIN/ISIS. The Institute of Development Management (IDM) Library is automated using CDS/ISIS, but is looking for a new system. Finally, the Roads Training Department Library is automated using Inmagic [13].

3. Study problem

Many writers have lamented the fact that many LIS graduates are trained to have skills and competencies that they later on cannot use in their workplace, even though LIS schools have attempted to make their program offerings as attractive as possible. Although many programs are said to be developed based on market surveys, complaints from graduates suggest that some of the training and therefore skills they learn are unused. Studies have also shown that employers have indicated a need for graduates who are well versed in IT related skills.

In order to accommodate the challenges of the emerging information market, the curricula of the one-year, full-time post-graduate degree program of the Department of Library and Information Studies (DLIS) of the University of Botswana (UB) was revised in 1994 to include some courses with digital library content, and updated to a masters' degree (Master of Library and Information Studies – MLIS). The MLIS program at UB therefore offers an extensive array of courses dealing with digital libraries and digitized information. Many of these courses are similar to those included in the curriculum of most LIS programs in accredited schools in North America and internationally [15].

This study investigated the current status of the emerging market for information professionals in Botswana. The specific purpose was to find out the readiness of the market for the MLIS graduates of the Department of Library and Information Studies of the University of Botswana.

4. Methodology

The research approach was qualitative; the social research survey technique was therefore used. The study populations were the MLIS graduates of the University of Botswana (UB) from 1996 to 2003, and four major employers of the graduates in Botswana. As of 2003, a total of 71 students in the MLIS program have graduated from UB [16]. The employers are the University of Botswana Library (UBL), the Botswana National Library Services (BNLS), the Botswana Institute for Development Policy Analysis (BIDPA), and the Botswana National Productivity Centre (BNPC).

5. Sampling methods

The sampling technique used to identify past graduates in employment was *snow-balling*. This was because no sampling frame was available for use. The use of snowballing enabled the researchers to identify 32 graduates in employment in Botswana out of the 71 graduates. They included MLIS graduates in employment in and outside Gaborone, the country's capital. These constituted the sample for the study. The other graduates, many of whom are foreigners, are either not employed or have gone back to their own countries.

The purposive sampling technique was used to select the four organizations. Two of the organizations are major employing organizations of the MLIS graduates (the UBL and the BNLS), while the other two are major agencies of government (the BIDPA and the BNPC). The four organizations are also computerized, and would require information professionals with skills and competencies for the heartland and hinterland markets.

6. Data collection methods

The interview was the main instrument used in this study. The researcher visited the participants in their places of work to conduct the interview. A total of 19 MLIS graduate respondents were interviewed constituting 59.4% of the sample. The researchers also visited the employing organizations (UBL, BNLS, BIDPA and BNPC) and interviewed relevant senior staff.

Separate interview schedules were used. This was intended to obtain the perceptions of the two categories of respondents. The graduate respondents were asked to respond to the following questions:

– Do you think there is an emerging information market for library and information science graduates in Botswana?
– If so, what are the indicators of the emerging market?
– What skills are required?

The employers were asked to respond to these questions:

– How is IT (e.g. the Internet, databases on CD-ROM, online commercial databases) affecting your organization and your organization's need for information professionals?
– In the light of the above, what are the skills you require from information professionals to support your organization's mission objectives?
– What is your impression of the need for information professionals in Botswana? Is there an emerging market for them?

Interviews were analyzed to establish patterns in the perceptions of respondents and their employers on emerging market for information professionals in Botswana.

7. Results

7.1. MLIS graduates' perception of the emerging market for information professionals in Botswana

Only 19 (59.4%) of the 32 MLIS graduates in employment in Botswana were successfully interviewed. They were asked whether they think there is an emerging information market for library and information science graduates of the University in Botswana, and to provide reasons for their responses. Interestingly, all the 19 respondents felt there is an emerging market for information professionals in Botswana.

7.2. Indicators of the emerging market in Botswana

Respondents considered indicators of the emerging market in Botswana to include: the increased recognition of the value of information for decision-making and national development; the proliferation of IT in organizations; the increases in the number of information centers and/or libraries; the desire of many organizations to establish and maintain their presence on the Internet, and the need for information organization, evaluation and repackaging.

It was further revealed that many organizations in Botswana have embraced IT, and that information has been recognized as the basis of national development. New organizations, including libraries, are also now IT-intensive. According to the respondents, many organizations are linking to the Internet and need information professionals to assist in sifting relevant information from the Internet, and also to train other staff how to effectively search the Internet. The concept of information centers rather than libraries (especially by non-governmental organizations) is also becoming attractive. Many of these are being built and would need information professionals. Many organizations according to some respondents also desire to establish and maintain their presence on the Web and are therefore in need of web designers and managers. Many government departments are opening small libraries, while there are now libraries in many schools, including primary schools. Respondents also noted that several businesses are springing up in Botswana that require information which can only be provided by information professionals. Although the information is available, they might not be able to find it, without the assistance of information professionals. This, according to the respondents suggests an opportunity for graduates to establish information brokerage services in order to be able to assist this category of potential user. They can also evaluate and repackage information for industries as well as providing information literacy skills to non-information professionals.

7.3. Skills required for the emerging market

In the light of the above, the respondents considered skills requirements for effective performance to include: information retrieval and management skills, word-processing and desktop publishing skills, project management skills, information

communication and presentation skills, marketing skills, public relations skills, strategic planning skills, and web page design and maintenance skills. Incidentally, these are among the skills required to perform in the heartland and the hinterland markets. This suggests that the emerging information market in Botswana is essentially in the heartland and the hinterland.

Some respondents, however, felt there is need for a change of perception about the profession by society. According to some, society still holds the notion of traditional librarianship, which suggests that the profession has not changed with the times. People do not realize that modern librarianship can do more than what they know of traditional librarianship, which is why some respondents felt there is no market for them. The respondents suggest leaving out the word 'library' from the title of the degree as a possible solution. They felt that the title of the degree is limiting their chances of getting employed in organizations other than the library. A respondent reported once applying for the position of an Information Manager with a job description for which the respondent had been adequately prepared. However, the application was not considered on the basis that the certificate reads MLIS. The respondent, in spite of explanations given, and presentation of transcript, was told they were not looking for a librarian.

7.4. Employer's perception of emerging market for information professionals in Botswana

Since the responsibility of LIS schools is to produce job-ready graduates, the researcher considered it necessary to obtain the views of employing organizations of LIS graduates about the impact of IT on their organizations, their need for information professionals, and the skills requirements for such professionals to function well in their organizations. Further, their perception of the emerging market for information professionals in Botswana was sought.

7.5. Effect of IT on the organizations

The employers were asked to respond to questions on how IT is affecting their organization. All the respondents considered IT to be affecting their work but to varying degrees. However, IT (e.g. CD-ROM technology, electronic mail, and library management software) is used by one of the organizations, the Botswana National Library Service (BNLS), only to a limited degree. The BNLS is said not to depend so much on IT. This is because only the Headquarter of the BNLS and some branches are presently computerized. The other three organizations (BIDPA, BNPC, and UBL) informed the researcher that their work revolves around the use of IT.

The University of Botswana Library (UBL) looked at IT impact in terms of funds for subscription to databases, which is forever increasing, the cost of hardware, and the introduction of new services requiring retraining of staff. The Botswana Institute for Development Policy Analysis (BIDPA), a research organization, felt that IT

has improved both their efficiency and effectiveness. It considered the effect of IT from two perspectives – communication, and information delivery. The mission of the organization requires it to collaborate and partner with other organizations and institutions with similar interests, and with stakeholders in executing their projects. The organization considered the availability of electronic mail to have made collaboration very easy, as communication can now be done with minimum delay. Their research teams are now able to work on the same document resulting in speedy, well-synchronized project result without costing a fortune to the organization. The BIDPA also considered internal communication and overall office management as highly efficient due to its heavy reliance on IT. The Internet has also been a blessing as their researchers are able to view works from other organizations. They are also able to access useful databases such as ELDIS, Tanzania online, EBSCOHost, etc., as well as document delivery services such as Ingenta. The Internet has also made it convenient for BIDPA to order and receive information just in time, and it is able to purchase and download full-text documents instantly from places as far as North America. CD-ROM technology is said to have also improved the efficiency of BIDPA. Full-text versions of the highly relevant documents such as the International Financial Statistics have helped researchers immensely. The BIDPA also uses technology to disseminate and distribute information. The organization has established its presence on the Internet, and has remained visible to relevant stakeholders globally.

7.6. Impact of IT on need for information professionals

The respondents were asked to relate the impact of IT to their organization's need for information professionals, and the skills required of information professionals to support their organization's mission. The four organizations responded that they would value information professionals with a profound understanding of information handling using IT. They should have computer and Internet appreciation, and CD-ROM technology and library automation knowledge. They should have information retrieval and management skills, word-processing and desktop publishing skills, information communication and presentation skills, and web page design and maintenance skills. Further, BNPC considered to be crucial skills in creation and maintenance of portals, network management skills, technical skills to maintain and troubleshoot IT equipment and systems, and knowledge of various software and their uses. Some of these are skills also considered important by MLIS graduates.

When asked about the need for information professionals, the four organizations, reflecting on how IT is affecting their organizations, confessed that they would definitely need the services of information professional for effective and efficient service delivery. They indicated that their organizations would continue to need information professionals with the skills and competencies indicated above.

Regarding the emerging market for information professionals in Botswana, the response was that there is an emerging information market for information professionals

possessing the skills they have identified as crucial, in Botswana. The organizations based their response on the Government's embrace of ICT, and the recognition of the importance of information by many organizations (including the non-governmental organizations), which now informs the establishment of fully computerised information centers/libraries.

8. Discussion

The MLIS graduates and employers were in agreement that there is an emerging market for information professionals in Botswana on the basis of the recognition of the importance of information by organizations, the continued proliferation of library and information centers, and of information technology tools, the desire of these organizations to establish their presence on the Internet, and the type of skills and competencies required. The skills and competencies identified by the respondents correspond to those required to function in the heartland, and the hinterland markets, as defined by Cronin et al. [3]. This suggests that the emerging information market in Botswana is essentially in the heartland and the hinterland market. In addition, skills such as marketing, and public relations identified as important to functioning effectively in the emerging market are also not different from those identified by graduate respondents in studies conducted by Aina and Moahi [7], and Kisiedu [8]. The fact that the identified skills are particularly considered important by employers to their organizational performance (i.e. effective and efficient delivery of services) also corroborates Thapisa's [4] earlier observation of employers linking organizational performance to employee skills.

However, whereas the majority of respondents in this study agreed that there is an emerging market for information professionals in Botswana, some respondents were doubtful due to the negative perception about their degree and the librarianship profession. This perception is no doubt a result of the early socialization process within the profession, which has imparted values that are not useful in the emergent market outside the institution of a library, as observed by Van House and Sutton [17]. Indeed, academic librarians are considered to have little understanding of service, which requires an active approach to finding out what information is necessary for an organization to excel [15]. The dominant culture is said to be at variance with the requirements of the emerging job market. As revealed in another study, this perception might not be far from the truth, as the UB DLIS has not fully prepared graduates to effectively and efficiently function in the hinterland market. Information professionals would need to justify their relevance through performance. Society has to perceive the worth of the graduates' degrees (notwithstanding the nomenclature), and the profession for the former to be appreciated. Society might need to be orientated and re-educated about LIS programs.

9. Conclusion and recommendation

It is clear from this study that there is an emerging market for information professionals in Botswana. The skills requirements as revealed in the study suggest that the markets are -between the heartland and the hinterland. It is also evident from this study that society still has a negative perception of the librarianship profession, and hence the graduates perceive the nomenclature of the degree as a problem. This in turn suggests that the UB MLIS graduates have yet to prove the worth of their degree to society.

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