

Provision for digital records management in the curriculum of LIS schools at public universities in South Africa

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Abstract

The need for education in archives and records management cannot be over-emphasised. Education can help to empower archivists and records managers in tackling the challenges of managing and preserving records created in networked environments. The latter entails ensuring security, authenticity and integrity of records. In view of the tectonic shifts that have taken place within Africa, particularly South Africa, and the use of social media in innovative ways, archives and records management professionals' demands have changed. This study examines the archives and records management curricula in different educational institutions in South Africa with the view to ascertaining the extent to which they address the changing digital environment. First, desktop research evaluating the websites of all 26 public universities in South Africa was conducted to identify schools offering archives and records management programmes. This was followed by content analysis of the curricula of universities that offer archives and records management programmes from the website. Then the doctoral graduates of these programmes were subsequently examined to identify issues addressed in their theses. It was established that the current curricula at public universities in South Africa do not fully embrace the management of digital records. For example, as of 2018, the education programme available for archivists in South Africa consisted of only a few programmes offered by four institutions of higher learning out of 26 universities with only 11 modules addressing records in a digital environment. Therefore, there is a need to align the curriculum at higher learning institutions in South Africa to also embrace records created in networked environments. It is hoped that the study will inform curriculum development and review in the area of digital records management at universities in South Africa.

Keywords: archives, electronic records, digital records, curriculum, education, universities, South Africa

1. Introduction

It is generally accepted that education plays an important role in updating the knowledge and skills of those who are already working and prospective workers. With regard to archives and records management, Yusof and Chell (1998:26) point out that the most obvious way for archivists and records managers to enhance their resourcefulness is through education. The purpose of archival education is to prepare students for their careers and to provide a professional ethos to the community (Gilliland-Swetland 1998:91). The training and upgrading of skills can be achieved through workshops, vendor-sponsored programmes, professional seminars, and college or university-level courses. Indeed, the need for education in archives and records management cannot be over-emphasised, particularly in this era of technological developments. Moreover, there is uncertainty with regard to the management and preservation of records using disruptive technologies. Therefore, education can help to empower archivists and records managers in tackling the challenges of managing records created in networked environments such as ensuring security, authenticity and integrity of records. In view of the tectonic shifts that have taken place in South Africa and the use of social media in innovative ways, archives and records management professionals' demands have inevitably changed (Katu 2015). However, as Garaba (2015) notes, education of archivists and records managers have been given little attention in many sub-Saharan African (SSA) countries. The situation is worse in the area of digital records, as Garaba (2015) contends that training of archivists and records managers in Africa places much emphasis on paper-based records while ignoring other media such as digital and audio-visual. In this regard, students are not exposed to areas such as digital records forensics, data curatorship, blockchain technology, cloud

computing, archival diplomatics, information governance to mention just a few emerging areas. Duranti (2000) suggests the archives and records management stream to the South African audience as follows:

- Traditional archival stream: the national juridical-administrative context, advanced acquisition and selection methods, advanced arrangement and description, public service, preservation.
- Digital archival stream: digital records systems, database and semi-structured data systems design, digital preservation theory and methods, standards and research.
- Records manager stream: records making and recordkeeping systems design, advanced records management theory and methods, records and the law (e.g. evidence law, e-discovery, privacy), financial records.
- Records forensics expert stream: evidence law, digital forensics theory and method, technology foundations for forensic professionals, foundations of organisational information assurance.

The problem of lack of training is compounded by the fact that “among the Library and Information Science (LIS) schools in SSA, few have laid emphasis on the provision of courses in archives and records management, and more particularly at the undergraduate level” (Onyancha, Ngoepe & Maluleka 2015). The same is true in all African universities, except perhaps some universities in Kenya and the University of Makerere in Uganda where archives and records management boast of their own department within the School of Information Science (Katuu & Ngoepe 2017; Ngoepe & Katuu 2017). In South Africa, for example, the Department of Arts and Culture (2010) revealed that only nine universities offer archives and records management as ancillary courses within the departments of LIS at diploma or certificate level. The situation has since

changed by 2018, with fewer universities offering archives and records management courses. Because of this situation, there is a shortage of fully trained archivists and records managers not only in South Africa but also in most SSA countries. This necessitates some countries to send archivists overseas to study archives and records management (Ngoepe & Katuu 2017). Even at the institutions where archives and records management is offered, little attention is paid to records created in a networked environment or even disruptive technologies such as blockchain technology, cloud storage, internet of things and social media, to mention just a few (Ngoepe & Katuu 2017). Therefore, there is a need to align the curriculum at higher learning institutions in South Africa to also embrace records created in networked environments. This study reported on this research article investigated the extent to which the curriculum of institutions of higher learning in South Africa embraces records created and stored in networked environments. The previous studies such as those by Garaba (2015), Katuu (2015), Katuu and Ngoepe (2015), Khayundi (2012), Ngoepe et al. (2015), Katuu and Ngoepe (2015; 2017) and Ngoepe and Katuu (2017) did not cover the content offered by institutions of higher learning in South Africa. Against this background, it is hoped that the study will inform curriculum development and review in the area of digital records at the institutions of higher learning in South Africa. First, a brief historical background of archives and records management education is provided.

2. Historical background of archives and records management education in South Africa

Models for developing archival education have been influenced by national legislative structures and requirements (Anderson 2015:43). Anderson (2014) observes that in many countries, national archives have played a role in training archivists, as well as supporting the development of university-based archival education. In many countries, including South Africa, national archives have played a role in training archivists and thereby fostering the development of university archival education. For example, Anderson (2015) identifies several state archives which supported the establishment of archival education as France (1821), Italy (1860), the United States (1940) and China (1952), to mention just a few. In Europe, archival education was associated with history while in the US, it was associated with library education. With the focus on digital records, some programmes are placed within computer science (Anderson 2015). Jimerson (2010:2) further explains that “because the archives profession grew out of the discipline of history, much of the early focus was on historical training and knowledge of history.” There have been many debates on whether history or library science was the preferred path of entry into a career in archives, but by the early 21st century, there were far more archival education programmes based on LIS than on history or any other discipline (Jimerson 2010:3).

Close association with library programmes is the norm for archives and records management programmes in African countries. Theron (1998:115) considers the placement of archival education within a library school to be entirely appropriate owing to available resources, shared goals and functions, and opportunity for fruitful cooperation. It is therefore not surprising that so with much information,

archives and records management programmes are nested in departments or schools of LIS. In Africa, these departments and schools, however, are part of a range of academic units, including the University of South Africa's School of Arts – College of Humanities (South Africa); Kabale University's Faculty of Arts – Social Sciences (Uganda); Makerere University's College of Computing and Information Sciences (Uganda); Uganda Christian University's Faculty of Education; and the University of Pretoria's School of Information Technology, Faculty of Engineering (Okello-Obura 2012: 85). Duranti (2000) explores four approaches to archival education as historical, philological, managerial and scholarly. This is also the case in South Africa.

The historical trends show that when the idea of offering formal archival training was put forward in 1946 by the government, South African universities did not show any interest in taking up the challenge (Harris 1997:42). This was so because archives and record keeping in South Africa have traditionally been viewed as a low-level routine work, such that investment in training and development of archivists and record-keepers was deemed not cost-effective. According to Vos (1992:66), the chief archivist (now national archivist) of the State Archives Services raised the issue of formal training at a conference of archivists in February 1946. The idea itself was applauded but controversy existed regarding who should do the training, as the universities were not interested. As a result, the National Archives of South Africa, as the biggest employer of archivists, took up the challenge and designed a curriculum for the National Diploma in Archival Science in 1948, which was ultimately approved by the Department of Education and Culture in 1950 (Ngoepe 2008). The curriculum was mainly focused on the public sector and guided by the Archives Act, as well as guidelines issued by the National Archives of South Africa. In

the 1980s, this diploma was moved to Technikon Southern Africa (TSA), which began developing it into a distance-learning qualification better suited to a wide range of students (Ngulube 2003:168). However, it must be noted that the National Archives of South Africa did not completely withdraw from the training arena, as the National Archives and Records Service Act of 1996 obliges it to provide training to records managers employed by governmental bodies. Therefore, up until 2008, the National Archives of South Africa offered training in the form of a week-long course in records management. Eventually, it was only when the person responsible for facilitating the training retired that such training was discontinued.

According to Abbot (2007:3), the provision of education for records managers and archivists in South Africa is very poor. However, the need to offer archival studies and/or records management was recognised by a number of tertiary institutions since the 1990s following TSA. For example, the University of KwaZulu-Natal expanded its information studies courses at honours, masters and doctorate levels to accommodate archival science and records management (Ngulube 2003:153). In 1999, the University of the Witwatersrand launched an archives course within its heritage studies programme at postgraduate diploma and masters level (Harris 2000:100). In 2000, the University of South Africa (Unisa) introduced archives modules into its information science courses. In January 2004, the former Unisa merged with TSA and incorporated the distance education component of Vista University (VUDEC) to form the new Unisa. The merger brought together vast resources and infrastructure while consolidating the knowledge bases built up over the years by the three former institutions. With the merger, Unisa continued to offer records management and archival courses through the Departments of Information Science. The University of

Johannesburg also offered an overview of records management as part of their information management diploma. An analysis of the records management curriculum in tertiary institutions by Katuu (2007:11) reveals the heavy leaning on the archival rather than records management perspective.

Because of the few records management courses offered at the universities, events management companies filled the gap by hosting records management events. A multitude of conference and training companies have sprung up, all vying for their slice of the lucrative records management training market. The historical outline was important in order to demonstrate the extent to which countries have undergone development with measured reliance on foreign actors.

3. Problem statement

Archival institutions in South Africa are under-capacitated to deliver effectively on their mandates (Archival Platform 2015). In the case where staff members are employed, many archivists and records managers have not received formal training in archives and records management (Katu & Ngoepe 2015; Khayundi 2011). Just like in most countries in East and Southern Africa, the main model of archival education, which has long been followed in South Africa, is that of in-service or on-the-job training programmes (Garaba 2015). This resulted in the analogy of a crew which builds the wings of an aeroplane while it cruises at 36000 feet above sea level (Ngoepe 2017). An evaluation of the archival education programmes in East and Southern Africa reveals that the region is not producing fully grounded LIS professionals because the curriculum has a heavy bias towards theory, with only cosmetic practical exposure, spiced with little

dosages of digital technologies (Garaba 2015). In South Africa specifically, the problem of a lack of training is compounded by the fact that very few institutions of higher learning offer training in archives and records management. Furthermore, archives and records management modules at the South African universities are encapsulated as an insignificant part of degrees and diplomas in Information Science/Studies (Ngoepe 2008). As a result, the offerings are camouflaged or hidden within information science/studies. Because of this situation, there is a shortage of fully trained archivists and records managers not only in South Africa but also in most SSA countries, which necessitates some countries to send archivists overseas to study archives and records management (Onyanha et al. 2015). The point of lack of professional training in South Africa is also stressed by Keakopa (2006:186), as she found that there was a shortage of fully trained staff in South Africa. This is despite the fact that commentators view South Africa as the most advanced African country in the implementation of software applications to manage digital records (Kemoni 2009). At the National Archives of South Africa, for example, only one person was self-trained in electronic records management, an area which is often neglected by universities when designing curriculum (Ngoepe & Jiyane 2014). The National Archives of South Africa has more than 4 000 client offices across the country. One person who has since left the employ of the National Archives of South Africa would not be able to cope with the continuous research that is necessary to keep up-to-date with electronic records management developments. A key component in addressing this capacity deficit would be through the education and training programmes.

4. Purpose and objectives of the study

The purpose of this study was to examine the archives and records management curricula in different educational institutions in South Africa with the view to assessing the extent to which they address the records created and stored in a networked environment. The specific objectives were to:

- identify universities, schools and departments offering archives and records management in South Africa.
- identify the content and curricula covered in archives and records management at the universities in South Africa.
- examine masters and doctoral theses in archives and records management at the universities in South Africa to establish if they embrace records created in networked environments.

5. Literature review

There are very few studies related to the training of archival and records managers in Africa, and South Africa in particular. As a result, records management programmes in the public sector in most African countries are in a state of disarray. Furthermore, research and training in archives and records management have been given little attention in many SSA countries, especially in the area of digital records management (Ngoepe, Maluleka & Onyancha 2014). Most of the time, African countries rely on strategies from the global hub, which are usually difficult to implement in the global periphery (Harris 2007). Looking at the state of archival and records management training in African countries, Katuu (2009) notes that several countries have been influenced by

both the United Kingdom model and the North American pragmatic school of thought. As a result, the education and training of archivists and records managers have been a topic of discussion over many years. The topics related to training and education have ranged from attitudes towards education and training, to what factors need to be assessed to provide feedback on the competencies of archivists and records managers. Ngoepe, Maluleka and Oyancha (2014:132) establish the need for increased emphasis on research in archives and records management education and recommend creating opportunities for collaborative projects between novice and established researchers with a view of mentoring and transferring research skills, thereby increasing the research contributions of African scholars and professionals. These authors also establish that research in archives and records management has the potential to ensure that the profession can keep up with and respond to changing societal needs and thereby be able to manage records created in networked environments.

Effective management of records is fundamental to the efficient running of bureaucracies. Recent studies in the management of records within the public sector in Africa reveal various challenges, including accountability in the auditing process (Ngoepe & Ngulube 2016), the provision of quality health services (Maseh & Katuu 2017; Ngoepe & Makhubela 2015). One of the root causes of the problem is the lack of archives and records management training programmes at most institutions of higher learning in Africa (Katu & Ngoepe 2017). The problem is compounded by very few universities that offer archives and records management qualifications. For instance, South Africa has 26 universities (See Annexure A for the list), of which 10 offer LIS programmes.

Katuu (2015) provides a historical context for archival education in Africa. He notes that, when discussing education and training in Africa, it is important to acknowledge the country's complex socio-political context. Failure to do so results in oversimplification, stereotyping and a tendency to speak of 54 countries that make up nearly a billion people as a single entity (Ngoepe & Katuu 2017). During Africa's colonial period, colonial administrators were responsible for record-keeping and made little effort to train the indigenous people of Africa (Katuu 2015:99). After the colonial period, record-keeping education was either provided by colonial ARM professionals or individuals were sent to Europe or North America for training (Katuu 2015:99). Education in Europe and North America catered for a highly advanced archival environment and was not really suitable for the situation in Africa. The most significant period in the establishment of archival and records management in SSA started in the 1970s. The International Council of Archives (ICA) and UNESCO worked to establish regional training centres to educate archivists in SSA. They established two centres, one for Francophone countries in Senegal in 1971 and another for Anglophone countries in Ghana in 1975 (Katuu 2015:101). Owing to a lack of continued funding, these centres have since degenerated into national programmes. In 2002, it was acknowledged that there were many different types of archival education programmes in Africa, including pre-appointment education, on-the-job introductory education and training as well as post-appointment continuing education and training, which resulted in a lack of standardisation across the profession (Katuu 2015:101; Ngoepe & Katuu 2017). There is a lack of professional consensus about the best design and implementation of the various education programmes (Katuu 2009).

There are several factors working against thriving archives and records management field in South Africa, including but not limited to the education environment, lack of professional visibility, and lack of national and regional support. Other criticisms of the education environment include that curricula are imported "wholesale" without attention to the local context or regional or national needs. This issue is combined with shortages of locally trained professionals as educators and inadequate knowledge and training for educators in computer technologies. Clearly, the education environment makes it increasingly difficult to prepare graduates for the challenges they will encounter in the field. The other factor is that graduate level education – which many experts argue is the preferred form of archives and records management education – is difficult to execute in Africa given the “low numbers of qualified staff, virtually non-existent research, poor quality of educational materials and outdated programmes, educational methodologies based on the model of rote memorization that does not encourage critical thinking, problem solving and creativity” (Katuu 2015:107). The absence of this type of educational environment makes it extremely difficult to prepare graduates for the challenges they will encounter in the field.

Khayundi (2011:63) notes that "most of the current practising archivist and records managers cannot be assumed to have had the necessary archives education and training. A number of them have learned on the job or have attended short workshops which hardly [provide] the required educational background and competencies". The problem, as Ngulube (2003) correctly points out, may be that African trainers lack expertise and are ill-equipped to train others in digital preservation. Firstly, there is the concern that archivists are

not being taught digital skills. A study carried out by Khayundi (2011) on institutions of higher learning offering training for archivists and records managers in South Africa revealed that the current education and training programmes do not adequately match the demands of the marketplace. Khayundi (2011) further notes that students were not being exposed to important areas such as digitisation, digital curation and preservation, audio-visual and digital archiving, to mention just a few. Wamukoya (2014) poignantly notes that in order to attract the millennial generation into our archival institutions, we need to revamp and revise our academic programmes at universities and colleges across East and Southern Africa, thereby entrenching technology-oriented courses, skills and competencies for the betterment of the profession.

6. Scope and research methodology

This study covered all 26 public universities in South Africa. Private universities were excluded from the study. The study conducted desktop research in which content analysis was employed to evaluate public universities' websites. First, the websites of all 26 public universities in South Africa were visited to identify schools and departments offering archives and records management programmes. Those who offered only modules within information science degree were excluded. This was followed by content analysis of the curricula of universities that offer archives and records management programmes from the website. Then, the doctoral theses of the graduates of these programmes were identified to check if they embraced digital records.

Data were extracted from the National Research Foundation (NRF) Nexus-current and completed research, as well as the Current and Completed Research (C&CR) database published by the South African Bibliographic and Information Network (SABINET). An Excel spreadsheet reflecting completed doctoral studies, authors, completion year and institution was created for further analysis. Current studies were excluded; therefore, only completed studies were downloaded for further analysis.

These sources of data had their own limitations. Records that could not be identified through our search terms were excluded. The study mainly targeted records published in English. All records published in other languages were excluded. Furthermore, some of the records did not appear in the databases. Secondly, the researchers relied on the universities' websites for their offerings – to this effect, information that is not on the websites did not feature in the study.

7. Presentation of results

This section presents the results of the study according to themes emanating from the objectives.

7.1 Archives and records management programmes offered at universities

Out of the 26 public universities in South Africa, only four were offering archives and records management qualifications at either undergraduate or post-graduate level. The four institutions of higher learning offering archives and records management education were: the University of South Africa, the University of Fort Hare, the University of Cape Town and the University of KwaZulu-Natal (see Table 1). It should also be noted that the University of Cape

Town offered a specialised honours and master’s programme in data curatorship. This qualification cuts across library science and archival science. Other universities such as the University of Limpopo, the University of Zululand and the University of Johannesburg offered only one module in records management within the Bachelor of Information Science degree.

Table 1: Institutions, schools, departments and qualifications offered

Institutions	Schools	Departments	Qualifications offered
University of South Africa	Arts	Information Science	Higher certificate in Archives and Records Management. Bachelor of Arts (Archives and Records Management) Post-graduate Programme in Archival Studies Honours in Archives and Records Management
University of Fort Hare	Social Sciences and Humanities	Library and Information Science	Postgraduate Diploma in Archives and Records Management
University of KwaZulu-Natal	Humanities	Information Studies	Postgraduate Diploma in Records and Archives Management
University of Cape Town	Humanities	Library and Information Studies	Honours in Data Curatorship Masters in Data Curatorship

The content of the curricula offered at the four institutions was examined from the information available on the websites. Table 2 presents the archives and records management offerings per institution in South Africa.

1 Table 2: Archives and records management content per qualification per institution

University of South Africa		University of Fort Hare		University of KwaZulu-Natal		University of Cape Town	
Qualification	Content	Qualification	Content	Qualification	Content	Qualification	Content
Higher Certificate in Archives and Records Management	<ul style="list-style-type: none"> • Introducing archives and records management. • Managing records • Managing archives • Preserving records and archives • Electronic records management 	Postgraduate Diploma in Archives and Records Management	<ul style="list-style-type: none"> • Computer literacy • History and theory of archives • Archives administration • Records management • Management studies • Conservation and preservation • Archives and development • Information technology and archives 	Postgraduate Diploma in Records and Archives Management	<ul style="list-style-type: none"> • Managing electronic and audio-visual resources. • Automation of information centres. • Records and documents management. • Management of current and semi-current records systems. • Archival administration • Preservation and conservation. 		Principles of digital curation Information architecture & metadata Technology enablers for digital curation Research data management Curating in context
Bachelor of Arts (Archives and Records Management)	<ul style="list-style-type: none"> • Introducing archives and records management. • Managing records 						

<p>Postgraduate programme in Archival Studies</p>	<ul style="list-style-type: none"> • Managing archives • Preserving records and archives • Electronic records management • Appraisal and disposal of records • Audio-visual archiving • Organising records: classification systems • Legislation and standards in archives and records management • ICT Applications in archives and records management • Organising archives: arrangement 						
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<p>Honours in Archives and Records Management</p>	<p>and description</p> <ul style="list-style-type: none"> • Preservation management of archives and records • Archival programming and advocacy • Introduction to records management and archival studies • Archival principles and practices • Archival information sources and services • Preservation and conservation of archival materials • Archival diplomatics & digital records forensics 						
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	<ul style="list-style-type: none">• Information governance digital curatorship						
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7.2 Curricula for archives and records management at the universities

This objective sought to assess the extent to which the curricula at higher institutions embrace records created in a networked environment. Table 3 presents results of modules that embrace digital environment from the institutions offering archival and records management training. Unisa had three modules in their curriculum which tackle issues related to the digital environment at the undergraduate level and three more at postgraduate level. While Unisa offered honours qualification, it was indicated on their website that the university is currently revising the programme to include archival diplomatics and digital records forensics, data curatorship and information governance. However, it was not clear when the new offering would be implemented as there was no commitment on the website. The Fort Hare University had only one (1) module on information technology and archives which can be assumed to touch on digital records, while University of KwaZulu-Natal (UKZN) had evidence of two modules addressing the management of electronic records, as well as automation of information centres. The University of Cape Town had a specialised qualification in data curatorship with evidence of five modules at an honours level.

Table 3: Courses on digital environment per institution

Institution	Courses embracing digital environment
University of South Africa	<ul style="list-style-type: none"> • Electronic records management • Audio-visual archiving • ICT applications in archives and records management
University of Fort Hare	<ul style="list-style-type: none"> • Information technology and archives
University of KwaZulu-Natal	<ul style="list-style-type: none"> • Managing electronic and audio-visual resources. • Automation of information centres
University of Cape Town	<ul style="list-style-type: none"> • Principles of digital curation • Information architecture & metadata • Technology enablers for digital curation • Research data management • Curating in context

7.3 Embracing of records created in networked environments in doctoral theses

This section looks at the extent to which completed doctoral studies in South African universities embraced records created in networked environments. The section covered the total number of records as captured by the two databases (NRF and SABINET) per institution, the trend of records per year, as well as the main subject areas explored with an effort to establish how much coverage the records created in a networked environment get.

7.3.1 Number of records per institution

Despite only four institutions that offered archives and records management programmes, there were five institutions accounting for doctoral theses downloaded for analysis. The first entry as reflected in Figure 1 was in 1998 and we searched up to 2017 when the study was conducted. Only 26 doctoral theses

were retrieved from five universities, as reflected in Figure 1, with no doctoral thesis produced in 1999, 2000, 2001, 2002, 2004 and 2009.

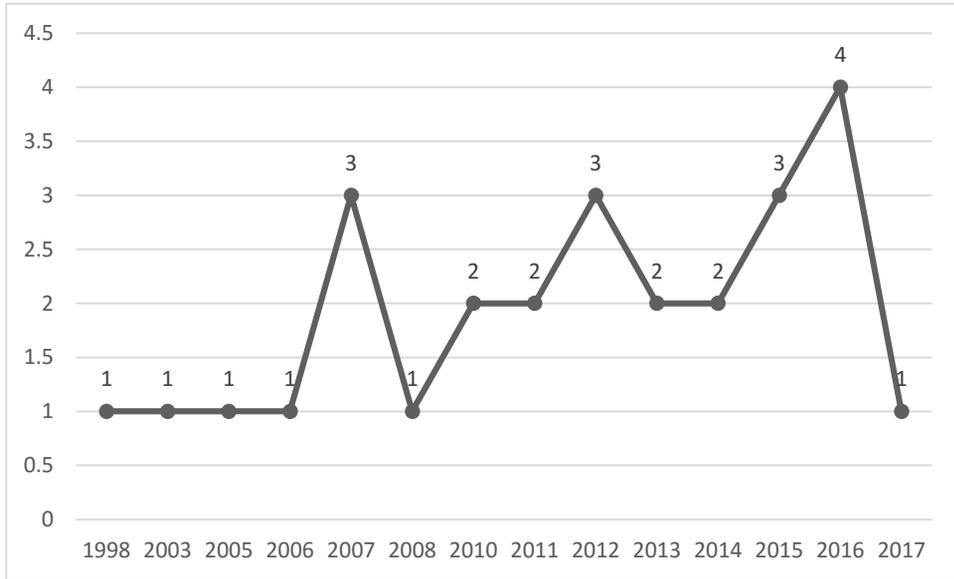


Figure 1: Number of doctoral theses per year (1998-2017)

As reflected in Figure 2, Unisa had a high throughput with 13 theses, followed by UKZN with nine, University of Johannesburg (UJ) with only two, University of Cape Town (UCT) and Stellenbosch University (US) with one each. It is surprising that the University of Fort Hare did not have a single thesis even though the institution offered a qualification in archives and records management at the postgraduate level. Issues addressed in doctoral theses as reflected in Annexure B include audio-visual records, liberation archives, e-records, health records, service delivery, preservation and access, community archives, accountability, data curation and cloud storage. It should be noted that

only one thesis addressed issues relating to disruptive technology and in this regard covering cloud storage.

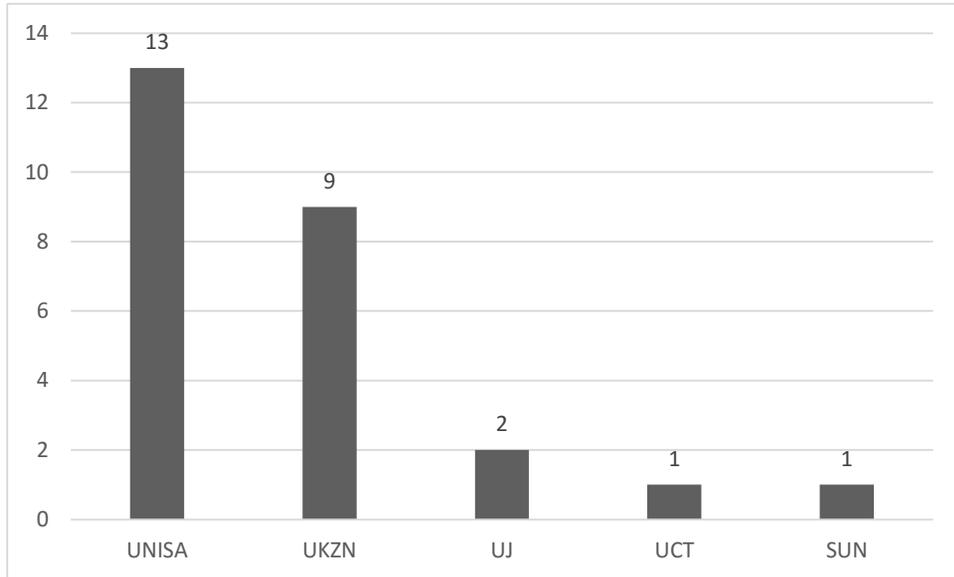


Figure 2: Number of theses per institution (N=25)

8. Discussions

It is clear from the results that education and training opportunities within public universities in South Africa are comparatively few with only four offering archives and records management programme. Furthermore, out of the four universities, only one (Unisa) offered a qualification in undergraduate level (degree and higher certificate). This raises the question of where do the industry recruit archivists and records managers, especially at entry-level positions. Perhaps, this is why some scholars in South Africa such as Marutha (2016) and Ngoepe (2012) lament of unqualified people appointed as records managers in the public sector. It may be that one university is not coping with producing

enough entry-level graduates for the market; hence, the industry resorts to hiring graduates with related qualifications. This has resulted in a method of post-appointment professional qualification considered to be the unofficial standard for some time in South Africa.

The study established that in total, the modules that relate to digital records at the four universities with the programme in archives and records management were only 11. The number is considered few in comparison with some universities in the global hub such as the University of British Columbia in Canada offering over 30 modules in archives and records management. These modules cover a wide variety of topics including law, digital forensics, information security, etc. Garaba (2015) shows that the ESARBICA has historically followed models of in-service or “on the job” training programmes, and suffers from a lack of IT-related skills and competencies such as digital curation, digital preservation, audio-visual and digital archiving, and digitization, to name but a few. A heavy bias toward traditional theory has kept archival programmes behind, leaving archival graduates with “only cosmetic practical exposure, spiced with little dosages of digital technologies.” (Garaba 2015:217). Unfortunately, Garaba (2015) maintains that desirable changes are not implemented owing to lack of financial and personnel resources to support a digital curriculum: educators trained in the traditional school are ill-equipped to provide digital competencies (Garaba 2015:217). Other issues that regularly appeared in the literature were a need for more technology and specialization in African curricula. Computer skills are incredibly important to employers and with the increasing presence of electronic records and e-government, graduates of information programmes need to be able to confidently and competently navigate the digital realm. Katuu (2015) contends that it is difficult to execute

archival education in African countries owing to “low numbers of qualified staff, virtually non-existent research, poor quality of educational materials and educational methodologies based on the model of rote memorisation that does not encourage critical thinking, problem-solving and creativity.” It has been shown that many of the current programmes in South Africa suffer from these pitfalls.

There has been considerable debate on where archives and records management education programmes should exist within larger institutions. Leading professionals in the field have discussed this issue all over the world. According to Anderson (2015:43), university-based archival education programmes are often associated with history or library programmes. She also notes that some are placed within schools of information technology or computer science and that many have become part of Schools. Jimerson (2010:2) further explains that “because the archives profession grew out of the discipline of history, much of the early focus was on historical training and knowledge of history.” There have been many debates on whether history or library science was the preferred path of entry into a career in archives, but by the early 21st century, there were far more archival education programmes based on LIS than history or any other discipline (Jimerson 2010:3).

Close association with library programmes is the norm for archives and records management programmes in African countries. Theron (1998:15) considered the placement of archival education within a library school to be entirely appropriate due to available resources, shared goals and functions, and the opportunity for fruitful co-operation. It is therefore not surprising that so many information, archives and records management programmes are nested in departments or

schools of LIS. Changing global contexts provide an opportunity for new academic alliances such as iSchool.

The problem of inadequate provision of digital records in the curriculum is compounded by low throughput rate of a doctoral graduate. For a period of 20 years, only 25 theses addressing archives and records management themes could be traced on the websites of the universities in South Africa. The number is low considering the National Development Plan (2013) targets of producing more than 100 doctorates per million people per year by 2030, as the current figures are below international standards. Furthermore, very few topics in the doctoral thesis addressed the issue of digital records.

9. Conclusion and recommendations

It is clear that the current curriculum at public universities in South Africa does not fully embrace the management of digital records. As of 2017, the education and training available for archivists in South Africa consisted of only a few programmes offered by four institutions of higher learning out of 26 universities: the University of South Africa, the University of Fort Hare, the University of KwaZulu-Natal and the University of Cape Town. This is compounded by a low throughput rate in doctoral programmes with only 25 in 20 years. The numbers of students who received formal qualifications from these programmes are very small and in the long run, it may be very difficult for the Higher Education Institutions (HEI) to sustain these programmes. It is hoped that these graduates will contribute to the academic staff of the increasing number of new programmes in universities, as well as actively participate in global research.

Moving forward, several options could be suggested. For instance, more universities such as the newly established University of Mpumalanga and Sol Plaatjie University should consider introducing programmes in archives and records management. There should be curriculum re-alignment in tertiary institutions (curriculum should contain modules from law and computer sciences). More importantly, archives and records management should be a fully-fledged department. In addition, there should be considerations for an archival chair in institutions of higher learning to investigate issues relating to archives and records management. Finally, yet importantly, a statutory body to serve as the Institute of Certified Archivists and Records Managers should be established.

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Annexure A: List of public universities in South Africa

1. Cape Peninsula University of Technology
2. Central University of Technology
3. Central University of Technology,
4. Free State or Central University of Technology
5. Durban University of Technology
6. Mangosuthu University of Technology
7. Nelson Mandela University
8. North-West University
9. Rhodes University
10. Sefako Makgatho Health Sciences University
11. Sol Plaatje University
12. Stellenbosch University
13. Tshwane University of Technology
14. University of Cape Town
15. University of Fort Hare
16. University of Johannesburg
17. University of KwaZulu-Natal
18. University of Limpopo
19. University of Mpumalanga
20. University of Pretoria
21. University of South Africa
22. University of the Free State
23. University of the Western Cape
24. University of the Witwatersrand
25. University of Venda
26. University of Zululand

Annexure B: Doctoral studies on ARM undertaken in South African Universities

No	Name	Title	University	Year
1	Abankwah R	Management of audio-visual materials in the member states of the Eastern and Southern Africa Regional Branch of the International Council on Archives (ESARBICA)	UKZN	2008
2	Adu, K	Framework for digital preservation of electronic government in Ghana	UNISA	2016
3.	Ambira, C	A framework for management of electronic records in support of e-government in Kenya	UNISA	2016
4	Cameron, B	Cloud computing and innovation: its viability, benefits, challenges and records management capabilities	UNISA	2015
5	Chachage, B	Developing a village records management system model for rural development in Tanzania: a case study of Iringa region	UKZN	2006
6	Chaterera F	A framework for access of documentary heritage at the National Archives of Zimbabwe	UNISA	2017
7	Garaba, F	An investigation into the management of the records and archives of former liberation movements in East and southern Africa held by national and private archival institutions	UKZN	2010
8	Kalusopa, T	Developing an e-records readiness framework for labour organisations in Botswana	UNISA	2011

9	Katuu, S	Managing records in South African public health care institutions: a critical analysis	UNISA	2015
10	Kemoni, H	Records management practices and public service delivery in Kenya	UKZN	2007
11	Komba-Mlay, M	Factors influencing access to electronic government information and e-government adoption in selected districts of Tanzania	UNISA	2013
12	Lambrechts L	Ethnography and the archives: the power and politics in five South African music archives	Stellenbosch University	2012
13	Laughton, P	Open Archival Information System (OAIS) as a data curation standard in the World Data Centre	UJ	2012
14	Makhura, M	The contributions of information user behaviour and records management towards an organization's competitive performance	UJ	2005
15	Marutha, N	A framework to embed medical records management into the healthcare service delivery in Limpopo province of South Africa	UNISA	2016
16	Maseh, E	Records management readiness for open government in the Kenyan judiciary	UKZN	2015
17	Ndenje-Sichalwe, E	The significance of records management to fostering accountability in the public service reform programme of Tanzania	UKZN	2010
18	Ngoepe, M	Fostering a framework to embed the records management function into the	UNISA	2013

		auditing process in the South African public sector		
19	Ngulube, P	Preservation and access to public records in South Africa	UKZN	2003
20	Nsibirwa, Z	Preservation of, and access to, legal deposit materials in South Africa	UKZN	2012
21	Peters, D	Oxidation at the Wet/Dry Interface in the Deterioration of Paper in Library and Archival collections in Humid Climatic Conditions	UKZN	1998
22	Rodrigues, S	An archival collecting framework for the records generated by South Africa's Portuguese community-based organisation in Gauteng	UNISA	2014
23	Saurombe, N	Public programming of public archives in the East and Southern Africa Regional Branch of the International Council on Archives (ESARBICA): towards inclusive and integrated strategy	UNISA	2016
24	Schellnack-Kelly, S	The role of records management in governance-based evidence, service delivery and development in South African communities	UNISA	2014
25	Sibanda, R	Developing a service quality measurement instrument for archival institutions	UNISA	2011
26	Skotnes PA	Representing the Bleek and Lloyd archives: selected work from 1991-2007	UCT	2007

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