Managing Digital Records in Africa

Edited by Mpho Ngoepe

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Shadrack Katuu

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Introduction

Archives and records management (ARM) education and training has been the subject of numerous discussions for several decades (Hoy, 2004). In common parlance, education is viewed as introducing a learner to the theory and principles underpinning the professional practice in a discipline. Training provides the learner with a new skill (Franks, 2013, p. 289). It is immediately apparent that education programmes are more elaborate and run over a longer period than training programmes. Nonetheless, over the course of becoming an ARM professional, both education and training are essential to develop independent, competent lifelong learners.

The trajectory of discussions on ARM education and training in Africa has included both the historical and socio-cultural challenges related to accountability, good governance, emerging technological innovation, and the quest to unshackle from legacy structures (Ngoepe and Saurombe, 2021). Over the last three decades, African scholars have conducted several studies, ranging from opinion pieces, conference and seminar presentations, graduate-level research studies, and peer-reviewed studies on the state of ARM education and training on the continent (Ngoepe and Katuu, 2017). The purpose of this chapter is to provide an overview of ARM education and the training landscape in Africa. The chapter draws from research work conducted in case study AF01, *Curriculum Alignments at Institutions of Higher Learning in Africa: Preparing Professionals to Manage Records Created in Network Environments*, by the African team of the InterPARES Trust Project. The case study resulted in several research products, namely a review of the existing literature, two tracer studies of respondents from the African continent on their education and training experiences, and an inventory of education and training institutions in 38 of the 54 countries in Africa (Katuu et al. 2018a, 2018b, 2018c). Considering the extensive nature of all the research products, the tracer studies and inventory are not included in this chapter.

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At the outset, two issues are important to note. First, a discussion of ARM education and training should be understood against the backdrop of the effects that colonization had on the socio-cultural, political, and administrative structures of individual African countries and, by extension, the ARM professionals in those countries (Katuu, 2020b, pp. 276–278). The legacy of colonial and post-colonial recordkeeping left by colonial masters was quite poor (Tough, 2012). Second, for a continent as vast as Africa, there is often an overwhelming temptation for an unhealthy reductionist discussion characterized by a few blanket statements, providing a bland picture based on a stereotype. The problem with stereotypes "is not that they are untrue, but that they are incomplete. They make one story become the only story" (Adichie, 2009, p. 5). Therefore, whenever discussing education and training in African countries, it is essential to acknowledge their complex national and regional socio-political contexts (Katuu, 2015, p. 97). Failure to do so results in oversimplification and a tendency to speak of 54 countries that make up nearly a billion people as a single entity. For this reason, the chapter is intentionally supported by an extensive reference list to reflect the diversity of approaches that exist on the African continent. This will ensure that other scholars can explore numerous lines of inquiry related to the ARM profession.

The rest of this chapter is divided into several sections. The following section provides historical context with selected examples of national and regional efforts in African ARM education programmes. The subsequent section adopts the systems thinking approach to provide an outline on the policy framework, institutional processes, and stakeholders or actors who constitute the tapestry of ARM education and training on the African continent.

Historical context

The history of ARM education on the African content is intertwined with its colonial history. During Africa's colonial period, the responsibility for recordkeeping was taken by the colonial administrators who had poor or non-existent recordkeeping structures (Tough, 2009). Alexander and Pessek (1988, p. 121) state that "despite some good intentions, the officials responsible for records administration – governors, colonial secretaries, department heads (there were no full-time professional archivists as such) – by and large failed dismally to live up to their responsibilities." Therefore, it was not surprising that very few efforts were made to educate or train the indigenous peoples of the different countries. From the end of the 1950s and throughout the 1960s, as African countries gained independence from their colonial masters, there was a realization that the records that were initially managed by colonial administrators would have to be managed by citizens of the newly independent countries. This realization took place at the same

time as instances where exiting colonial administrators would either destroy or move records if they considered them incriminating, a common phenomenon in oppressive regimes.

Historically, there were three general types of interventions and knowledge transfer efforts at the beginning of the post-colonial period. In the first, ARM professionals from colonial powers provided short-term assistance to newly independent countries like Kenya, Nigeria, Tanganyika, and Zanzibar (Charman and Cook, 1967). The second offered scholarships and fellowships to African practitioners to build their capacity in either Western Europe or North America through funding by nations or inter-governmental organizations like The United Nations Educational, Scientific and Cultural Organization (UNESCO) (Rieger, 1972). The third type, which had an impact that lasted almost two decades, was initiated in the mid-1960s by the International Council on Archives (ICA) with the support of the Society of American Archivists and UNESCO. The institutions discussed setting up two regional archival training centres in Africa (Dakar, Senegal and Accra, Ghana) to serve Francophone and Anglophone countries. During the 1970s, two regional centres were set up in Senegal and Ghana, in 1971 and 1975 respectively, with funding obtained from the United Nations Development Programme (UNDP) and the respective countries (Evans, 1988). However, UNDP withdrew funds from both centres in the early 1980s. Neither country could fill the funding gap and the situation necessitated the development of national schools (Thurston, 1985).

From the early 1980s, UNESCO, which had been involved in the development of regional centres, encouraged countries to establish their own national schools to establish a national school to "serve their own needs within the framework of . . . international standards" (Thurston, 1985, p. 119). Khayundi (2011, p. 63) states that most records professionals "who practiced before mid-1980s either did not have any training or were trained overseas," arguably in programmes that were not tailored to the needs of African students. A recent survey of institutions in Africa revealed that over 60 ARM education and training programmes were offered across 16 of the 54 African countries, including pre-university (certificate and diploma), undergraduate, and post-graduate levels like a master's and/or doctoral (Katuu, 2015, p. 140–141). However, these do not include other training programmes found in the continent, including pre-appointment education, on-the-job introductory education and training, or post-appointment continuing education and training, which resulted in a lack of standardization across the profession (Katuu, 2015, p. 101).

Considering the complex historical and social-cultural differences in individual countries, the rest of this section provides an illustrative rather than comprehensive overview of 11 of the possible 54 countries on the

continent, listed in alphabetic order. Additionally, for some of the countries with a significant number of educational institutions, only a few are chosen to illustrate the developments.

It is important to highlight at least two known exceptions to the national ARM education and training programmes found on the continent. First, the Institute of Development Management (IDM) was established in 1974 by the president of Botswana and the Kings of Lesotho and Eswatini. They would combine their meagre resources to offer in-service short-term human resources, particularly to their civil services departments (Institute of Development Management, 2021a). The nations of Botswana, Eswatini, and Lesotho each host at least one IDM campus. In Botswana, IDM began its ARM certificate qualification in 2000, its diploma qualification in 2009, and eventually its bachelor's programme in 2016. Currently, IDM offers the ARM certificate diploma and bachelor's qualifications at the Botswana campus and the ARM diploma and bachelor's qualifications at the Eswatini campus. There is no ARM course or qualification in Lesotho (Institute of Development Management, 2021b). Second, the Eastern and Southern African Management Institute (ESAMI), which is an intergovernmental regional institution established by ten governments in 1980, is located in Tanzania (Eastern and Southern African Management Institute, 2021). These governments include Eswatini, Kenya, Malawi, Mozambique, Namibia, Seychelles, Tanzania, Uganda, Zambia, and Zimbabwe. ESAMI offers ARM courses as part of its qualifications and trains middle and senior managers from the region to improve their performance (Eastern and Southern African Management Institute, 2021).

Botswana

Botswana developed ARM education programmes through the University of Botswana's Department of Library and Information Studies (DLIS), which was initially set up in 1979 to offer diploma-level education in librarianship (Jain and Jorosi, 2015, p. 2). The department introduced an ARM certificate in 1995, an ARM diploma in 1997, and an ARM master's qualification in 2004 (Jain and Jorosi, 2015, pp. 7–8). Currently, it offers certificate, diploma, bachelor's, and master's ARM qualifications and a doctoral qualification with ARM specialization (University of Botswana, 2021). As noted, the country hosts an IDM campus, which provides ARM courses and qualifications.

Eswatini

Eswatini does not have an independent and indigenous tertiary-level institution that offers ARM courses or qualifications, even though there are

advocacy efforts for an open distance e-learning programme (Chisita and Tsabedze, 2021). However, ARM practitioners can enlist in education and training opportunities at the IDM campus hosted in the country, which offers ARM courses and qualifications. If they are public sector officials, they can undertake ARM courses at ESAMI in Tanzania.

Ghana

Ghana developed ARM education programmes at the University of Ghana, which hosted the Ghana Library School in 1961, moved to the institution in 1965, and was re-designated as the Department of Library Studies in 1965 (University of Ghana, 2021). In 1976, the department was renamed the Department of Library and Archival Studies when it started hosting the Centre for Archival Education in Anglophone Africa, offering a diploma and graduate diploma in ARM until its demise in 1982 (University of Ghana, 2021). Subsequently, it was renamed the Department of Information Studies and currently offers ARM courses as part of its information studies qualifications (University of Ghana, 2021).

Kenya

Kenya's earliest ARM education and training programme began in 1979 at the Kenya Polytechnic. During the 1980s and 1990s, the institution offered ARM qualifications at the certificate, diploma, and higher diploma levels. In 2013, the institution was converted to the Technical University of Kenya (TUK). Its Department of Information and Knowledge Management currently offers ARM certificate and diploma qualifications, as well as ARM courses within its other bachelor's and master's qualifications (Technical University of Kenya, 2021). Even though TUK's predecessor institution was the first to have ARM qualifications in 1979, there are over a dozen other institutions that currently offer ARM education and training opportunities. The rest of this section provides an illustrative sample of the institutions.

The Moi University's Faculty of Information Science, later known as the School of Information Science, was established in 1988. The Department of Library and Information Studies was established in 1989 and the Department of Archives and Records Management was established in 1991 (Katuu, 2009, p. 140). The school was the first in Kenya to offer an ARM qualification at the undergraduate level. During the 2005–2006 academic year, the school's two departments merged into the Department of Library, Records Management, and Information Studies. It continues to offer ARM qualification at the master's level and ARM specialization options at the bachelor's and doctoral levels (Moi University, 2021).

Other Kenyan universities that offer ARM courses and/or qualifications include:

- The Catholic University of East Africa's Department of Library and Information Science offers ARM qualifications at the certificate and diploma levels, as well as ARM courses in its bachelor's qualification.
- Kenya Methodist University's Department of Information Science offers an ARM qualification at the certificate level and ARM courses in its bachelor's and master's qualifications.
- Kenyatta University's Department of Library and Information Science used to offer ARM electives in its bachelor's and master's programmes in the 2000s. It currently offers ARM qualifications at the bachelor's and master's levels, and ARM specialization at the doctoral level (Katuu, 2009, p. 141).
- Kisii University's Department of Library and Information Science offers ARM courses in its bachelor's, master's, and doctoral qualifications.
- Mount Kenya University's Department of Information Science and Knowledge Management offers ARM qualifications at the certificate and diploma levels, as well as ARM courses in its bachelor's and master's qualifications.

Finally, as discussed earlier in this section, the government partly owns ESAMI; therefore, it can send its public sector officials to undertake ARM courses at the institution.

Lesotho

Lesotho does not have an independent and indigenous tertiary-level institution that offers ARM courses or qualifications. Even though it hosts an IDM campus, it does not offer ARM courses (Institute of Development Management, 2021b). Therefore, ARM practitioners must go outside the country to obtain education and training qualifications.

Malawi

In 2009, it was reported that Mzuzu University offered ARM courses in diploma and bachelor's programmes (Gondwe, 2020, p. 280). Since the 1990s, efforts have been made to offer fully fledged ARM diploma and degree programmes, at least at the University of Malawi and Mzuzu University; however, this has not materialized (Gondwe, 2020, p. 281). Instead, most professionals obtain their training from private firms within the

country or through education and training opportunities outside the country (Gondwe, 2020, p. 290). Lastly, as mentioned, the government partly owns ESAMI and, therefore, can send its public sector officials to undertake ARM courses at the institution in Tanzania.

Namibia

In 1995, the University of Namibia's Department of Library and Information Studies introduced an information studies programme for graduate information professions, including diploma and bachelor's qualifications with an ARM specialization option (Nengomasha, 2006, p. 209). In 1997, it changed its name to the Department of Information and Communication Studies to reflect the broadening of its base in information studies courses (Nengomasha, 2006, p. 209). By 2008, the department was offering a diploma-level ARM qualification with ARM courses in other diploma and bachelor's programmes (Nengomasha, 2006, p. 209). Currently, the department offers diploma, bachelor's, master's, and doctoral ARM qualifications, as well as ARM courses for other qualifications (University of Namibia, 2021). Lastly, as mentioned, the government partly owns ESAMI and, therefore, can send its public sector officials to undertake ARM courses at the institution in Tanzania.

Nigeria

Nigeria's earliest library sciences education and training programme began as the Institute of Librarianship within the University Library in 1959 (University of Ibadan, 2021b). In 1965, it changed its name to the Department of Library Studies and then to the Department of Library, Archival, and Information Studies in the mid-1980s when it started offering ARM courses (University of Ibadan, 2021b). The department currently offers a master's qualification in ARM (University of Ibadan, 2021a).

Other Nigerian universities that offer ARM courses and/or qualifications include:

- Ahmadu Bello University's Department of Library and Information Science was established in 1968 (Ahmadu Bello University, 2021a). The department currently offers ARM courses in bachelor's and master's qualifications (Ahmadu Bello University, 2021b; Ahmadu Bello University, 2021c).
- Nnamdi Azikiwe University's Department of Library and Information Science offers ARM courses in bachelor's and master's qualifications (Nnamdi Azikiwe University, 2021).

Senegal

As noted, Senegal had one of the first two training centres in Africa, which was established in 1971. The programme was eventually incorporated into the School of Librarians, Archivists, and Documentalists at the Université Cheikh Anta Diop de Dakar. The school currently offers ARM specializations in bachelor's and master's qualifications (Université Cheikh Anta Diop de Dakar, 2021a; Université Cheikh Anta Diop de Dakar, 2021b).

South Africa

South Africa's history differs significantly from most other countries in sub-Saharan Africa for two reasons. First, the nation started ARM education and training discussions at the nation's archival institution in the late 1940s (Ngoepe, 2008). Staff working at the institution were considered professionals if they held a Bachelor of Arts (BA) degree concentrating on history and underwent in-house training. Harris (1996, pp. 7–10) notes that the country's Public Service Commission approved a curriculum in archival science in 1950, including an examination that one had to pass to be considered a professional. In 1965, a post-graduate national diploma in archival science administered by the Department of National Education was introduced with the prerequisite still being the BA with a focus on history (Harris, 1996, pp. 7–10). In the 1990s, the national diploma course was moved to Technikon South Africa and the contribution of the National Archival Institution diminished over time. By the late 1990s, the University of KwaZulu-Natal, as well as the University of Witwatersrand, offered programmes at honours, master's, and doctoral levels, as well as a post-graduate diploma (Ngoepe, 2008, p. 75).

The second feature is the radical restructuring of higher education institutions between 2000 and 2006, as well as how that impacted ARM education and training in the country (Department of Arts and Culture [South Africa] 2010). The restructuring saw 36 public institutions merged into 23. Consequently, the institutions reviewed their academic offerings, which resulted in the number of universities exclusively offering ARM qualifications being reduced from five in the early 2000s to three in the early 2010s (Department of Arts and Culture [South Africa] 2010, p. xxi). However, there are additional institutions that offer ARM courses in other programmes.

The University of South Africa (UNISA), which is the preeminent institution in ARM education and training in the country, introduced ARM courses in its information science qualifications in 2000 (Ngoepe, 2008, p. 76). During the restructuring process, it inherited the ARM qualifications offered at the former Technikon South Africa. It consolidated the resources and infrastructure within its Department of Information Science (Ngoepe,

2008, p. 76). The department currently offers ARM qualifications at higher certificate and bachelor's levels, honours, and the ARM specialization at master's and doctoral levels (University of South Africa, 2021b, 2021c).

Other South African universities that offer ARM courses and/or qualifications include:

- The University of Fort Hare's Department of Library and Information Science has offered a post-graduate diploma in ARM qualification since 2007 (Department of Arts and Culture [South Africa] 2010, p. 114). Currently, the department offers an ARM qualification and ARM courses in its undergraduate and master's programmes.
- Since the 2000s, the University of Johannesburg's Department of Information and Knowledge Management offered an ARM module in its information management honour's degree.
- The University of KwaZulu-Natal's Department of Information Studies has offered an ARM post-graduate diploma since the 2000s. For a period, it suspended the diploma due to a lack of staff, but it was resumed in 2010 once the relevant staff member was appointed (Department of Arts and Culture [South Africa] 2010, p. 107). Currently, the department offers an ARM qualification at the post-graduate diploma level, as well as the ARM specialization in master's and doctoral qualifications.
- The University of Witwatersrand's School of Graduate Studies offered a post-graduate course in ARM in the 2000s (Department of Arts and Culture [South Africa] 2010, p. 107).
- Since the 2000s, the University of Zululand's Department of Information Studies has offered ARM courses in its undergraduate and diploma qualifications (Department of Arts and Culture [South Africa] 2010, p. 106).

Zimbabwe

Since the 1980s, Zimbabwe's earliest ARM education and training courses were at the Harare Polytechnic (Katuu, 2009, p. 141). The institution currently offers ARM qualifications at the certificate, diploma, and higher diploma levels. Other Zimbabwean universities that offer ARM courses and/or qualifications include:

- The National University of Science and Technology, which was established in 1991, began offering ARM qualifications in 2004 (Khumalo and Chigariro, 2017, p. 68). Currently, the institution's Department of Records and Archives Management offers ARM qualifications at the bachelor's and master's levels (National University of Science and Technology, 2021).

- Zimbabwe Open University's Department of Information Science and Records Management offers an ARM qualification at the bachelor's level (Zimbabwe Open University, 2021).

Lastly, as mentioned, the government partly owns ESAMI, which allows its public sector officials to undertake ARM courses at the institution in Tanzania.

Education system: a systems thinking approach

In most countries, formal ARM education and training programmes operate within an education system, specifically a higher education system. These systems are made up of a complex interaction of elements, including stakeholders or actors and assets (infrastructure and equipment) regulated by a policy framework to produce learning outcomes (Kaffenberger, 2021). Higher education systems comprise complex relationships that constitute disparate interactions among people, economies, government structures, laws, ethics, and cultural norms (Dhukaram et al., 2018). A discussion of ARM education and training systems in each African country would require detailed and highly nuanced elaboration. Therefore, it is necessary to use a systems approach to provide a meta-analysis of the elements constituting the disparate systems. Systems thinking is an approach that seeks to understand the connections among elements in a system. This section adopted a systems framework espoused by Dhukaram et al. (2018), which consists of a policy and regulatory context, organizational processes and procedures, and stakeholders.

Policy and regulatory context

One challenge for ARM educators relates to the introduction of ARM professionals to the complex web of the legislative, regulatory, and best practice framework within which ARM work is done. While ARM educators were building programmes from the 1980s into the 2000s, they had to contend with the rapid introduction of information management legal and regulatory norms across the globe. The most fundamental act in most countries would be the national records and/or archives act. Some nations, such as Kenya, had such legislation in 1965, two years after attaining independence from the British in 1963. In 1962, Uganda also gained independence; however, it only enacted its national archival legislation in 2001. For the most part, most African countries have national archival legislation.

A more disruptive legislative trend was the global movement for access to information, also known as the right to information or freedom of information legislation. The Organisation of African Unity (1981), the predecessor of the current African Union, recognized an individual's right to receive

information in its African Charter on Human and People's Rights, Article 9. Since the 1980s, regional and international organizations applied both direct and indirect pressure on tenants of good governance and accountability in public sector reform initiatives globally. Other African examples include the Declaration of Principles on Freedom of Expression in Africa, the African Charter on Democracy, Elections, and Good Governance (African Union, 2007), and the Model Law on Access to Information for Africa (African Commission on Human and People's Rights, 2013). These efforts underpinned the passage of access to information legislation or constitutional provisions in a number of countries from the 1990s through the 2010s (Lemieux and Trapnell, 2016, p. 14).

There are two trends in the enactment of access to information legislation. First, some countries have enacted fully fledged legislation, often accompanied by implementation regulations. These include South Africa and Zimbabwe in 2002, Uganda in 2005, Liberia and Guinea in 2010, Nigeria in 2011, Cote d'Ivoire and Rwanda in 2013, Burkina Faso in 2015, and Kenya, Malawi, Tanzania, and Tunisia in 2016 (Right2Info, 2021). Second, some countries only have a constitutional provision. These include Mozambique in 1990, Ghana and Madagascar in 1992, Seychelles in 1993, Ethiopia in 1994, Guinea Bissau in 1996, Senegal in 2001, Angola in 2002, Democratic Republic of Congo in 2006, and Cape Verde in 2010 (Right2Info, 2021).

Global experiences have shown that access to information legislation has the potential to positively impact recordkeeping and provide an enormous opportunity for ARM professionals (Shepherd, 2012, p. 176). Similar trends could be laid out for other legislation with an impact on recordkeeping, including data protection or data privacy and protection of personal information.

Institutional processes and procedures

Certain institution-level priorities guide and foment the implementation of ARM education and training. This section outlines institutional processes and procedures that constitute such an education system.

Curriculum development

Curriculum is at the core of education provision. Considering the history of many ARM programmes in Africa, curricula were initially informed by practices in the global north due to the legacy of colonization and marginalization of African cultures like orality (Bhebhe and Ngoepe, 2021). There has been a movement to transform the curricula with three broad trends. In the first trend, individual institutions transform their curricula. Ngoepe et al. (2022) document the process used by the University of South Africa's

ARM education programme to revise its curriculum to align with international trends and practices in the management of digital records. The second trend involves two or more institutions that collaborate to develop curricula. There seems to be no immediate African example to share. An example from the Global North includes three institutions (Canada, the United Kingdom, and the United States of America [USA]) that have collaboratively worked on developing the concept of computational archival science (Marciano, Lemieux et al., 2019). Of the three institutions (Canada's University of British Columbia, the UK's King's College London, and the University of Maryland in the USA), the latter seems to have extensively mapped its curriculum to align with the computational archival science framework (Marciano, Agarrat et al., 2019). The third trend, and perhaps the most impactful, is where professional associations develop the ARM curriculum framework. From the 1980s to the mid-2010s, professional associations in Canada and the USA sought to develop an understanding of what constitutes professional curriculum by identifying core vs. complementary knowledge areas (Society of American Archivists, 2016).

Theory vs. practical training

One of the main issues noted in the delivery of ARM education is the balance of theory vs. practice. As noted, in common parlance, education is viewed as introducing a learner to the theory and principles underpinning the professional practice in a discipline. Training provides a learner with a new skill (Franks, 2013, p. 289). Historically, many of Africa's ARM education programmes had a tendency towards skill-building rather than the development of a professional mindset (Katuu, 2009, p. 136). For instance, in a debate on the nature of education at the University of South Africa, Theron (1998, p. 114) noted that education involved instilling the capacity to learn rather than training by drilling or transferring skills or specific techniques. A skill-building environment that, among other things, uses an educational model of rote memorization, tends to "view students as embryonic professionals rather than as academic creatures who primarily assimilate and analyze concepts and by extension are competent to determine the connections between theory and practice" (Katuu, 2009, p. 138). This trend is not unique to Africa. According to Jimerson (2010, p. 3), North American ARM education emphasized practical skill development over an integrated theoretical foundation through the mid-1980s. Eventually, growing numbers of archival educators resulted in an emphasis on archival theory rather than practical experience (Jimerson, 2010, p. 3).

There is a concern about an overly theoretical emphasis (Garaba, 2015, p. 217). Graduates from Uganda's Makerere University lamented that the

theoretical curriculum did not provide them with important practical skills, requiring them to undergo lengthy in-service training before starting their new jobs (Lutwama and Kigongo-Bukenya, 2004, p. 106). For this reason, several programmes introduced experiential opportunities through internships, work studies, or similar programmes. These may differ in duration from several days to several weeks, either once or twice during the course of an ARM qualification, for instance, in Botswana, Ghana, Namibia, or Zimbabwe. The emphasis should be on providing a balance between theory and practice so graduates have both the conceptual and practical skill set needed to thrive in the field (Noko and Ngulube, 2015, p. 281). In addition, there must be a balance between theory and practice relevant to national and regional needs.

Embracing technology

From the 1990s through the 2010s, African scholars lamented the inadequate knowledge and training of educators in information and communication technologies within the profession (Garaba, 2015). The advent of government reform programmes of the 1990s and e-government transformation of the 2000s put additional impetus on professionals to assess and acquire appropriate technology competencies in their ARM education and training programmes (Nengomasha, 2006, p. 214).

Many technology trends are discussed in the context of the Fourth Industrial Revolution, a term attributed to Klaus Schwab. This industrial revolution follows the mechanization of the agrarian society, road and telecommunication infrastructure, and ubiquity of digital technologies in the first to third industrial revolutions, respectively. The fourth revolution is characterized by an increased use of smart technology, as well as the automation of traditional manufacturing and industrial practices (Katuu, 2021b, p. 62). The themes discussed in this context include cloud computing, blockchain technology, enterprise-wide systems, and architectural disciplines like enterprise and information architecture.

Cloud computing technology has its roots in the networking of computing infrastructures in the 1970s. Its most modern form emerged in the early 2000s and enables "ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction" (Mell and Grance, 2011). Katuu (2021b, p. 63) argues that this technology brings both challenges and opportunities to ARM professionals in Africa. Cloud technologies have become the platform on which to host off-premises applications using thin-client architecture on mobile devices. This has evolved from on-premises applications that limited practitioner agility

(Katuu, 2021b, p. 63). Challenges included the loss of jurisdictional control over public records that are managed and stored in disparate locations outside a nation (Katuu and Ngoepe, 2015, p. 66).

Blockchain technology, which was first implemented in the late 2000s, is most widely known to support cryptocurrencies. Lemieux et al. (2019) consider it a technology of trust, describing it as a type of distributed ledger comprised of confirmed and validated blocks cryptographically chained together. The technology can be used as a recordkeeping system, even though there are shortcomings in the design, implementation, and governance for the technology to be considered as ideal for trustworthy public recordkeeping.

Institutions are increasingly implementing enterprise-wide systems like customer relationship management (CRM), supply chain management (SCM), and enterprise resource planning (ERP) systems, particularly in integrating disparate business processes in real time (Katuu, 2020a, 2021a). These systems tend to be expansive, integrating vast aspects of institutional processes and supporting thousands (sometimes hundreds of thousands) of transactions per minute. For this reason, the identification, capturing, and management of records generated in such systems would have to use digital means. To respond to this challenge, ARM education and training programmes could draw guidance from professional good practice; for instance, the ISO 16715 standard on processes and functional requirements for managing records provides guidance, stating there are at least three possible scenarios (International Standards Organization, 2020):

1) A business application has internal records management capabilities.
2) A business application has a records management application component as a separate specialized sub-system.
3) A business application uses records management services that are autonomous from a separate application.

Various versions of these scenarios have either been implemented or are being explored by ARM practitioners, including in Botswana, Kenya, South Africa, and Zimbabwe (Chaterera et al. 2018; Kalusopa et al., 2018; Katuu, 2018a; Mello, 2020; Moseti et al., 2018; Mosweu et al., 2019).

Organizations are increasingly using architecture disciplines, such as security or enterprise solutions, to assess information technology ecosystems and align any developments with institutional goals. For instance, enterprise architecture consists of a collection of special documents or artefacts that describe various aspects of an organization from an integrated perspective. This links the institutional mission, strategy, and processes to its information strategy (Katuu, 2019, p. 3116). Leveraging enterprise architectural principles makes it possible to embed recordkeeping in the strategic goals of an institution, and to influence systems analysis, design, planning,

and change management (Katuu, 2018b). For this reason, the ISO 21965 standard on records management in enterprise architecture was developed to provide a common understanding for records professions and enterprise architects about requirements for records processes and systems (International Standards Organization, 2019). Enterprise architecture is relatively new to ARM practitioners; therefore, exploratory discussions and experiences have only started to emerge. Examples of such discussions include professionals in international organizations (Katuu, 2021c) and a doctoral study in a South African institution (Mello, 2020).

Engaging in research

Considering the discussion related to curriculum, the tension between theory and practice, and the topic of embracing technology, there is a need to incorporate research in ARM education and training activities. Shepherd (2012, p. 176) argues that there is a danger of losing the war to save the profession without the establishment of a research base. According to Schaeffer (1997, p. 73), graduate-level education is the best setting to develop "a compelling and coherent body of theory and to make education in this theory relevant" to the profession. Until the late 1990s, ARM professionals in Africa did not actively contribute to global research activities due to a lack of constant and prolonged exposure to such efforts (Ngoepe et al., 2014). For this reason, efforts have been made to improve ARM education, in general, and, particularly, in graduate education. For instance, between 2013 and 2019, the University of South Africa's Department of Information Science coordinated the activities of an African team of educators, practitioners, and graduated students as part of the InterPARES Trust research project (Katuu, 2016)).

ARM qualifications or ARM specializations in other courses

Beyond a discussion of the curriculum, the intricate balance between theory and practice, and the incorporation of technology, is the debate about the levels and types of ARM qualifications offered. First, with regard to levels, there are generally three major categories (Katuu, 2015, p. 7):

1 pre-university qualifications: certificate, higher certificate, diploma, and higher diploma qualifications;
2 undergraduate university qualifications: hues of first-degree qualifications; and
3 graduate (post-graduate)-level qualifications: post-graduate certificate, post-graduate diploma, and hues of master's degrees and doctoral degree qualifications.

In many cases, institutions determine the levels of ARM qualifications offered based on internal dynamics and national priorities.

Second, with regard to types, the many nuanced variations can be divided into independent and generic qualifications. An independent ARM qualification could be a certificate or degree that is explicitly identified as ARM. This includes all or most of the curriculum covering ARM courses. A generic qualification may be offered in a related discipline, such as information science or information studies, and have limited contribution of ARM courses in the curriculum. Based on a general assessment of ARM programmes, independent ARM qualifications tend to dominate at the pre-university level, with a possible equal measure of independent and generic qualifications at the undergraduate and graduate levels (Katuu et al., 2018a). Beyond these general trends, each institution within individual countries may have variations. For instance, in South Africa, the University of South Africa introduced an independent ARM qualification at the undergraduate level; however, it remains with specialization at the master's and doctoral levels (University of South Africa, 2021a).

Continuing Professional Development (CPD)

ARM education and training discussions would not be complete without the discussion of state CPD, which is the "systematic method of learning that leads to growth and improvement in professional abilities, enabling individuals to function successfully in a changing work environment" (Majid, 2004, p. 58). Competency-based training for CPD and involvement in research-based enquiry and knowledge creation are both needed to sustain well-rounded professionals (Anderson, 2007, p. 94). The purpose of CPD activities is to "fill the knowledge gaps between formal education and the needs of the professional practice" (Majid, 2004, p. 58). For instance, in 2006, the Swedish International Development Cooperation Agency's (SIDA) Records Management in Service of Democracy (RMSD) programme supported ARM professionals from southern and eastern Africa (Justrell, 2007). However, Anderson (2007, p. 98) argues that "an unstructured aggregation of short courses alone is unlikely to lead to the development of well-rounded professionals." Therefore, it is necessary to develop multiple paths of learning outcomes and strategies, namely competency-based learning, workplace learning, reflective learning, and self-directed learning (Hoy, 2004, pp. 13–15).

In Australia, two professional associations developed a guide to record-keeping for professionals. This guide included tasks, competencies, and expected salaries in six progressive bands of their professional careers (ASA and RMAA Joint Education Steering Committee, 2010). It follows

a capability of maturity model with six levels, as well as indicators of the tasks for each level, academic certification, and descriptive information related to remuneration.

Stakeholders

A coherent education system includes several actors and/or stakeholders, such as teachers, students, administrators, and institutional actors (Dhukaram et al., 2018, pp. 11–13). This section discusses the contribution of five such stakeholders.

Policy or government stakeholders

Policy or government stakeholders are at the highest level of accountability in any education system. To fulfil the core purpose of an education system, there is a need for "strong political will and the commitment and dedication of leaders to explicit learning goals, and the clear communication and delegation of these goals to the rest of the system" (Kaffenberger, 2021). An issue of concern for policy makers in African universities has been the need to introduce a systematic national qualifications framework given the varied nature of qualifications offered in diverse institutions of higher learning. In South Africa, this process culminated in a higher education qualifications framework law in 2007. At the time of the introduction, there was concern that new titles (higher certificate, advanced certificate, and post-graduate diploma) would cause confusion. Figure 5.1 shows the current National Qualification Framework (NQF) levels and qualification types, as well as the responsible institutions.

Since its introduction in South Africa, there seems to have been more clarity regarding the ten NQF levels, the interaction between the four regulating institutions, and the equivalences between different qualifications. ARM education programmes in institutions like UNISA constantly refer to the framework in their communication (University of South Africa, 2021a).

In Kenya, a law enacted in 2014 established the Kenya National Qualifications Authority (KNQA) to help coordinate and harmonize the various levels of education in the country (Kenya National Qualifications Authority, 2021a). KNQA is developing "an accurate, reliable and robust database of all qualifications in the country that will allow for comparability, equation, recognition and information sharing of qualifications globally" (Kenya National Qualifications Authority, 2021a). Figure 5.2 shows the levels and qualification types:

The qualification framework is not as embedded in Kenyan education programmes as in South Africa due to legacy challenges and the introduction of

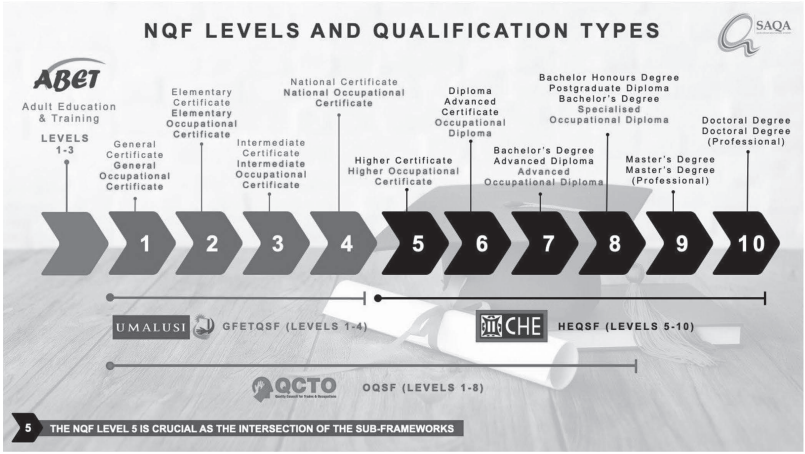

Figure 5.1 South Africa's National Qualification Framework levels and qualification types

Long description: Graph showing progression of South Africa's National Qualification Framework levels from Adult Education and Training on the left side progressing through several certificates, diploma, degree, masters and doctoral qualifications on the right side.

(*Source*: Department of higher education and training [South Africa] and South Africa Qualifications authority [2017])

a nationwide curriculum, starting in elementary school. Nonetheless, qualifications frameworks are a valuable step in determining equivalence within a country and between countries, supporting students between phases of learning, and bridging the gap between education and practice.

ARM educators

At the core of ARM education and training activities are the educators and trainers in varied institutions. For quality learning to take place, there is need for "research-based higher education, particularly at the doctoral level" because this is increasingly becoming the base qualification for appointment to teaching posts in university professional education programmes that function to supply qualified practitioners, future educators, as well as nature research projects that solve problems and build new knowledge (Anderson, 2007, p. 103). An example of research projects where African ARM educators have contributed were those developed by the International

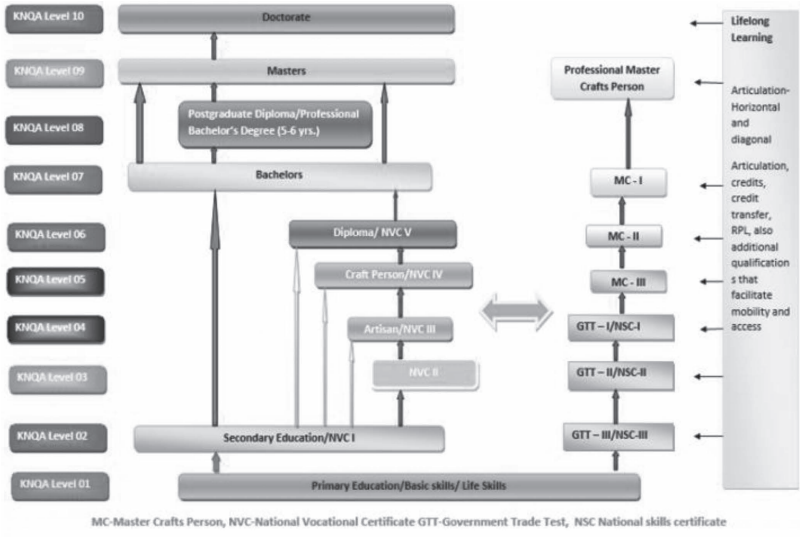

Figure 5.2 Kenya's National Qualification Framework levels and qualification types

Long description: Graph showing progression of Kenya's National Qualification Framework levels from primary education at the bottom in Level 1 through secondary education progressing through several certificates, diploma, degree, masters and doctoral qualifications at the top.

Source: Kenya National Qualifications authority, 2021b

Records Management Trust (IRMT), which was established in 1989, drawing from the experience of founder Dr. Anne Thurston, while working as an ARM educator at the University College London. Over the course of 30 years until it closed in 2019, the IRMT coordinated the development of educational material and tools and conducted research. This established a rich resource of free knowledge products on its website (Katuu, 2020b, pp. 280–281). During this time, the IRMT (2018) partnered with many African ARM educators to conduct consultancy projects in countries like Botswana, the Democratic Republic of the Congo, Egypt, Ethiopia, Ghana, Kenya, Lesotho, Nigeria, South Africa, Tanzania, The Gambia, Uganda, Zambia, and Zimbabwe.

Between 2013 and 2019, the University of South Africa's Department of Information Science coordinated the activities of an African team of educators, practitioners, and graduated students as part of the InterPARES Trust research project (Katuu, 2016). The book to which this chapter is

a contribution is one of the many knowledge products generated by the African team of the project. ARM educators have continued to engage in these kinds of research and modern digital challenges like cloud computing (Katuu and Ngoepe, 2015).

ARM students

While educators form the supply side of knowledge, ARM students are seen as the receiving side of that knowledge. Many African institutions of higher learning have been plagued by poor learning methodologies. In these, learners were viewed as "embryonic professionals rather than as academic creatures who primarily assimilate and analyze concepts" (Katuu, 2009, p. 138).

Nonetheless, a major contribution of ARM students to the education system has been through tracer studies, which are empirical evaluations of institutional programmes. Only one of the studies, conducted by Noko and Ngulube (2015), exclusively collected data from ARM graduates. The reason for this is that the other institutions had graduates with more general qualifications in information science, library, and information studies.

Nonetheless, the studies were able to provide feedback, allowing educational institutions to validate the learning outcomes and employability patterns. In addition, they could understand emerging professional challenges and provide catalysts for curricula review and reform.

Educational institutions

Among the many challenges in educational institutions that offer the different types and levels of ARM education, are a low number of qualified staff, poor quality of educational materials, and obsolete programmes. However, these institutions also contribute to the challenges in two ways. First, they have varied interpretations of macro-decisions made by national policy stakeholders. Second, they make decisions via the institutional leadership. In the first instance, for example, when South African national policymakers decided to restructure universities in the 2000s, resulting in a reduction from 36 to 24 universities and later to 26, some individual universities hosting ARM programmes also decided to abolish those programmes, reducing the offerings in the country from five to three (Katuu and Ngoepe, 2017, p. 22). An example of the second instance relates to the placement of ARM programmes within institutions. In the past, ARM education programmes were associated with history or library programmes. However, the global trend is increasingly for programmes to be located in information science, computer science, or iSchools (Anderson, 2015, p. 43). ARM programmes are often located in departments that are within schools or faculties such as

human science, social science, information science, communication studies, or science. In one case, it is an independent institute within the university. There is no ideal structure. Therefore, this would depend on the peculiarities of the educational institution, as well as national realities.

Professional associations

Professional associations are a critical component of an education system. First, associations may provide a directory or compilation of education and training programmes without endorsing or accrediting them, as demonstrated in Canada and the USA (Association of Canadian Archivists, 2021; Society of American Archivists, 2021). Second, they may monitor and evaluate the content education and training programmes, often providing accreditation for a period, as was the case in Australia, the USA, the UK, and Ireland (Archives and Records Association, 2021; Australian Society of Archivists, 2021). Third, they may guide curriculum development, as demonstrated in the development of graduate curricula in Canada and the USA (Society of American Archivists, 2016).

The state of ARM professional associations is a mixed bag, ranging from a lack of ARM-specific national associations in many countries, to countries having at least one association (Kenya), to others having or having had more than one association (South Africa). In countries that have no national association, ARM professionals have participated in a regional branch of the International Council on Archives, which has three branches in sub-Saharan Africa. One is for east and southern Africa, another for west Africa, and another for central Africa, with north Africa included in the Arab Regional Branch (International Council on Archives, 2021). A unique contribution to ARM education and training was during the 11th biennial meeting of the east and southern regional branch in 1991 where several presentations addressed challenges and opportunities (Kukubo and Seabo, 1992). In 2015, the International Council on Archives launched a five-year African Strategy that identified training and education as one of the two key strategic aims. As part of the programme, the association trained more than half a dozen academics in digital data curatorship (Mojapelo and Ngoepe, 2020, p. 13).

Currently, there are two active national ARM associations, namely the Kenya Association of Records Managers and Archivists and the South African Society of Archivists, as well as a number of intermittently active ones, including the South African Records Management Forum (SARMAF) and the Records and Information Association in Botswana established in 2005 and 2008, respectively (Mojapelo and Ngoepe, 2020, p. 8). However, none of the associations have yet published evidence of having undertaken the three identified contributions to ARM education and training in the form of

a directory, evaluation/accreditation, or curriculum development. Nonetheless, they continue to provide other services to the profession, developing a sense of ARM identity and advocacy within the larger society (Mojapelo and Ngoepe, 2020, p. 5).

Conclusion

The outset of this chapter stated the importance of considering each African nation's complex socio-political history, noting great variance between each country and the danger of oversimplification to generalize conclusions for a continent of 54 countries and over a billion people. To this end, the chapter sought, using varied experiences from different countries, to weave the narrative of ARM education and training on the continent. Many of the issues discussed in this chapter are not exclusive to the situation in Africa. For example, relating to the legacy of colonialism, a weak sense of professional identity, and/or debates on theory vs. practical training are issues that the ARM field faces across the world. In response to this, international collaboration has emerged as a proactive approach that allows records professionals to share knowledge and learn from each other.

This chapter adapted a systems thinking approach to explore three categories of issues impacting ARM education: (1) policy and regulatory context; (2) institutional processes and procedures; and (3) stakeholders. The discussion made a deliberate effort to cite copiously, particularly publications from the global south that would otherwise not receive much visibility in global north discussions.

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