

## Managing records in South Africa's public sector – a review of literature

Shadrack Katuu<sup>1</sup> (PhD)  
International Atomic Energy Agency  
Research Fellow: Department of Information Science, Unisa  
[skatuu@gmail.com](mailto:skatuu@gmail.com)

### Abstract

*The management of records in South Africa has been the subject of extensive and rigorous discussion over several decades. This article provides an outline of masters and doctoral dissertations that have investigated different aspects of the management of records with an emphasis on digital records. The discussions demonstrate that there are a large variety of studies that have been conducted but a number of them have not leveraged on findings of previous studies nor have they engaged on conceptual clarity of terms. This article is an effort in contributing to coalescing efforts and catalysing discussions on these fundamental pillars in order to encourage further research.*

**Key words:** records management, electronic content management, public sector, South Africa, archives

### Introduction

The management of records in South Africa has been the subject of extensive and rigorous discussion over several decades. These discussions have taken place in professional gatherings and in academic publications. The themes have covered everything from South Africa's unique historical legacy to its current challenges. This article highlights a sliver of those discussions, primarily drawn from masters and doctoral dissertations supplemented by a few other published sources. It provides a general overview of the studies but covers more specific examples with regards to managing digital records. The discussion on the management of digital records is more detailed for two reasons. First, studies on

digital records have not been given much prominence in professional discussions in the past. Second, there have been discussions on the implementation of software applications to manage digital records with little evidence of synergies amongst researchers as well as records management practitioners. This article highlights some of the significant developments in the management of records with an emphasis on digital records in South Africa.

### Literature Review

An analysis of masters and doctoral dissertations shows that the records management landscape in South Africa is very diverse and the discussions could be divided into two major threads. In the first thread are studies that have examined the management of records in South Africa from either the public or private sector perspectives. Within the public sector, some studies looked at institutions within the national government such as the Office of the President (Kwatsha, 2010) and the Department of Cooperative Governance and Traditional Affairs which, at the time of the masters level study, was known as the Department of Provincial and Local Government (Ngoepe, 2008). At the provincial level, studies include: the Office of the Premier in Eastern Cape Province (Munetsi, 2011) and the Department of Health in Limpopo Province (Marutha, 2011). There have also been studies at municipal government level such as Polokwane Municipality (Makhura, 2001) and Amathole District Municipality (Kanzi, 2010). In addition, studies have been conducted on other public institutions such

as the University of Zululand (Coetzer, 2012), South African National Parks (Makhura, 2006) and Sasol (Wilson, 2010). There is a study that surveyed a cross-section of public sector government institutions constituting 14 National Departments, 28 Provincial Departments, 41 Municipalities and 11 Statutory Bodies (Ngoepe, 2013). The preceding outline shows that the majority of the studies examined records management in public sector institutions with only one study that examined a private consulting company (Mrwebi, 2000).

In the second thread are studies that examined the management of records in South Africa focussing on specific subject areas and these include:

- Auditing and records management (Ngoepe, 2013).
- Confidentiality in records (Nell, 2006),
- Deterioration of paper in archival collections (Peters, 1999)
- Emergency care records (Chandran, 2002, Nkombua, 2000, Thumbiran, 2010),
- Health records of gold miners (Ismail, 2007),
- Management of audio-visual records (Abankwah, 2008),
- Management of nursing records (Geoghegan, 2000, Rampfumedzi, 2006)
- Management of records and archives of former liberation movements (Garaba, 2011),
- Management of records in the public health care sector (Katuu, 2015b),
- Management of Truth and Reconciliation Commission (Kenosi, 2008),
- Patient-retained health records (Kerry, 1999, Norden, 2002, Okorie, 2003)
- Preservation and access of legal deposit materials (Nsibirwa, 2012)

- Preservation of archival records (Ngulube, 2003),
- Records of the South African Portuguese community (Rodrigues, 2013),
- Role of records management in alleviating poverty (Schellnack-Kelly, 2014)
- Service quality in archival institutions (Sibanda, 2011),

The management of digital records is a special subject area that deserves more detailed discussion for two main reasons. First, studies on digital records have not been given much prominence in professional discussions in the past. Second, studies that have explored topics including the implementation of digital management software applications such as EDRM (Electronic Document and Records Management) systems and Enterprise Content Management (ECM) systems with little evidence of synergies amongst researchers as well as records management practitioners. This discussion outlines masters and doctoral dissertations that have been conducted in the country in the quest to widen understanding of key findings.

One of the earliest discussions on digital records in the scholarly arena was in 1999 by Brad Abbott in his masters level study. In his dissertation on electronic memory in South Africa, Abbott investigated the role of the National Archives of South Africa with regard to the management of electronic records in the country. The study found that the National Archives faced numerous challenges including lack of staff resources, lack of adequate practical experience as well as the low status of the institution within government (Abbott, 1999).

In 2001, Mphalane Makhura (2001) completed a masters level dissertation on the role of electronic records within Polokwane Municipality in South Africa. The study surveyed staff members within different

departments of the municipal government in order to determine, among other things: their areas of responsibility, their educational and skills background and to what extent they used the Electronic Document Management Systems (EDMS). The study found that the surveyed staff members were largely not highly qualified or skilled but a majority could access the EDMS.

In 2010, Ntombizandile Kwatsha completed masters level research on implementation of software applications to manage digital records in four national government ministries with special interest in the Office of the President. The study investigated factors that determined the success or failure of implementing Electronic Document and Records Management (EDRM) software applications. In order to do this, the study provided a detailed historical background on EDRM implementation processes at the Office of the President that spanned five years. The study concluded that the factors that determine the success or failure in implementation are varied including: strategic factors (such as the business case, top management support and change management), social factors (such as user involvement, Value-Added Reseller involvement and support, training and effective communication) as well as technical factors (system functionality and system integration with records management). Additionally, the study found that these different factors are interrelated and always in constant interaction to determine overall success in implementation (Kwatsha, 2010).

In 2010, Welma Wilson completed a masters level study that examined whether Sasol Technology had efficient procedures and processes for governing its Document Management System. The study revealed that the institution needed to improve on its project documentation as well as integration with different functions of Sasol Business Units (Wilson, 2010).

In 2011, Ngoako Marutha completed masters level research that investigated record-keeping practices in the public health care sector in Limpopo Province. It sought to determine the impact of good record-keeping on service delivery. The study observed that patients had long waiting times and, in some instances, ended up receiving treatment without their medical history records. The study recommended the introduction of an Electronic Records Management System (ERMS) (Marutha, 2011).

In 2011, Ndakasharwa Munetsi completed a masters dissertation that investigated the viability of digital records management in the Office of the Premier in the Eastern Cape Province. While the study found that the institution had undertaken a number of records management initiatives, the EDRM application was not being used effectively. Among the reasons included: staff lacking adequate skills and competencies in the new technology, and the need to enhance security as well as long-term preservation within the system (Munetsi, 2011).

In 2012, Xolile Coetzer completed masters level research on the status of records management at the University of Zululand. The study found that the institution had no formal records management policy, no qualified records management practitioners and the staff responsible for records lacked in relevant skills and knowledge. The study recommended that the institution considers developing a records management programme, appoint a records manager as well as introducing SharePoint as a document and records management application to assist with management of records (Coetzer, 2012).

The studies above demonstrate a steady interest in the management of digital records within South Africa and provides a backdrop to the threads discussed in the following section.

## **Discussion**

Several observations can be made from the above reviewed literature. On a very general level, many studies found that while there were several areas of weakness in the management of records in the country, there have been a number of institutions that could be considered pockets of excellence (Katuu, 2015b, Kwatsha, 2010, Ngoepe, 2008). For instance, the provincial administration in Limpopo appointed a senior officer responsible for records management who provided strategic and material support for the appointment and training of records management professionals in health institutions. This likely contributed immensely to the Limpopo Department of Health and Social Development being recognised in the Golden Key Awards in 2008 as the best performing provincial department in the country (Open Democracy Advice Centre and South African Human Rights Commission, 2008, p. 7). In 2010, the department was again commended together with the Office of the Premier in Limpopo as the two “good practice institutions” in the country for having “developed effective PAIA implementation mechanisms” that register and track requests for information (Open Democracy Advice Centre and South African Human Rights Commission, 2010, p. 17).

Unfortunately the lessons learnt from different pockets of excellence don't seem to have permeated throughout the studies. While discussions on the management of

digital records have spanned more than a decade and a half, there is little evidence that more recent studies have learnt from older ones or that there is significant transfer of knowledge across institutions. For instance, the experiences shared by the Office of the President would be instructive for the Office of the Premier in the Eastern Cape (Kwatsha, 2010, Munetsi, 2011). A similar observation is made between a study from 2001 in Polokwane as well as one in 2011 Eastern Cape both raising the issue of poorly skilled staff without much synergies (Makhura, 2001, Munetsi, 2011).

A key issue observed in the studies that covered digital records is that a number of different terms have been used such as: Electronic Document and Records Management systems (EDRMS), Electronic Document Management Systems (EDMS), Electronic Records Management Systems (ERMS), Enterprise Content Management (ECM), and Integrated Document and Records Management Systems (IDRMS). These terms have been used interchangeably in several academic discussions and it would be helpful to clarify how they are related (Nguyen et al., 2007). Katuu has argued (2012a, p. 38) that the terms should be viewed from an evolutionary perspective since each of these technologies emerged at different times from the early 1980s. The evolutionary perspective has three generations: EDMS and ERMS in the first generation, IDRMS and EDRMS in the second generation, and ECM in the third generation. The evolutionary process is illustrated in the diagram below (Katuu, 2016b).

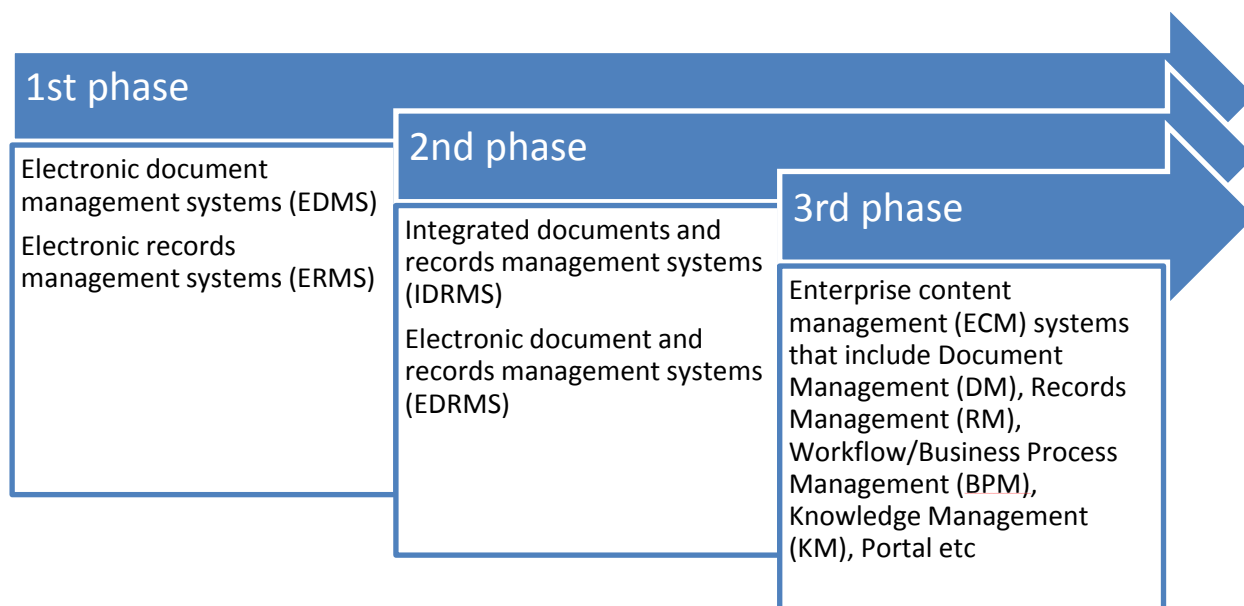


Figure 1: The evolution of various terms related to the management of digital records

ERM systems evolved from early automated techniques for managing hard copy records while EDM systems evolved from software designed to build concordances and then became automated techniques for managing hybrid collections of largely similar types of documents such as procedure manuals (Arden et al., 2009, p. 47). EDM systems were also often referred to as Document Imaging Management (DIM) systems since they were used to scan and save images of hardcopy documents for central storage and easy retrieval (Cvision Technologies, 2011). ERMS and EDMS merged in the mid to late 1990s as EDRMS. “Since then, there have been important add-ons and improvements such as email integration and workflow” (McDonald, 2011). The evolution from the second to the third generation was precipitated by the web environment that radically changed business activities within institutions (Dural, 2006, Gilbert et al., 2011, p. 52, McDonald, 2011). The term ECM has been used for more than a decade by professional service institutions such as Gartner and Forrester (Moore and Markham, 2003, Shegda et al., 2004) as well as in research projects such as InterPARES (Rogers et al., 2011). The Association for Information and Image Management (AIIM) defines ECM as constituting “strategies,

methods and tools used to capture, manage, store, preserve and deliver content and documents related to organizational processes” (AIIM, 2010).

Sprehe (2005) had one of the earliest ECM discussions presenting case studies that illustrated benefits of records management to “non-records management business functions”. Kwatsha (2010) examined ECM in the context of discussing EDRMS implementation at the South African Office of the President. Kulcu and Cakmak (2012, p. 194) argued that there is a linear relationship between records management and ECM with a tendency for “integrated systems oriented towards content management in the digital environment”. In 2014 three ministries in the Government of France conducted a joint research project that explored the field of content management in order to identify issues related to tools, initiate strategy and contribute professional literature on the subject (Archives de France, 2014, p. 5-6). Lemieux (2015, p. 12-13) discussed ECM implementation in the context of the e-government efforts in transparency and accountability. The ECM concept can be viewed in two related ways. First, it could be

viewed as the final point in an evolutionary process, where other concepts such as EDMS and ERMS were predecessor concepts. Second, it could be viewed as an all-encompassing concept that accommodates predecessor concepts and would help clear any confusion regarding the different concepts (Nguyen et al., 2007, Sprehe, 2005).

Three additional observations can be made on the management of digital records in South Africa. First, while the national eHealth Strategy advocates for the implementation of EDRM systems in the country (Department of Health [South Africa], 2012, p. 26), there are pockets of excellence that could provide useful lessons. For instance, the implementation of an ECM software application by the Western Cape Department of Health that began in 2011 at the Khayelitsha District Hospital (OpenText, 2012, Weeks, 2013a). The project converted paper patient records into electronic format and managed them through a central repository resulting in the elimination of the movement of hardcopy patient records and allowed multiple authorised access (PR Connections, 2012). Also in 2011, the Western Cape Department of Health piloted a similar ECM software application at the Oncology Unit of the Tygerburg Hospital (PR Connections, 2011, Weeks, 2013b). By 2012, the ECM software application managed over 6000 electronic patient records and in 2013 the hospital announced it would be rolling out the application within the whole hospital (Western Cape Government [South Africa], 2013, p. 1). In 2013, the Western Cape Government offered a three year ECM contract to roll out the application to “any hospital and primary health care facility” identified by the Department of Health across the province (Bizcommunity, 2013).

Second, records management professionals could draw valuable lessons from a number of studies published on South Africa. For instance, a study published in 2012 based on a survey of ten South African institutions

demonstrated that they had both substantive as well as sophisticated experience with ECM implementation (Katuu, 2012a, p. 48-51). A related study examined the use of the maturity model concept in order to assess the quality of ECM implementation in a number of South African institutions revealing that the institutions were at a low level of maturity (Katuu, 2013). A more recent study reveals that while the South African government may have passed the Free and Open Software Policy, governmental bodies in the country preferred using proprietary ECM software (Ngoepe, 2015).

Third, while this discussion has been exclusively on the circumstances in South Africa, the digital applications used in the country exist within a global ecosystem. At the time of the study on the ECM landscape in South Africa there were 17 Value-Added Resellers or VARs in the country (Katuu, 2012a, p. 45). VARs are companies that add features to an existing application and then resell it to end users as an integrated solution. In addition VARs provide professional services, such as integration and customization of software applications as well as training to support the implementation process. These added services make VARs an integral part of the ecosystem in the South African software applications market. However only three of the 17 VARs had developed their own applications while the rest provided services for six of the global ECM companies (Katuu, 2012a, p. 44-45). Therefore, any changes in the global companies would have a significant impact in South Africa as was the case when one company, OpenText, bought out Hummingbird in 2006 (Sayer, 2006). In South Africa, it meant that five rival companies that served two separate companies were forced to become allies, a situation that may have contributed in at least one of the companies going out of business (Katuu, 2012a, p. 47). This demonstrates that South Africa is part of the global VAR ecosystem.

The observations made in the preceding sections are important for the records management professionals because often digital management application systems have been seen as the panacea to addressing records management challenges. The application systems have been useful to assist in managing digital records (Katuu, 2012b, Katuu, 2015c, p. 450), considering them as the panacea would be a case of “the tail wagging the dog”. Bailey (2008) argues that for almost a decade, records management professionals have relied upon the EDRM model as an “intellectual crutch”. In this article EDRM is seen as the 2<sup>nd</sup> phase of the evolutionary process but Bailey’s lamentation is still valid for all the terms that are shown in Figure 1 above. He argues that near blind obsession of the model has threatened to turn records management professionals into an “intellectually-sterile, vendor-led profession”.

In a general study on the effects of technology on recordkeeping in developing countries, Lemieux (2015, p. 19) stated “the introduction of ICTs as part of e-Government initiatives has had unintended consequences and introduced downside risks for records and information management”. An ongoing study on the management of digital records within a South African public sector institution has demonstrated such an institution has to grapple with several fundamental issues both in the national legal and regulatory framework as well as the institution’s own technological ecosystem (Katuu and Ngoepe, 2015b).

An awareness of both research studies as well as industry developments is critical to ensure records management professionals are well informed and adequately equipped to meet the challenges of the new digital age. This awareness would also ensure software

### **Concluding remarks**

This article has explored the management of records in South Africa by outlining a

applications systems for managing digital records are not considered “intellectual crutches” but rather the records management professionals appropriately use them as tools to address records management challenges. Indeed key lessons can be drawn from an audit on the management of records conducted at the Department of Health in Australia. The audit report reveals that a project to implement an EDRMS application lasted between 2003 and 2011 and cost 5,400,000 Australian Dollars (Australian National Audit Office, 2015, p. 7). The report concluded that the “Department of Health’s records management requirements are not consistently applied and the transition to a robust digital information and records management system remains incomplete” (Australian National Audit Office, 2015, p. 8). It provides several recommendations including the Department developing and implementing “an overarching information management framework which incorporates an information and records management strategy, against which performance can be measured” (Australian National Audit Office, 2015, p. 11). In addition the Australian audit report highlights the need to prepare guidelines for records retention, incorporating file titling protocols within the Business Classification System as well as strengthening the management and control framework for records disposal (Australian National Audit Office, 2015, p. 12).

In order to address the issues raised by audit reports A number of models have been proposed to specifically evaluate the implementation of ECM applications (Katuu, 2016a) or general aspects of recordkeeping including records and risk (Lemieux, 2004, p. 38-44), recordkeeping principles (ARMA International, 2014) and digital preservation (Dollar and Ashley, 2014, Dollar and Ashley, 2015).

significant number of masters and doctoral dissertation that have covered the subject. It has emphasized the discussions on the management of digital records because this



has seemingly not received much attention. A recent report on the state of South Africa's archival system states that the national archival system that is charged with the responsibility of managing public records doesn't have the capacity to manage digital records (The Archival Platform, 2015, p. 102). One of the ways of addressing this lack of capacity is in the education and training of records management professionals (Katuu, 2015a, Katuu and Ngoepe, 2015a). Based on the number of dissertations already conducted on digital records, there should be a sufficient cohort of professionals with the requisite skills to address the challenge. However, as this article has demonstrated, a number of the studies have not leveraged on findings of previous studies nor have they engaged on conceptual clarity of terms such as ECM and EDRM. In addition Australia's recent example from the audit of the Department of Health lessons on how merely implementing an EDRMS application is not a panacea but requires a number of additional components including an overarching governance framework as well as specific records management guidelines. This article is an effort in contributing to coalescing efforts and catalysing discussions on these fundamental pillars in order to encourage further research (Ngoepe, 2014).

## References

- Abankwah, R. (2008), *Management of Audiovisual Materials in the member states of the Eastern and Southern Africa Regional Branch of the International Council on Archives (ESARBICA)*. Phd thesis, University of KwaZulu-Natal.
- Abbott, B. S. (1999), *Preserving Electronic Memory: An Investigation into the Role played by the National Archives of South Africa in the Management of Electronic Records of Central Government*. Masters thesis, University of KwaZulu-Natal.
- AIIM. (2010), "What is Enterprise Content Management", available at: <http://www.aiim.org/What-is-ECM-Enterprise-Content-Management.aspx> (Accessed 21 August 2015).
- Archives de France. (2014), "L'archivage des outils de gestion de contenus et de travail collaborative Étude VITAM", available at: <http://www.archivesdefrance.culture.gouv.fr/static/7925> (Accessed 16 November 2015).
- Ardern, C., Miller, A., O'Shea, G., Nordland, L. P. and Smith, K. (2009), "Module 2: Planning and Managing an Electronic Records Management Programme", London: International Records Management Trust, available at: [http://www.irmt.org/documents/educ\\_training/term%20modules/IRMT%20TERM%20Module%202.pdf](http://www.irmt.org/documents/educ_training/term%20modules/IRMT%20TERM%20Module%202.pdf) (Accessed 2 November 2014).
- ARMA International. (2014), "General Accepted Recordkeeping Principles®", Overland Park, KS: ARMA International available at: <http://www.arma.org/docs/sharepoint-roadshow/the-principles-executive-summaries-final.doc> (Accessed 30 November 2015).
- Australian National Audit Office. (2015), "Records Management in Health ", Canberra, Australian Capital Territory: Australian National Audit Office, available at: [http://www.anao.gov.au/~/\\_media/Files/Audit%20Reports/2015-2016/10/ANAO\\_Report\\_2015-2016\\_10.pdf](http://www.anao.gov.au/~/_media/Files/Audit%20Reports/2015-2016/10/ANAO_Report_2015-2016_10.pdf) (Accessed 25 December 2015).
- Bailey, S. (2008), "Has EDRMS been a success? The case for the Prosecution", Edinburgh: Records Management Society Conference, available at: <http://www.irms.org.uk/previousconferences/conference-2008/sessions-a-speakers?catid=68&id=421:has-edrm-been-a-success> (Accessed 19 September 2015).



- Bizcommunity. (2013), "Datacentrix awarded Two Western Cape Government ECM Health Tenders", available at: <http://www.bizcommunity.com/Article/196/545/95301.html> (Accessed 19 September 2015).
- Chandran, T. M. (2002), *Emergency Care in the Free State province: A Retrospective Study of the Patient and Disease Profile and the Quality of Patient Records*. Masters thesis, University of Western Cape.
- Coetzer, X. P. (2012), *The status of Records Management at the University of Zululand*. Masters thesis, University of Zululand.
- Cvision Technologies. (2011), "Electronic Document Management", available at: <http://www.cvisiontech.com/library/pdf/pdf-document/electronic-document-management.html> (Accessed 25 December 2015).
- Department of Health [South Africa]. (2012), "eHealth Strategy South Africa 2012-2016", Pretoria: Department of Health [South Africa], available at: [http://www.health.gov.za/docs/strategic/2012/eHealth\\_Strategy\\_South\\_Africa\\_2012-2016.pdf](http://www.health.gov.za/docs/strategic/2012/eHealth_Strategy_South_Africa_2012-2016.pdf) (Accessed 19 September 2015).
- Dollar, C. and Ashley, L. (2014), "Assessing Digital Preservation Capability Using a Maturity Model Process Improvement Approach", available at: [http://static1.squarespace.com/static/52ebbb45e4b06f07f8bb62bd/t/53559340e4b058b6b2212d98/1398117184845/DPCMM+White+Paper\\_Revised+April+2014.pdf](http://static1.squarespace.com/static/52ebbb45e4b06f07f8bb62bd/t/53559340e4b058b6b2212d98/1398117184845/DPCMM+White+Paper_Revised+April+2014.pdf) (Accessed 9 December 2015).
- Dollar, C. M. and Ashley, L. J. (2015), "Ensuring Long-Term Availability, Usability and Trustworthiness of Digital Information", *The Sedona Conference Journal*, Vol. 16, pp. 178-199.
- Dural, J. (2006), "Security and Digital Domain", in Tough, A. and Moss, M. (Eds.) *Record Keeping in a Hybrid Environment: Managing the Creation, Use, Preservation and Disposal of Unpublished Information Objects in Context*, Chandos Publishing, Oxford.
- Garaba, F. (2011), *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*. Phd thesis, University of KwaZulu-Natal
- Geoghegan, M. D. (2000), *A Review of whether Peri-Operative Nursing Records used in the Western Cape Metropolitan Health Region are in line with International Standards and Recommendations for Standard Content and Design Characteristics of the Western Cape*. Masters thesis, University of Cape Town.
- Gilbert, M. R., Shegda, K. M., Chin, K., Tay, G. and Koehler-Kruener, H. (2011), "Magic Quadrant for Enterprise Content Management", Stamford, CT, Gartner.
- Ismail, A. H. (2007), *The Demographic Determinants of Reportable Incidents (RI) among Gold Miners at the Phumlani Occupational Centre, Harmony Gold Mine - A Retrospective Review of Health Records from January to December 2005*. Masters thesis, Medical University of South Africa.
- Kanzi, N. (2010), *An Investigation of the Role of Records Management with Specific Reference to Amathole District Municipality*. Masters thesis, Nelson Mandela Metropolitan University.
- Katuu, S. (2012a), "Enterprise Content Management (ECM) implementation in South Africa", *Records Management Journal*, Vol. 22 No. 1, pp. 37-56.
- Katuu, S. (2012b), "Enterprise Content Management and Digital Curation Applications – Maturity Model Connections", paper presented at the The Memory of the World in the Digital Age: Digitization and Preservation, 26-28th September, Vancouver available at: <http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/CI/CI/>

- [pdf/mow/VC\\_Katuu\\_28\\_D\\_1130.pdf](#) (Accessed 27 August 2015).
- Katuu, S. (2013), "The Utility of Maturity Models – The ECM Maturity Model within a South African context", Lisbon, Portugal: iPRES 2013, available at: <http://benchmarkdigitalpreservation.files.wordpress.com/2013/09/caiw2013katuu.pdf> (Accessed 21 August 2015).
- Katuu, S. (2015a), "The Development of Archives and Records Management Education and Training in Africa – Challenges and Opportunities", *Archives and Manuscripts: The Journal of the Australian Society of Archivists*, Vol. 43 No. 2, pp. 96-119.
- Katuu, S. (2015b), *Managing Records in South African Public Health Care Institutions - A Critical Analysis*. Phd thesis, University of South Africa.
- Katuu, S. (2015c), "User Studies and User Education Programmes in Archival Institutions", *Aslib Journal of Information Management*, Vol. 67 No. 4, pp. 442-457.
- Katuu, S. (2016a), "Assessing the Functionality of the Enterprise Content Management Maturity Model", *Records Management Journal*.
- Katuu, S. (2016b), "Managing Digital Records in a Global Environment – An Assessment of the Landscape of International Standards and Best Practice Guidelines", *The Electronic Library*, Vol. 100 No. 1.
- Katuu, S. and Ngoepe, M. (2015a), "Managing Digital Heritage - An Analysis of the Education and Training Curriculum for Africa's Archives and Records Professionals", paper presented at the Digital Heritage International Congress 2015, Granada, Spain available at: [https://interparestrust.org/assets/public/dissemination/Katuu-Ngoepe\\_20150929\\_DigitalHeritage2015\\_Paper.pdf](https://interparestrust.org/assets/public/dissemination/Katuu-Ngoepe_20150929_DigitalHeritage2015_Paper.pdf) (Accessed 10 December 2015).
- Katuu, S. and Ngoepe, M. (2015b), "Managing Digital Records in a South African Public Sector Institution", paper presented at the INFUTURE2015: e-Institutions – Openness, Accessibility, and Preservation, Zagreb, Croatia available at: <http://infoz.ffzg.hr/INFUTURE/papers/conference-proceedings> (Accessed 21 August 2015).
- Kenosi, L. (2008), *Records, the Truth Commission and National Reconciliation: Accountability in Post-Apartheid South Africa*. Phd thesis, University of Pittsburgh.
- Kerry, T. P. (1999), *Improving the Use of a Patient-Retained Medical Records in Emtshezi Sub-District*. Masters thesis, Medical University of South Africa.
- Kulcu, O. and Cakmak, T. (2012), "Convergence of the records management and enterprise content management in the digital environment", *Procedia-Social and Behavioral Sciences*, Vol. 62, pp. 194-197.
- Kwatsha, N. (2010), *Factors affecting the Implementation of Electronic Document and Records Management Systems*. Masters thesis, University of Stellenbosch.
- Lemieux, V. (2004), *Managing Risks for Records and Information*, ARMA International, Lenexa, Kansas.
- Lemieux, V. L. (2015), "One Step Forward, Two Steps Backward? : Does E-Government Make Governments in Developing Countries More Transparent and Accountable?", Washington DC: World Bank, available at: <https://openknowledge.worldbank.org/bitstream/handle/10986/22496/One0step0forwa0ent0and0accountable0.pdf?sequence=1> (accessed 29th August 2015).
- Makhura, M. M. (2001), *The Role of Electronic Records Management in a Service Organisation*. Masters thesis, University of Johannesburg.

- Makhura, M. M. (2006), *The contributions of Information User Behaviour and Records Management towards an Organization's Competitive Performance*. Phd thesis, University of Johannesburg.
- Marutha, N. S. (2011), *Records Management in support of Service Delivery in the Public Health Care Sector of the Limpopo Province in South Africa*. Masters thesis, University of South Africa.
- McDonald, J. (2011), "Personal Email Communication", Washington DC.
- Moore, C. and Markham, R. (2003), "Market Leaders emerging in Enterprise Content Management", available at: [http://web.archive.org/web/20120101183326/http://www.forrester.com/rb/Research/market\\_leaders\\_emerging\\_in\\_enterprise\\_content\\_management/q/id/30139/t/2](http://web.archive.org/web/20120101183326/http://www.forrester.com/rb/Research/market_leaders_emerging_in_enterprise_content_management/q/id/30139/t/2) (Accessed 12 December 2015).
- Mrwebi, S. E. (2000), *Records Management in a Management Consulting Firm*. Masters thesis, University of Johannesburg.
- Munetsi, N. (2011), *Investigation into the state of Digital Records Management in the Provincial Government of Eastern Cape: A Case Study of the Office of the Premier*. Masters thesis, University of Fort Hare.
- Nell, J. L. (2006), *Aspects of Confidentiality in Medical Law*. Masters thesis, University of Pretoria.
- Ngoepe, M. (2008), *An Expoloration of Records Management Trends in the South African Public Sector: A Case Study of the Department of Provincial and Local Government*. Masters thesis, University of South Africa.
- Ngoepe, M. (2013), *Fostering a Framework to embed the Records Management Function into the Auditing Process in the South African Public Sector*. Phd thesis, University of South Africa.
- Ngoepe, M. (2014), "Records Management Models in the Public Sector in South Africa: Is there a flicker of light at the end of the dark tunnel?", *Information Development*, p. 0266666914550492.
- Ngoepe, M. (2015), "Deployment of open source Electronic Content Management Software in National Government Departments in South Africa", *Journal of Science and Technology Policy Management*, Vol. 6 No. 3, pp. 190-205.
- Ngulube, P. (2003), *Preservation and Access to Public Records and Archives in South Africa*. Phd thesis, University of Natal.
- Nguyen, L. T., Swatman, P. M. C. and Fraunholz, B. (2007), "EDMS, ERMS, ECMS or EDRMS: Fighting through the Acronyms towards a Strategy for Effective Corporate Records Management", paper presented at the 18th Australasian Conference on Information Systems, 5-7 December 2007, Toowoomba available at: <http://aisel.aisnet.org/acis2007/122/> (Accessed 25 December 2015).
- Nkombua, L. (2000), *A Survey of Injuries suffered by Patients treated for alleged Assault at the Casualty Department of Witbank Hospital*. Masters thesis, University of Pretoria.
- Norden, A. L. (2002), *Patients' Thoughts on Patient Retained Medical Records*. Masters thesis, Medical University of South Africa.
- Nsibirwa, Z. B. (2012), *Preservation of, and access to, Legal Deposit Materials in South Africa*. Phd thesis, University of KwaZulu-Natal.
- Okorie, C. I. (2003), *Why do Patients leave their Patient Retained Medical Records (PRMR) at home when they consult at Empilweni Gompo Health Centre, Eastern Cape?* Masters thesis, Medical University of South Africa.
- Open Democracy Advice Centre and South African Human Rights Commission. (2008), "Golden Key Awards - Openness and Responsiveness Awards 2007/2008", available at: <http://www.sahrc.org.za/home/21/files/Reports/Golden%20Key%20Awards%202007-2008.pdf> (Accessed 19 September 2015).
- Open Democracy Advice Centre and South African Human Rights Commission.

- (2010), "Golden Key Awards 2010 Report", available at: <http://www.opendemocracy.org.za/wpcontent/uploads/2010/10/2010-GKA-REPORT.pdf> (Accessed 19 September 2015).
- OpenText. (2012), "Khayelitsha Hospital - Amazing Enterprise Content Management OpenText Case Studies. Paperless and Waiting Room free", Cape Town, available at: <http://lgict.org.za/document/khayelitsha-hospital-amazing-enterprise-content-management-opentext-case-studies-paperless-> (Accessed 28 February 2014).
- Peters, D. (1999), *Oxidation at the Wet/Dry Interface in the Deterioration of Paper in Library and Archival collections in Humid Climatic Conditions* Phd thesis, University of Natal.
- PR Connections. (2011), "Tygerberg Hospital Oncology Unit provides Online Access to Electronic Patient Records with Datacentrix", Cape Town: ITWeb, available at: [http://www.itweb.co.za/index.php?option=com\\_content&view=article&id=46553](http://www.itweb.co.za/index.php?option=com_content&view=article&id=46553) (Accessed 19 September 2015).
- PR Connections. (2012), "Khayelitsha Hospital creates, maintains Electronic Patient Records", Cape Town: ITWeb, available at: [http://www.itweb.co.za/index.php?option=com\\_content&view=article&id=54337](http://www.itweb.co.za/index.php?option=com_content&view=article&id=54337) (Accessed 19 September 2015).
- Rampfumedzi, D. P. (2006), *Quality Control of Obstetric Nursing Records in a Selected Regional Hospital*. Masters thesis, University of South Africa.
- Rodrigues, A. D. S. (2013), *An Archival Collecting Framework for the records generated by South Africa's Portuguese Community-Based Organisation in Gauteng*. Phd thesis, University of South Africa.
- Rogers, C., Malmas, S. and Enns, L. (2011), "CS14 - City of Surrey: (Surrey) Policies, Guidelines and Procedures for a Drive Migration Project as part of an Enterprise Content Management Program", Vancouver: InterPARES 3, available at: [http://interpares.org/ip3/ip3\\_cs14\\_report.cfm](http://interpares.org/ip3/ip3_cs14_report.cfm) (Accessed 21 August 2015).
- Sayer, P. (2006), "OpenText to buy Hummingbird", available at: <http://www.infoworld.com/article/2656356/applications/open-text-to-buy-hummingbird.html> (Accessed 19 September 2015).
- Schellnack-Kelly, I. (2014), *The Role of Records Management in Governance-based Evidence, Service Delivery and Development in South African communities*. Phd thesis, University of South Africa.
- Shegda, K. M., Chin, K., Logan, D. and Lundy, J. (2004), "Building the Magic Quadrant for ECM 2004", available at: <https://www.gartner.com/doc/461108/building-magic-quadrant-ecm-> (Accessed 25 December 2015).
- Sibanda, R. (2011), *Developing a Service Quality Measurement Instrument for Archival Institutions*. Phd thesis, University of South Africa.
- Sprehe, J. T. (2005), "The positive benefits of Electronic Records Management in the Context of Enterprise Content Management", *Government Information Quarterly* Vol. 22 No. 2, pp. 297-303.
- The Archival Platform. (2015), "State of the Archives: An Analysis of South Africa's National Archival System", Cape Town: University of Cape Town, available at: [http://www.archivalplatform.org/images/resources/State\\_of\\_the\\_Archive\\_FOR\\_WEB.pdf](http://www.archivalplatform.org/images/resources/State_of_the_Archive_FOR_WEB.pdf) (Accessed 19 May 2015).
- Thumbiran, K. (2010), *The role of Information Management in the Department of Health, with particular reference to eThekweni Emergency Medical Rescue Services in KwaZulu-Natal*. Masters thesis, University of KwaZulu-Natal.
- Weeks, R. (2013a), "The convergence of systemic threads shaping a future

- South African Healthcare Dispensation: A Technology Management Perspective", *Acta Commercii*, Vol. 13 No. 1, pp. 1-8.
- Weeks, R. V. (2013b), "Electronic Health Records: Managing the transformation from a Paper-Based to An Electronic System", *Journal of Contemporary Management*, Vol. 10, pp. 135-155.
- Western Cape Government [South Africa]. (2013), "Tygerberg hospital - Onder Ons Newsletter", Cape Town: Western Cape Government [South Africa], available at: <http://www.westerncape.gov.za/sites/www.westerncape.gov.za/files/onder-ons-june-newsletter-2013.pdf> (accessed 19 September 2015).
- Wilson, W. (2010), *Document Management System in Owner Companies during Project Execution*. Masters thesis, North-West University.

---

<sup>i</sup> The views expressed herein are those of the author and should not be attributed to his current employer, the International Atomic Energy Agency, nor any of his previous employers