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# **A records management model for an intelligent university**

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## **Abstract**

This article is based on an MLIS case study undertaken at the University of the Western Cape. The article is meant to add knowledge and insight into university records management and presents a records management model for an intelligent university. The study used the functionalist theory to frame this exploratory qualitative study to investigate whether records management contributes to making the University of the Western Cape intelligent. The findings of the study showed that records management as a function was not used optimally by the university and therefore did not contribute to making the University of the Western Cape intelligent. A records management model for an intelligent university was recommended.

**Key words:** intelligent university, records, records management, University of the Western Cape

## **1. Introduction**

The paper introduces a records management model for an intelligent university, a result of an MLIS study, which investigated whether records management contributed to making the University of the Western Cape (UWC) intelligent. The intelligent university is defined as an organization that is skilled at creating, acquiring, transferring knowledge and using it for competitive advantage Staskeviciute-Butiene (2009:111). Explaining this concept, Staskeviciute-Butiene (2009: 116) points out that when developing an intelligent organization, it is necessary to know the intelligence of each component and the integration of all the university's intelligence. The integration results in the effectiveness of university activities and its ability to react to changes. In addition, intelligent organizations use information to expand and maintain competitive advantage (Choo 2002:6). Records are such information resources. They bear evidence of

internal and external activities of an organization and are important resources for decision-making, good governance and research, and their proper management is crucial for their use. Scholars such as Choo (2002), Frenco (2007) and Kruger (2010:2) have highlighted the important role of records management in making organizations intelligent. However, reviewed literature shows that records management in universities was neither considered important for good governance nor valuable. This background motivated this study.

Despite the various records management theories, functionalism was considered the best theoretical framework for this study. Functionalism considers each component of an organization, a function which is important for productivity and stability of an organization. The theoretical framework guided the research objectives of the study, which were: to determine whether the records management function was known and understood at the UWC; to investigate institutional perceptions; to determine whether the records management function worked closely with other departments; and to determine whether records were accessed and used for decision-making and research, thus contributing to the intelligent university. The study was a qualitative exploratory case study which used triangulation to gather data through e-mail questionnaires from 20 purposively selected staff, and by conducting one-on-one interviews with ten purposively selected respondents from UWC staff and analysing documents for background information as well as verify responses. Respondents were from academic, administrative and technical departments. Appointments were made with respondents beforehand to ensure their availability for interviews; however, some of the respondents approached, declined to be interviewed due to the tension caused by the #feesmustfall campaign. Data was coded according to the main themes of the questionnaire as soon as it was collected. The questionnaire data was converted into an Excel spreadsheet, imported on ATLAS.ti and analysed according to responses. Secondary documents such as circulation registers were analysed manually to validate some responses. The study found that there were not much awareness and knowledge of the records management function at UWC; moreover, the functions were neither fully implemented nor fully integrated with other university components and not used optimally for decision-making. Records management therefore did not contribute to making UWC intelligent. The records management model presented in this paper was developed to remedy the situation. The study was significant because it brought to light the records management function within a university and how it could contribute to putting the university at a competitive advantage and enable it to be intelligent. The following section provides a brief background of UWC for context.

## 2. Brief background of the University of the Western Cape

The UWC in Bellville, South Africa, has been through many changes since its establishment as a University College for “coloureds” in 1959. The university started as a “bush college”, under the auspices of the University of South Africa. It has developed into an autonomous institution for all and is challenged to demonstrate that it can compete with the best and play a prominent role in the intellectual, social and economic life of the nation (University of the Western Cape 2013:6). Responding and adapting to change are embedded in the university’s mission statement which states that:

The University of the Western Cape is a national university, alert to the African and international context as it strives to be a place of quality, a place to grow. It is committed to excellence in teaching, learning and research, to nurturing the cultural diversity of South Africa, and to responding in critical and creative ways to the needs of a society in transition. Drawing on its proud experience in the liberation struggle, the university is aware of a distinctive academic role in helping build an equitable and dynamic society (University of the Western Cape (2016:2).

The mission statement qualifies the UWC to be an intelligent university since it is aware of its environment, has adapted to changes and is influencing the environment. In addition, the university seems to manage records well. The university has a Central Records Office within Documents, Records and Archives Management Services (DRAMS). DRAMS was formally established in 2008 and is composed of the University Archives and the Central Records Office (CRO). The latter is responsible for the management of documents, current and semi-current records, training of university staff on records management practices, and providing internal and external users access to university information. A DRAMS policy was approved in 2009 to entrench and standardize records management within the university. An Archives and Records Management Committee (ARMC), chaired by the Registrar, oversees DRAMS activities and recommends approval of DRAMS operational tools such as file plan, procedure manuals and records retention schedules. Due to the awareness of records management practices through training programmes, there was a notable flow of semi-current records from offices of origin to the CRO and the records were consulted regularly by the offices of origin for operational matters

relating to those offices (UWC Central Records Office Statistics, 2014). The records management function therefore exists at the UWC.

### 3. Literature review

The literature review was presented to provide a critical evaluation of scholarly perspectives in relation to records management for an intelligent university. Primary and secondary sources were reviewed, and they revealed that most research conducted on records management in academic institutions was on the status of records management or its value. No studies on records management as a function or records management in an intelligent university were found. Studies on records as sources of information and their management in universities generally were found and reviewed. The reviewed studies provided an understanding of university records management.

Saffady (1974:204) explains that the advantages of a university records management programme are that important administrative and historical records are protected against unauthorized destruction, and inactive records can be readily identified and stored appropriately. As a result, records management has been increasingly identified as an administrative tool for efficiency of organisational management (Yusof & Chell 1999:12). Some authors such as Procter (2002:48) lament that although there has been a growing need for management efficiency in universities, records management as a function had made little headway. This is evident in the scant literature on records management in universities. This also seems to be the case in South African universities because only two research articles (Chinyemba & Ngulube 2005; Coetzer 2012) highlighted the role of records management in South African universities. The scant body of knowledge motivates further research into the field of records management in South African universities.

Chinyemba and Ngulube's (2005) research was conducted at the University of KwaZulu-Natal, Pietermaritzburg, and published in 2005. The aim of the research was to determine whether the different faculties and departments of the university were managing records according to the National Archives and Records Service of South Africa Act, Promotion of Access to Information Act and Records Management International Standards of Operations; and to determine whether the staff assigned with records management responsibilities had appropriate skills and knowledge. The findings were that records management practices were not according to legislation or international standards. Chinyemba and Ngulube's (2005) findings were echoed by the MLIS

research of Coetzer (2012), which was conducted at the University of Zululand in 2012. The research used a survey to investigate the status of records management at the University of Zululand. The study revealed that the university did not practice proper records management. The findings of Chinyemba and Ngulube (2005) as well as those of Coetzer (2012) were confirmed by Adomi (2002), Asogwa (2013), Iwhiwhu (2005), Popoola (2009) and Uwaifo (2004). Adomi's (2002) study conducted at the Delta State University, Abraka, Nigeria, determined whether records were managed well and easily accessible for use by decision-makers. The study discovered that there was no formal records management programme, resulting in staff keeping records in cabinets in their offices with no security. Therefore, records were not easily accessible for use by decision-makers. This showed that records management was not taken seriously at the Delta State University. Popoola's (2009) quantitative research was conducted in 24 private universities in Nigeria. The aim of the study was to investigate socioeconomic factors such as gender, age, marital status, educational qualifications, job tenure, monthly salary, job satisfaction and locus of control as they determine organizational commitment of records management personnel in Nigerian private universities. The study was based on the premise that highly committed employees such as records management personnel in universities are vital assets for effective provision of information services for planning and decision-making. The findings were that there was ignorance by authorities concerning job dissatisfaction and organizational commitment of records management staff, to the detriment of organizational performance. The study also found that the lack of proper records management practices was due to little value placed on records as an information resource. Another study by Ngoepe (2016) developed a records management model. However, the model is applicable to governmental bodies not universities.

A study that highlighted the value of a records management programme in academic institutions in the United Kingdom was conducted by Bailey (2011). This research was conducted to explore issues and challenges concerning measurement, analysis, and interpretation of performance data in relation to records management, and to investigate the return on investment that can be achieved by organizations through various approaches to improving the management of records. The Value Theory was used to investigate the Joint Information Systems Committee's InfoNet Impact Calculator as a reliable tool to determine the return on investment and the impact of records management in universities. Measuring the impact of records management proved to be a challenge to records management staff due to lack of training and skill in the field. What was also notable was the inability of the impact calculator to measure

the impact in some areas of records management because the success of a records management programme cannot only be measured from a financial perspective, but also through benefits strived for by records managers, such as legal and statutory compliance, improved corporate governance, transparency and accountability (Bailey 2011:56).

Most of the studies reviewed were qualitative case studies. In some instances, multiple site case studies were used in which the studies were conducted at three or more sites. Asogwa (2013), for instance, conducted his study in three universities in Nigeria namely, the universities of Abuja, Ife, and Nigeria, to determine the level of readiness of the universities towards managing digital records. The lack of records management policies, procedures and framework showed that all the sites were not yet ready to manage digital records. Schina and Wells (2002) conducted their research in 30 public universities; 15 in the United States and 15 in Canada. The study was to assess the state of records and archives management programmes in universities in the United States and Canada. The responses showed that records and archives management programmes were formalized and that there were policies, procedures and activities monitored by a high-level committee. However, there was minimal compliance with policies by staff. Zach and Peri (2010), on the other hand, conducted a longitudinal study between 2005 and 2009 in 193 North American colleges and universities to analyse electronic records management. The research was conducted to provide guidance to records and archives managers after the realization that research on electronic records management provided little guidance on how to manage born digital records, as well as the fact that archivists felt excluded from electronic records management decisions, planning and implementation.

#### **4. Research problem**

Authors such as Choo (2002) and Frenco (2007) highlighted the important role of records management in making organizations intelligent. The findings of the reviewed literature, however, showed that records management in universities was considered neither important nor valuable. The findings, coupled with the scant body of literature on records management in universities, call for further research to investigate the matter in depth. The theoretical framework of this study, that is functionalism, considers that each component within an organisation is important and has a role to play for the functioning of the whole organization. This background motivated this study to investigate whether records management contributed to making the UWC intelligent.

## 5. Research questions

To answer the research problem, the study was guided by the following research questions:

RQ1: Is records management known at the UWC and what is its role in the context of an intelligent university?

RQ 2: Does the records management unit work closely with other UWC units?

RQ 3: Are records accessed and used for decision-making and research at the UWC?

## 6. Theoretical framework

The various units or departments within an organization exist for a purpose. They are inter-dependent for the benefit of the organization and its community (Van Parijs 1982: 501). This premise influenced the choice of functionalism or functionalist theory to frame this study. According to functionalism, all aspects of a society, although different, serve a function and are necessary for the survival of that society; each part therefore exists for a reason (Lindsey & Beach 2002:19). The UWC is composed of faculties, directorates, departments and units. Each has a role to play for the proper functioning of the university. The functionalist theory asks questions to find out what each component is, its purpose, what it does, why it does it, and how it does it. Turner and Maryanski (1979:7) add that functionalism asks “What is that? What is its purpose? What is it for? How does it help the whole? How does it fit in with the other practices of the whole society?”. To address the research problem, the functionalist theory was therefore used to guide the research questions to discover whether the records management function contributes to making the University of the Western Cape intelligent.

## 7. Research methodology

The study was a qualitative exploratory case study which investigated a new phenomenon with a scant body of literature. The study was conducted during the #feesmustfall campaign of 2015, a student uprising which demanded zero fee increases, decolonised education, and an end to outsourcing and decolonisation (Satgar 2016). Due to the unrest, respondents were either

unavailable or afraid to participate. For this reason, the researcher used triangulation to gather data by distributing questionnaires via e-mails, conducting one-on-one interviews, and analysing documents. The following figure presents a summary of the research methodology:

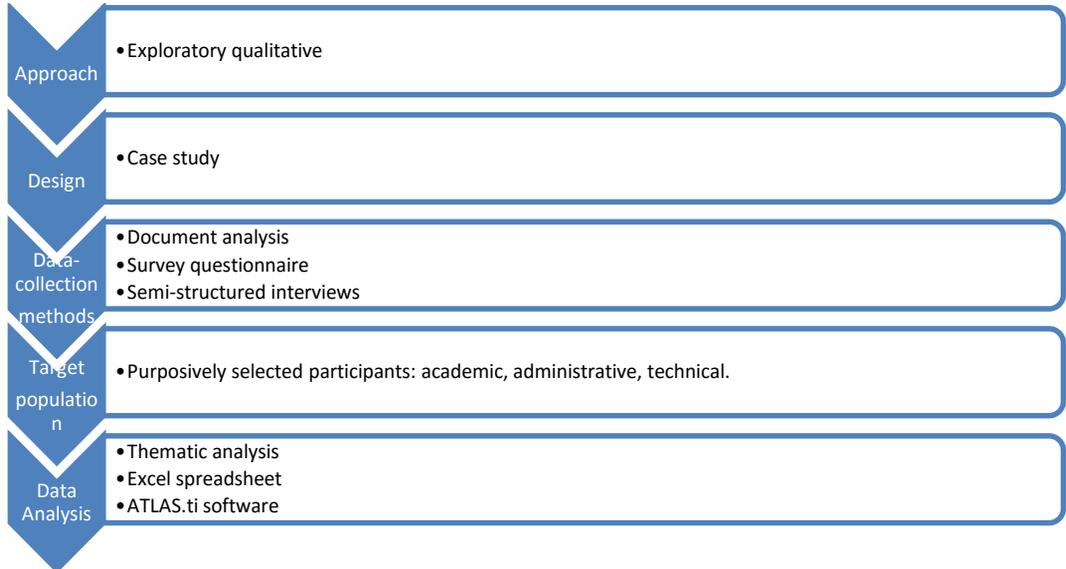


Figure 1: Summary of the study’s research methodology (Momoti 2017: 41)

Data was collected in two phases as follows:

***Phase1***

In this phase secondary sources such as the university’s strategic plan, institutional operational plans, correspondence and records management policy; as well as primary sources such as central records office circulation registers, accessions registers, records transfer lists and statistical reports; were used to gather background information. Terre Blanche, Durrheim and Painter (2006:316) caution that documents are not easy to access, but this was not the case at the UWC. Secondary sources are stored in the Central Records Office (CRO) and the university archive, and access is governed by Promotion of Access to Information Act (No. 2 of 2000), which facilitates access to information. Moreover, the CRO staff provided the requested documents timeously. Accessibility of secondary sources therefore did not hamper the research.

## *Phase 2*

For consistency, a standardized questionnaire with 13 open-ended questions was mailed electronically to 20 members of the Records Management Coordinating Committee (RMCC), eight senior managers, five administrative managers, and four chairpersons of academic departments. The RMCC is composed of representatives from administrative and academic departments, selected by heads of departments as key contact staff for all records management-related matters in respective departments. The questionnaire used the research objectives as themes. This phase was conducted during the #feesmustfall campaign, which led to the disruption of the university functions and its subsequent closure. Most of the respondents were therefore not available to access their work electronic mail or were reluctant to participate; as a result, there was a significant delay in collecting data and few questionnaires were returned. One of the strengths of qualitative research design, however, is that it allows flexibility (Silverman 2010:146), hence the researcher used another data gathering methodology, the semi-structured interview, to complement phase two and improve representativeness of the sample.

## *Phase 3*

Semi-structured interviews were conducted with ten purposively selected respondents from UWC staff. Appointments were made with 20 respondents beforehand to ensure their availability. The respondents were from academic, administrative and technical departments. A few of the staff members approached, declined to be interviewed due to lack of time whilst most were eager to participate. The researcher observed that the reluctance of some of the staff to be interviewed was due to instability caused by the student protest and the staff therefore were suspicious of outsiders asking questions about the university. The questionnaire used during the second phase was used during the interviews. Due to the tense situation at the university, the researcher asked questions and noted responses on the questionnaire during the interview instead of using an audio recorder. This phase proved to be effective because respondents asked for explanation and clarification of questions, which helped them to understand some aspects of records management and the intelligent university.

To facilitate organized data for easier analysis, data was coded according to the main themes of the questionnaire as soon as it was collected during phases 2 and 3. The questionnaire data was captured in an Excel spreadsheet, including

quotations from the responses. Primary and secondary documents were analysed manually for background information and to verify responses. The data captured on the Excel spreadsheet was exported into ATLAS.ti version 7 and analysed according to frequency of coded quotations. The software highlighted the most frequent quotations from the questionnaire data. Table 1 presents an example:

**Table 1: Records management knowledge responses**

Question	Quotations
What is a record AND what is its importance within your work environment?	“Events that have happened” “Evidence” “Print” “Electronic” “Information stored for future use” “Document” “Work in progress” “Information source by individual /organization”
What is records management?	“Managing records” “Process of managing records” “Retention periods” “Systematic arrangement” “(file plan) updating” “Organizational memory” “Destruction” “Archiving” “Preservation/storage of records” “Security” “Information flow” “Clear content of the record”
Have you attended records management training?	“RM courses are expensive” “Not invited for training” “No knowledge of training” “Training irrelevant”

## 8. Findings and discussion

This section presents and discusses the results as per research questions.

### ***RQ1 Is records management known at the UWC and what is its role in the context of an intelligent university?***

It was found that records management was not known much at the UWC. However, respondents agreed that records management training to equip university staff with knowledge was provided regularly (included in the university training schedule), and was well attended by staff, more especially

administrative clerks and secretaries. Despite the training provided, respondents could not provide a definition of a record or demonstrate the exact function of records management. Participants at senior level did not consider records management training to be of any value in their work and therefore did not attend training. Senior staff assumed that records management involves filing and retrieval of records, which are the responsibility of administrative clerks, personal assistants, office managers or secretaries. This finding showed that there was no commitment to learning and knowing about records management. The minimal knowledge of the records management function thus impedes making the university intelligent.

***RQ2 Does the records management unit work closely with other UWC units?***

The questions were to determine whether the records management function was considered important and worked in sync with other components as is required of an intelligent university and functionalist theory. The study found that the records management unit worked closely with other units since records management training is provided and there were interaction and consultation through various forums such as the ARMC and the RMCC. However, most of the respondents still felt that the function was not marketed enough.

***RQ 3 Are records accessed and used for decision-making and research at the UWC?***

The questions sought to find whether university staff consulted records for decision-making, planning, competitive advantage or research. Furthermore, the study sought to determine whether records were accessed from the CRO. The findings showed that in most cases, records were transferred to the CRO due to lack of storage space in the offices of origin. Offices which had transferred those records therefore accessed and consulted them regularly for planning, decision-making and research. The CRO circulation register and e-mail requests showed evidence of regular requests. However, the more senior respondents indicated that they had never consulted records from the CRO because they used other sources of information relevant to their fields.

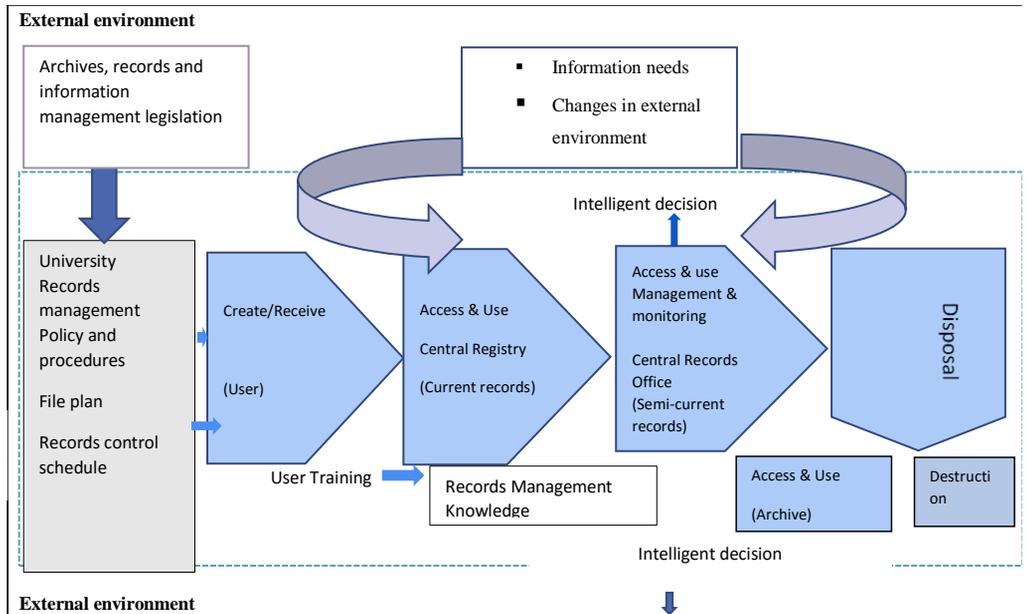
## **9. Recommendations**

The recommendations are presented in table format as per the themes from the research questions.

Theme	Questions	Findings	Recommendations
Records management knowledge	Is records management known at the UWC and what is its role in the context of an intelligent university?	It was found that records management was not known much at the UWC. The minimal knowledge hampered the UWC to be an intelligent university.	<ul style="list-style-type: none"> <li>• Separate training for records management and archives management.</li> <li>• Guided tours to the different sections should be conducted to enable attendees to differentiate between the two functions.</li> <li>• Compulsory e-learning records management course for all university staff. Follow-up monitoring of learnings and information sessions.</li> </ul>
Close cooperation with other units	Does the records management unit work closely with other UWC units?	The study found that the records management unit worked closely with other units.	<ul style="list-style-type: none"> <li>• Facilitate regular consultation with other components.</li> <li>• Integrate the postal services with DRAMS for seamless management of all university records.</li> <li>• Award the same level of importance to records management function as other units, such as HR, Finance and IT.</li> <li>• Allocate dedicated office space for the CRO. The lack of office and storage space renders the function unimportant.</li> <li>• Elevate the DRAMS manager position and records officer on par with the public and private sector records managers.</li> </ul>
Access and use of records	Are records accessed and used for decision-making and research at the UWC?	Records stored at the CRO were accessed by departments that had transferred them. However, due to limited awareness of the records management function, access and use of records from the CRO by other departments were minimal.	<ul style="list-style-type: none"> <li>• A marketing strategy must be devised and implemented.</li> <li>• The use of technology such as digitization of records and enterprise content management was strongly recommended to facilitate faster access.</li> </ul>

## 9.1 Records management model for an intelligent university

Rule and John (2011:35) state that another way of concluding a case study is to develop a model, concept or theory from the case. Figure 1 illustrates the records management model for an intelligent university.



**Figure 1: Proposed records management model**

- i. The university and its external environment is portrayed by the outside the dotted line. The university's external environment is subject to sudden changes which the university must be aware of and adapt to. These include information and records management legislation important in responding to information needs from the external and internal environment.
- ii. The university internal environment is inside the dotted line. The flow of information from the university to react to sudden changes. The university must be constantly aware of changes in its external environment and use all its resources, including records to react or respond to the changes.
- iii. Records management tools (grey shape) are vital for the creation, management and accessibility of information to respond intelligently to changes and to information needs. Synergy between the university

departments (creators of records) and records management processes such as user training. At the same time maintaining the record lifecycle (blue shapes).

- iv. The university as a learning institution equips its staff with records management skills for better decision-making and planning.

## 10. Conclusion

This study investigated whether the records management function contributed to making the UWC intelligent. Central to the intelligent university and functionalist theory are knowledge, collaboration and cooperation of all functions to achieve institutional goals, and react and adapt to changes. The study found there was minimal knowledge of the records management function at the UWC. The function was not fully implemented, nor fully integrated with other university components, and not used optimally for decision-making and planning. Records management therefore did not contribute to making the UWC intelligent. Marketing, training, strategic placement of the records management function on the university organizational structure, integration with other components, implementation of electronic records management, were recommended. A records management model for the intelligent university was developed to improve the situation.

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## References

- Adomi, E.E. 2002. Patterns of the use of information for decision-making by administrative staff of a university in Nigeria. *Library Management* 23(6): 330-337.
- Asogwa, B.E. 2013. The readiness of universities in managing electronic records: a study of three federal universities in Nigeria. *The Electronic Library* 31(6): 792-807.
- Bailey, S. 2011. Measuring the impact of records management: data and discussion from the UK higher education sector. *Records Management Journal* 21(1): 46-68.
- Chinyemba, A & Ngulube, P. 2005. *Managing records at higher education institutions: a case study of the University of KwaZulu-Natal, Pietermaritzburg Campus* [Online]. Available at:

- [http://reference.sabinet.co.za/webx/access/electronic\\_journals/info/info\\_v7\\_n1\\_a2.html](http://reference.sabinet.co.za/webx/access/electronic_journals/info/info_v7_n1_a2.html) (Accessed 18 August 2015)
- Choo, C.W. 2002. *Information management for the intelligent organization: the art of scanning the environment*. New Jersey: Information Today.
- Coetzer, X.P. 2012. *The status of records management at the University of Zululand*. MIS Thesis, University of Zululand.
- Frendo, R. 2007. Disembodied information metadata, file plans, and the intellectual organisation of records. *Records Management Journal* 17(3): 157-168.
- Iwhiwhu, E.B. 2005. Management of records in Nigerian universities: problems and prospects. *Electronic Library* 23(3): 345-355.
- Kruger, J.P. 2010. *A study of strategic intelligence as a strategic management tool in the long-term insurance industry in South Africa*. M.Com. Thesis, University of South Africa.
- Lindsey, L.L & Beach, S. 2002. *Sociology*. New Jersey: Prentice Hall.
- Momotu, N. 2017. *Records management for an intelligent university: the case of the University of the Western Cape*. M.LIS Thesis, University of the Western Cape.
- Ngoepe, M.S. 2008. *An exploration of records management trends in the South African public sector: a case study of the Department of Provincial and Local Government*. M.Inf. Sc. Thesis, University of South Africa.
- Ngoepe, M. 2016. 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* 32(3): 338-353.
- Popoola, S.O. 2009. Organizational commitment of records management personnel in Nigerian private universities. *Records Management Journal* 19(3): 204-217.
- Procter, M. 2002. One size does not fit all: developing records management in higher education. *Records Management Journal* 12(2): 48-54.
- Rule, P & John, V. 2011. *Your guide to case study research*. Pretoria: Van Schaik.
- Saffady, W. 1974. A university archives and records management program: some operational guidelines. *College and Research Libraries* 35(3): 204-210.
- Satgar, V. 2016. *#Feesmustfall: the poster child for new forms of struggle in South Africa*. [Online]. Available at: <https://theconversation.com> (Accessed 27 May 2018).
- Schina, B. & Wells, G. 2002. University archives and records programmes in the United States and Canada. *Archival Issues* 27(1): 35-51.

- Silverman, D. 2010. *Doing qualitative research: a practical handbook*. Los Angeles: Sage.
- South Africa. 2000. Promotion of Access to Information Act (Act No. 2 of 2000). Pretoria: Government Printer.
- South Africa. 1996. National Archives and Records Service of South Africa Act (Act No. 43 of 1996). Pretoria: Government Printer
- Staskeviciūtė-Butiene, I. 2009. Towards the intelligent university: an empirical study. *Social Research* 3(17): 110-119.
- Terre Blanche, M, Durrheim, K & Painter, D. (eds.) 2006. *Research in practice: applied methods for the social sciences*. Cape Town: University of Cape Town.
- Turner, J.H. & Maryanski, A. 1979. *Functionalism*. California: Benjamin Cummings.
- University of the Western Cape. 2016. *University calendar: general calendar part 1* Bellville: University of the Western Cape.
- University of the Western Cape. 2014. *Central Records Office Statistics, 2014*.
- University of the Western Cape. 2013. *University of the Western Cape: an oasis of learning: a place of quality, a place to grow, from hope to action through knowledge*. Cape Town: University of the Western Cape.
- Uwaifo, S.O. 2004. Management use of records in Delta State University, Abraka, Nigeria. *Records Management Journal* 14(2): 85-92.
- Van Parijs, P. 1982. Functionalist Marxism rehabilitated: a comment on Elster. *Theory and Society* 11(4): 497-511.
- Yusof, Z.M & Chell, R.W. 1999. The eluding definitions of records and records management: Is a universally acceptable definition possible? Part 2: defining records management. *Records Management Journal* 9(1): 9-20.
- Zach, L & Peri, M.F. 2010. Practices for college and university electronic records management (ERM) programmes: then and now. *American Archivist* 73(1): 105-128.