Management of physical and electronic records: A comparative study of public and private sector in Botswana

Grace Mwenda Mabuta[1], Lesego Selotlegeng[2], and Tshoganetso Makhumalo[3]

[1]Department of Archieves and Records, Faculty of Business and Information Resource Management, Institute of Development Management, Gaborone, Botswana

[2]Department of Project Management, Faculty of Business and Information Resource Management, Institute of Development Management, Gaborone, Botswana

[3]Department of Archieves and Records, Faculty of Business and Information Resource Management, Institute of Development Management, Gaborone, Botswana

ABSTRACT: Proper storage of records ensures that they are continuously accessible. Proper storage is a vital aspect of every records management program. Good records management will promote efficient and effectiveness in ensuring regulatory compliance, minimizing litigation risks, supporting making informed decisions by providing timely and sufficient information. The aim of the study is to assess records management practices in the private and public sector in Botswana. A cross-sectional study with quantitative approach was completed in Gaborone between January 2019 and May 2019. Respondents who were included in the study were record management officers who work in public and private sector. A snowball sampling technique was used to find a specific number of participants who works in the private sector while a purposive sampling technique as used for records officers who work in public sector. All statistical modelling was carried out using Statistical Package for the Social Sciences, version 29. The study indicates records keeping system in both public and private sector being the manual and electronic. Public sector indicates that 65% of the records keeping are in electronic form. The associations between organization and security measure are presented in this study: CCTV cameras were associated with security measures that are in private sector. While for public sector alarm systems were associated with security measures. Public and public sector in Botswana has security measures but still need to implement more security measures to improve security of records. Both sectors have more electronic records than manual.

KEYWORDS: Records, Management, private sector, Public sector.

1 INTRODUCTION

Records management define as a function of providing control of records from creation, or receipt through their processing, distribution, organization, storage and retrieval to their ultimate disposal [1].In addition previous author also defines records management as the professional management of information in physical form right from creation, receipt, through their processing, distribution and placement in a storage and retrieval system [2]. Information flow is at the core of every management system, public or private and the correct interpretation is a critical attribute of an effective manager [3]. Therefore, information must be considered vital resources at the personal, organizational and national level. Records keeping is essential in all organized offices. This is because all organizations depend on information for their decision making and service delivery. Accurate and good records keeping are the bedrock of planning in the organization's setting [4]. If there is no information, the office management will be crippled in its ability to plan and make decisions.

Proper storage of records ensures that they are continuously accessible. Proper storage is a vital aspect of every records management program [5]. The International Records Management Standard recommends that suitable records storage conditions should be provided so as to protect the records from unauthorized access, loss or destruction especially in the event of a disaster [6]. Furthermore, security of records in their storage is another important aspect of records management, where security of records is not guaranteed, corruption is rife and cases of missing or lost records become common [7]. Proper storage with their security in mind should therefore be a goal of any records system. Records preservation is yet another crucial element in the whole operation of records management program. Preservation as the "processes and operations involved in ensuring the technical and intellectual survival of authentic records through time'' [6]. The aim of preservation is to prolong the usable life of information materials including records in two ways: preventive preservation, which seeks to reduce risks of damage and slow down the rate of deterioration of the materials, and prescriptive preservation which seeks to identify and treat already damaged information materials to enhance their useful access [8].

It is a fact that lack of suitable and inadequate records storage equipment has resulted in records being kept in any available space. This makes retrieval of records difficult, delaying decision making. This also exposes them to too much light, dust and harsh environmental conditions hence accelerating their deterioration over time. This translates into poor preservation of records. In support of the above statement, previous study indicated that information plays a very significant role in the economic development of an organization [9]. It is increasingly used as a corporate resource to improve productivity, efficiency and effectiveness. When security is problem, this could result in records being damage and some going missing. The aim of the study is to assess management practices in the private and public sector in Botswana

2 MATERIALS AND METHODS

2.1 STUDY SITE

A cross-sectional study with quantitative approach was completed in Gaborone between January 2019 and May 2019; this is the capital city of Botswana with job opportunities. Botswana has a population of 2,319,295. The Gross Domestic Product (GDP) in Botswana was worth 15.27 billion US dollars in 2016. The GDP value of Botswana represents 0.02 percent of the world economy. GDP in Botswana averaged 4.46 USD Billion from 1960 until 2016, reaching an all-time high of 16.26 USD Billion in 2014 and a record low of 0.03 USD Billion in 1961 [10].

2.2 SAMPLE SIZE

Sample size was calculated by using an estimation of population proportion formula: $n = Z*Z[P(1-P)/(E*E)]$, where P = expected value = 12%, E = (expected frequency-worst acceptable) = 10%–8% = 2%, Z = 1.960 with a confidence level of 95%, $n = 1.960*1.960[0.10(1–0.10)/(0.02*0.02)]$. The final sample size was determined to be 60 after calculating that $S = n/ [1+ (n/population)]$. Only 45 were selected to be eligible as five participants dropped out, this is due to fact that record management officers are few in most of public and private sector.

2.3 EXCLUSION AND INCLUSION CRITERIA

Respondents who were included in the study were record management officers who work in public and private sector. The study excludes IT officers, accountants, security officers even though they deal with organization transactions.

2.4 DATA COLLECTION PROCEDURE

Due to the nature of their job, it was difficult to arrange data collection. Data were recruited in both daytime and after hours in their workplaces. Data collector was a final year student (Diploma Archives and Records Management) at the Institute of Development Management (IDM, Botswana). The interview involved questions concerning socio-demographic and factors affecting records management.

2.5 GAIN ACCESS TO KEY PARTICIPANTS

A snowball sampling technique was used to find a specific number of participants who works in the private sector. Participants who suited the inclusion criteria were targeted and their informed consent was received prior to recruitment. Indeed, participants were able to identify and refer other potential respondents with similar characteristics. The author's contact information was passed to record management officers whom the researchers had already interviewed so that they

could pass on to other potential participants. A purposive sampling technique as used for records officers who work in public sector.

2.6 STATISTICAL ANALYSIS

Descriptive statistics were performed for the main independent variables. The panel data has been used for bivariate and multivariate linear regression analysis. Two dependent variables have been used for multivariate linear regression analysis (for examplei) "Public sector"; ii) "Private sector"). These responses were considered as polytomous variables, with these two categories as possible answers. Explanatory variables were selected based on theoretical considerations. To compare outcomes of records management, multiple variables Poisson regression models adjusting for over dispersion were used to compute rate ratios with 95% confidence intervals. For each model, variables were selected a priori and included in the regression analysis. All variables were transformed into natural logarithms to avoid outliers and normalize the variables. All statistical modelling was carried out using Statistical Package for the Social Sciences, version 29.

2.7 ETHICAL CONSIDERATIONS

This study was approved by the Review Committee of the Institute of Development Management (IDM, Botswana). Permission was also obtained from the Research Review Committee of the different Ministries in Botswana. At the enrolment visit, eligible respondents were confirmed and signed informed consent obtained but immediately after data collection they were destroyed, as the study was regarded as dealing with sensitive issues in the local culture.

3 RESULTS

3.1 DESCRIPTIVE RESULTS

3.1.1 DEMOGRAPHIC RESULTS

Table 1. Demographic characteristics and alcohol use

Demographic Characteristics	Sector Public, n (%) Private, n (%)	p-Value
Age:		
28-37	7 (28.0) 0 (0.0)	
38-47	5 (20.0) 5 (33.3)	0.02
48-57	11 (44.0) 10 (66.7)	
58+	2 (8.0) 0 (0.0)	
Total	**25 15**	
Sex:		
Male	8 (32.0) 74 (48.7)	
Female	17 (68.0) 78 (51.3)	0.48
Total	**25 15**	
Educational level:		
Secondary	3 (12.0) 2 (13.3)	0.92
Tertiary	22 (88.0) 13 (86.7)	
Total	**25 15**	

Table 1 shows respondents who works in the public sector of 25 respondents of which the majority was at age group 48-57 44.0% (11). This is an indication that the majority of the respondents were relatively older. The smallest group age 58 years and above with 8 % (2). A higher percentage 68% (17) was females while 32% (8) were male. The record management officer is skewed towards females. This is in line with the overall Botswana population which showed that majority are females. Among

the respondents who work in public sector, only 13% (3) had secondary education. This is because education in Botswana is free, but it is not compulsory.

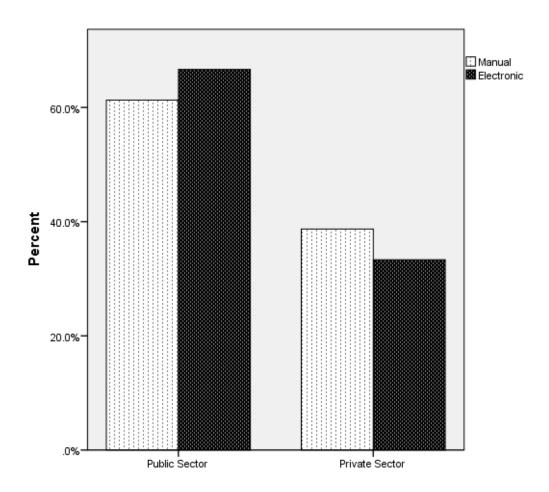**3.1.2   TYPE OF RECORDS KEEPING SYSTEM**

Fig. 1.   Type of records keeping system in private and public sector

The above figure 1 indicates records keeping system in both public and private sector being the manual and electronic. Public sector indicates that 65% of the records keeping are in electronic form. This is evidenced that slowly government is shifting from using paper work and adopting the new technology when it comes to records management. Surprise, private sectors kept manual records, which are indicated by 40% in the study.

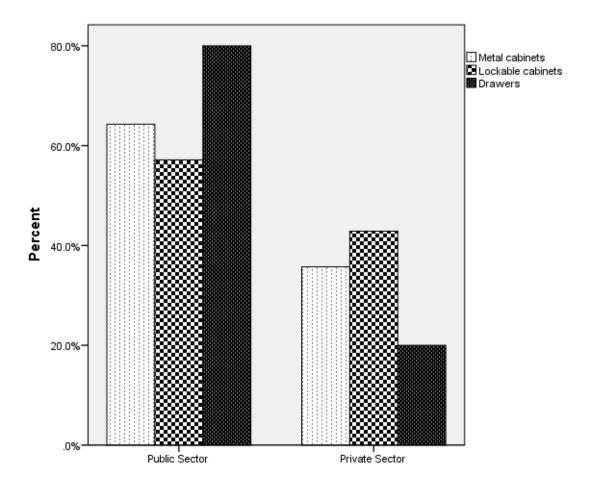### 3.1.3   TYPE OF STORAGE FACILITIES USED FOR RECORDS

Fig. 2.   Type of storage facilities used for records

The study indicates 80% of respondents in public sectors, uses table drawers as storage facilities for records. This would results in poor storage conditions of records which may lead to destruction of information and also the records would lead to significant expenses in conservation and preservation. While for respondents in private sector 43% of respondents indicated that, lockable cabinets are used as a source of storage (Figure 2).
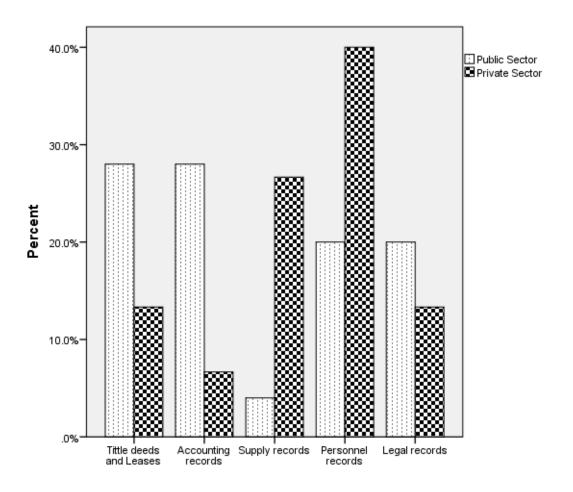
3.1.4 TYPE OF RECORDS RECEIVED

Fig. 3. Type of records received in Public sector and Private sector

The above figure 3 revealed that 6 40% of records generated at Private sector are Personnel records and 27% are supply records. While 28% records generated at public sector are tittle deeds and leases. Records are created and maintained to meet the goals and objectives of an organization. They improve the effectiveness of operations and document services in organizations by supporting the delivery of services, supporting administration, documenting rights and responsibilities of individuals.
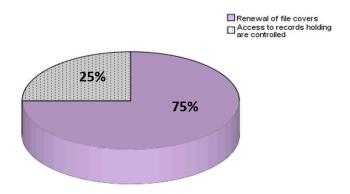
3.1.5   RECORDS PRESERVATION

Fig. 4.   Records preservation in both public and private sector

It is evident that 75% of the respondents respectively stated renewal of files covers as a way of how records are preserved (figure 4). Preservation is a word commonly used by record offices, libraries and museums to describe the ways in which their collections are safeguarded and kept in good physical condition. Records preservation is crucial element in the whole operation of a records management program and its aim is to prolong the usable life of information materials including records.
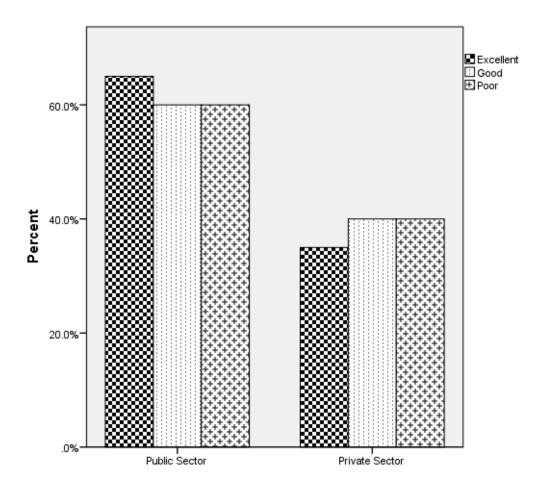
3.1.6   SECURITY MEASURES

Fig. 5.   Security measures for public and private sector

For both sector security measures are good which is indicted in figure 5. Data leakage is a serious threat to enterprise operations, such as private and public sector. The loss of sensitive information can lead to significant reputational damage and financial losses, and even can be detrimental to the long-term stability of an organization. This study indicates that 60% of respondents in public sector rated the security measures excellent also in private sector 40% of records officers indicates that security measures are good.

3.2   BIVARIATE RESULTS

Table 2.   Bivariable associations between organization and Security measures. Odd Ratio (OR) and 95% Confidence interval (95% CI)

Variable	OR (95% CI)	
	Private Sector	Public Sector
Gender	0.63 (0.32-0.96)	0.82 (0.77-1.01)
Age	1.28 (0.94-1.41)	1.05 (0.94-1.36)
Service Counters	0.70 (0.48-1.11)	0.82 (0.76- 0.98)
CCTV Cameras	1.42 *** (1.01-1.56)	0.90 (0.63-1.05)
Fire extinguishers	0.95 (0.98-1.22)	0.45 (0.30- 0.77)
Lockable mobile cabinets	0.57 (0.42-0.84)	0.96 * (0.80-1.03)
Alarm systems	1.02 (0.88-1.38)	3.08*** (2.10-4.62)
Limit access to only records officers	0.38 (0.28-0.75)	0.27 (0.19- 0.49)
Provision of access codes	1.28*** (1.10-1.50)	1.21*** (1.04 -1.52)
Use monitoring tools(File movement cards)	0.49 (0.31-0.74)	0.52 (0.40-0.97)

*Significance *$p<0.05$; ** $p<0.01$;*** $p<0.001$*

The associations between organization and security measure are presented in table 2: The security of records is key to the authenticity; reliability and integrity of records are to be maintained. CCTV cameras were associated with security measures that are in private sector. While for public sector alarm systems were associated with security measures. Gender difference in terms of females is the one occupying the posts of records officers in both private and public sector. Age is also an important factor; the study indicated that most of the record department in both private and public sector operate with older age. Provision of access codes in records management unit need to be introduced in both private and public sector and it was significant in both sectors. To ensuring that records and archives are protected from all forms of unauthorised alterations and destruction, theft, weeding of folios and disasters is of principal importance.

4   DISCUSSION

The aim of the study is to assess management practices in the private and public sector in Botswana. In terms of the age group, the majority the respondents representing were aged between 48 years to 57 years. Previous study revealed that adults in their 30s and 40s records officers reported being only modestly more active than the young records officers [11]. This study also reported that most of records officers were older people. The respondents were asked to indicate their gender to which it turned out that the majority were female at 62.5% are records officers. According to previous study which was conducted at a small college of 1,000 records management students in which the distribution of gender groups at the college is quite imbalanced (e.g., 80% female and 20% male) [12]; given that females may be more inclined to choose records management as a program of study. This supported the findings of this study. The study revealed that majority of the participants has attained tertiary education. The study expressed that there are various security measures in places to protect the records in both private and public sector. Data leakage is a serious threat to enterprise operations, such as corporations and government agencies. The loss of sensitive information can lead to significant reputational damage and financial losses, and even can be detrimental to the long-term stability of an organization [13]. The security of records is key if the authenticity, reliability and integrity of records are to be maintained. Previous study revealed that to the protection of records as the need for a record keeping programme to provide a reasonable degree of security to vital records that are essential for the continuity of an organization [14]. Another previous study stresses the need for records officers and users to understand the importance of properly handling records, particularly paper-based records, since they require support and protection when moved [15]. This study proposed the provision of access codes in records management unit, need to be introduced in both private and public sector to improve the security of current records. Ensuring that records and archives are protected from all forms of unauthorized alterations and destruction, theft, weeding of folios and disasters is of principal importance. There are many factors that may lead to the loss of valuable organizational information if there are no proper records security measures in place. Previous study indicates

that there should be proper guidelines in place to control access to records storage areas as well as when such access should be permitted [16]. This study indicated found that storage facilities are lockable cabinets and metal cabinets. According to previous study, poor storage conditions of records would lead to destruction of information and records that lead to significant expenses in conservation and preservation programs [17]. It is evident that the respondents of this study respectively stated renewal of files covers as a way of how records are preserved. Previous study reported preservation is crucial element in the whole operation of a records management program [18]. The aim of preservation is to prolong the usable life of information materials including records in two ways: preventive preservation, which seeks to reduce risks of damage and slow down the rate of deterioration of the materials, and prescriptive preservation which seeks to identify and treat already damaged information materials to enhance their useful access [19].

5   CONCLUSION

Public and public sector in Botswana has security measures but still need to implement more security measures to improve security of records. Both sectors have more electronic records than manual. Electronic records can allow for the access of records by more than one action officers at the same time rather wait for one to finishing use the manual record. Implementation of more effective security measures to provide protection for records; it also enhances efficiency and effectiveness in the service delivery. Proper records storage, Deeds Registry should consider build another records management unit, this will restrict access to only records officers who are the custodian of the records. The management should ensure processes and procedures on the preservation policy are put into practice by the staff as this helps to reduce the deterioration of records, records are vital to an organization as are needed for day to day activities.

REFERENCES

[1]   Kennedy and Schuder, C. Record management: a guide for students and practitioner of records and information management, Melbourne : Addison Wesley Longman, 1997.

[2]   Palmer, M. (2000). Records management and accountability versus corruption, fraud and administration. Records Management Journal, 10(2), 61-72, 2000.

[3]   Buchanan, S. A., Stratton, C., Sun, Y. and Chaudhary, A. Survey research on tasks and competencies to inform records management education. Records Management Journal. Vol. 27 Issue: 1, pp.2-18, 2017.

[4]   Wakumoya, J. (2000). Records and archives as a basis for good government: implications and challenges for records managers and archivists in Africa. Records Management Journal, 10(1), 23-33, 2000.

[5]   Kaiser C, Jeger R, Wyrsch S, et al. Selection bias of elderly patients with chronic angina referred for catheterization. Int J Cardiol 2006;110:80–5.

[6]   Healy, S. "ISO 15489 Records Management – its development and significance", Records Management Journal, Vol. 11 No. 3, pp. 133-142, 2016.

[7]   Sutuliffe, P. (2003). Building the corporate memory in the e-environment. Records Management Journal, 13(2), 51-53, 2003.

[8]   Edgrave, J. M., Peay, K. H., & Bulander, M. K. E. Understanding and contextualizing precedents in e-discovery: The illusion of stare decisis and best practices to avoid reliance on outdated guidance. Richmond Journal of Law and Technology,2014, 20(2).

[9]   Mrwebi, S. (2000). Record management in a management consulting firm. Masters in Information Science. Johannesburg: Rand Afrikaans University.

[10] United Nation Economic Commission for Africa. World Population prospects – Population division. United Nations Department of Economic and Social Affairs, Population Division. Retrieved 9 November 2019. population.un.org

[11] Kalusopa, T. & Ngulube, P. Record management practices in labour organisations in Botswana. South Africa Journal of Information Management,2012, 14(1), 1-15

[12] Harris, A., Hyun, J., & Reeder, R. Survey of editors and reviewers of high-impact psychological journals: Statistics and research design problems in submitted manuscripts. Journal of Psychology, 145, 195–209, 2011.

[13] Muaadh, Yusof Z, Mokhtar A, and Manap N, "Electronic Records Management System Adoption Readiness Framework for Higher Professional Education Institutions in Yemen," Int. J. Adv. Sci. Eng. Inf. Technol., vol. 6, no. 6, pp. 804–811, 2016.

[14] Abdulkadhim H, Mahadi B, Bakri A, and Hashim H, "Exploring The Common Factors Influencing Electronic Document Management Systems (EDMS) Implementation In Government," ARPN J. Eng. Appl. Sci., vol. 10, no. 23, pp. 17945–17952, 2015.

[15] McLeod, J. and Hare, C. Development of RMJ: A mirror of the development of the profession and discipline of record management. Records Management Journal, 20(1), 2010.

[16] Mampe, G. & Kalusopa, T. Records management and service delivery: The case of Department of Corporate Services in the Ministry of Health in Botswana. Journal of the South African Society of Archivists, 45: 2-23, 2012.

[17] Decker J, "Do Universities Get the Hang of Working Efficiently ? – A Survey of the Influencing Factors on the Adoption of Electronic Document and Workflow Management in German-speaking Countries," Adopt. Electron. Doc. Work. Manag., no. Sprague 1995, pp. 1–15, 2014.

[18] Ngoepe, M. & Ngulube, P., 'Contribution of record-keeping to audit opinions: An informetrics analysis of the general reports on audit outcomes of the Auditor-General of South Africa', Journal of the Eastern and Southern Africa Regional Branch of the International Council on Archives 32, 45–54, 2013.

[19] Yusof, Z. & Chell, R. The eluding definitions of records and records management: is a universally acceptable definition possible? Records Management Journal, 8(2), 95-112, 1998.