

Impact of Cloud-Based Services on Records Management in Public Organisations in Kenya

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Abstract

Cloud-based services are the services that are provided to users through the Internet when they need them. They are designed to provide easy and scalable access to applications, resources and services. Such services include online storage, backup solutions and document collaboration services, among others. Most organisations have started using the cloud-based services to offer efficient and cost-effective technological solutions. Other organisations are moving to cloud-based records management to cut cost, eradicate redundancies and pool resources. However, when choosing to use these services, the organisations have to weigh against the risks associated with lack of privacy and security of records. This chapter analyses the cloud-based services used for records management in public organisations in Kenya; their impact on effective records management; the challenges in managing the cloud-based services; and strategies which can be used by the organisations to enhance the effective adoption of cloud-based services for records management in public organisations in Kenya. The chapter is based on a research study where primary data were collected through self-administered questionnaires using the online Survey Monkey platform. Additional information was collected through review of scholarly materials. The findings indicate that public organisations in Kenya can use cloud-based services to enhance their records management. Thus, cloud-based services such as creation, digitisation, dissemination, storage and preservation of records have the potential of increasing efficiency and effectiveness of public organisations by enhancing effective records management. The findings here can be used by public organisations to implement effective records management initiatives anchored on cloud-based services. Moreover, the findings can be used to develop policies and standards governing the use of cloud-based services in records management.

Keywords: *Cloud-based services, records management, public organisations, Kenya*

Introduction

According to Kaufman (2009), cloud computing is the ability to utilise accessible, distributed computing environments within the limits of the Internet from anywhere. Kuo (2011) also explains that cloud computing is the new technology in delivering computing services and resources. Nonetheless, it is important to point out that cloud computing is not necessarily a new technology; it is a new model used to assist delivery of computer services and resources. As a records management solution, Cloud computing offers records managers; facilitation of fast delivery of information and also provides huge space for the storage of records. Other advantages associated with cloud computing for records management include cost saving, enhanced accessibility, better centralisation, increased flexibility, having access to records even in time of disaster, and improved interaction with the user community. Another important benefit of cloud-based services is its capacity to facilitate remote access to records regardless of the physical location of the users. However, it also has some disadvantages which include challenges associated with poor security, questionable data integrity, unclear ownership and control, difficulty meeting legal compliance as well as irregular retention and disposal management.

Public organisations have started to use cloud-based services because of the potential benefits of the services. These benefits, however, should be weighed against the risks associated with the privacy and security of records. This is because the records migrated to cloud spaces should continue to be usable, and, when necessary, securely destroyed or transferred while at the same time retain their reliability, authenticity and integrity. Consequently, public organisations moving records to cloud spaces should develop requisite policies to guide the use and protection of their records. Furthermore, organisations should not just migrate to cloud-based services just because their contemporaries are doing the same. The decision to use cloud-based services should be informed by a systematic analysis of its benefits to the organisation and not mere imitation to keep with the trends.

Rationale of Cloud Based Services

Records management is the orderly control of an organisation's records from the time they are created and encompasses their maintenance, use and disposal. For many years, public organisations in Kenya have relied on paper-based records to deliver their services. Over time these paper records grew in size and complexity making them generally inaccessible and unusable. Indeed, the volume of records in most public organisations is so vast that many records managers have to fight for storage

space, whether physical or digital storage, as storage space continues to shrink and volume of records continue to grow. This has led to public organisations having to prioritise records to store in the available physical spaces in an effort to keep the costs associated with storage low. This dilemma has focused attention on cloud-based services as a possible solution.

Many public organisations in Kenya are adopting cloud-based services without considering the impact. According to Kachwanya (2011) cloud-based services can complicate issues relating to the security of records. This is because the cloud does not necessarily offer security agreement to end users. Therefore, it is upon the organisation to secure its own records, perhaps through encryption. In addition, most organisations do not understand what cloud computing entails hence they end up not using it. For instance, Microsoft started offering cloud services in Kenya but stopped because of low uptake. Also the fear of job loss by many employees in public organisations has hampered the adoption of cloud-based services. This chapter has analysed the cloud-based services used for records management in public organisations in Kenya; their impact on effective records management; the challenges of managing the cloud-based services; and strategies which can be used by the organisations to enhance the effective adoption of cloud-based services for records management in public organisations in Kenya.

Theoretical Framework

The study informing this chapter was based on the records life cycle model. This is a records management model that offers insight on how records are managed from creation to disposal. The model was developed by Phillip Coolidge Brooks and Emmett Leahy of the US National Archives in the late 1930s. It was further advanced by Ira Penn. Richard (2005) asserts that records life cycle are the stages that records follow in their life span. It is believed that records are born; they live and also die. Therefore, the management of records life cycle entails creation, storage, retention, preservation, disposal and archival of records. The first stage of the records life cycle is creation. This involves records being created or received through daily transactions of the organisation. They should be captured well to ensure easy and authorised access. After the records have been created they should be organised, maintained, and stored in secure locations. With time the use of records reduces hence the need to dispose them. This can be done through the destruction or archiving.

The use of cloud-based services should facilitate the effective transition of records through the life cycle. Therefore, an assessment of the impact of cloud-based services on records management is essentially an assessment of the impact of these services on the records life cycle. Consequently, the model was used to provide the framework of this assessment. Similarly, the effectiveness of cloud-based services in enhancing records management in public organisations was assessed based on how well the services facilitated seamless transition between the various stages of the life cycle.

Methodology

The study culminating to this chapter was designed as an exploratory research because the concept of cloud computing in records management is relatively new to most of public organisations in Kenya. Exploratory research is conducted for research topics that have not been well defined. It assists to explore the research questions of the existing problem (Shields & Rangarjan, 2013). It is conducted to define the extent of the problem and usually not anticipated to give definite evidence. Saunders *et al.* (2007) advise that when piloting exploratory research one needs to be prepared to adjust their concept due to exposure to new information and records.

Primary data was collected through key informant interviews with records officers at the Ministry of Lands, Housing and Urban Development headquarters in Nairobi, Kenya. The choice of the ministry was based on the fact that it is one of the public organisations with the largest volumes of records in Kenya. The choice was also based on the fact it has already implemented a project aimed at utilising cloud computing in managing its records. Additional information on the impact of cloud-based services on records management was collected from the relevant literature. The data were analysed using descriptive statistics. This analysis technique was chosen because it enabled the author to summarise, interpret and describe the data in a way that reveals their meanings within the context of the study. The researcher purposively sampled ten (10) records officers from the Ministry of Lands, Housing and Urban Development headquarters in Nairobi, Kenya. The selection was based on an understanding of cloud-based services and their use in the ministry. This was determined by the job roles in the station. The researcher selected officers who were responsible for digital records in the ministry. Of the ten (10), the researchers received filled questionnaires from eight (8). This represented 80% response rate which was acceptable for the study.

Finding and Discussions

Hereunder are the findings of the study on which this chapter is based.

Cloud-Based Services Used for Records Management

Some of the cloud-based services used in records management include:

1. Storage – the cloud can be used for storing the records in a way that makes them accessible anywhere. Some of the cloud-based storage services include use of Dropbox and Google drives. These digital platforms provide large storage space cost-effectively and also enhance the access of records remotely.
2. File sharing – the cloud-based services, being digital, facilitate the effective sharing of records with authorised users online. So with the click of a button a records officer is able to select and share files or sections thereof with users in a convenient and fast manner.
3. Digitisation and dissemination of records – for records to be on the cloud, they need to be migrated to digital format first. After they are digitised they can be disseminated by use of the cloud-based service such as Google apps. Dissemination can also be done by the use of instant messaging or mail services.
4. Preservation – cloud-based services facilitate long lasting preservation of records. This is because the records stored in the cloud are digital and are not prone to wear and tear.
5. Creation of records – the cloud offers a platform for the creation of records. For example, Google docs can be used to create and save records for later use.

Benefits of Cloud-Based Services

The respondents indicated that the benefits of using cloud-based services in records management in public organisations in Kenya include, among others, the following:

1. Cloud-based services save on transmission time of the records hence expedites the decision making process in the public institutions. This is a critical benefit given the records instigated challenges that most public institutions in Kenya face which result in delayed service delivery.
2. The services also increase efficiency and effectiveness in service delivery as technology is highly used in capturing, managing and processing of records as compared to a case where systems are running manually.

3. Cloud-based services offer public organisations vast storage space. This benefit enables the organisations to save on the physical storage space, which is getting expensive in most contexts, and to maximise the use of the available space.
4. Cloud-based services also facilitate the realisation of multi-user access to records thereby enabling ready access to records and real-time collaboration in decision making and task performance. Also the records can be accessed outside traditional office environment.
5. Cloud-based services help preserve records in digital format hence increase their longevity by reducing wear and tear. These two are the most common causes of records deterioration.
6. They lower operational costs by eliminating the costs associated with buying of hardware and software. This is because, for instance, if the organisation needs to buy a server to store its digital records, this associated cost can be avoided by storing the records online using Google drive.
7. Cloud-based services also enhance the integrity of records compared to physical records which can be lost, amended or mutilated easily. Digital records stored in the clouds will stay usable for longer and around the clock thus supporting timely decision making and service delivery.

Challenges of Using Cloud-Based Services for Records Management in Public Institutions

The findings of the study indicate that public institutions in Kenya face the following challenges in their efforts to deploy cloud-based services for records management:

1. Retention schedules – The records in the cloud may be saved using the services from several different service providers hence creating a challenge when trying to figure out how long a record can be retained in an organisation. This requires the organisation signing a memorandum with the service providers to safeguard their role in determining records retention requirements.

2. Lack of capabilities to implement records disposal schedules – Since the records are stored in the cloud, organisations face challenges when attempting to delete records permanently or transferring them to the archives. This is because the cloud offers a wide range of storage options which can be used to revive records against the will of the creating organisation.
3. Trustworthiness and sustainability of records – Most cloud platforms at the moment do not have practical standards governing how records are stored and manipulated. This creates a loophole which may be exploited by unscrupulous persons to abuse the records.
4. Preservation – When records have been deemed to be of enduring value the cloud does not have articulated ways of continuous special storage of such records or a means to access them. Furthermore, there are no contingency measures for continued preservation should the service provider change.
5. Privacy and unauthorised access – Any records saved in the public cloud can be accessed by unauthorised persons. This means that such records will remain vulnerable to malicious manipulation.
6. Resistance to change – Many organisations are facing challenges with employees resisting the change to digital world. Apart from the need for new skills, many of the employees fear they might lose their jobs with the shift to cloud computing.

The findings above demonstrate that cloud-based services have a great potential of helping public organisations to meet the needs of their stakeholders efficiently, cost-effectively, promptly and consistently. However, public organisations have to overcome myriad challenges to use the cloud-based services effectively.

Conclusion

The decision to adopt cloud-based services for records management by public organisations is influenced by their potential benefits in improving the efficiency and effectiveness of records management. Many organisations are already using these services for storage, file sharing, digitisation and dissemination of records. These organisations have reaped benefits relating to reduced costs, enhanced records access and improved service delivery to their stakeholders. In spite of these benefits, there are myriad challenges which hamper the effective adoption of cloud-based services in public organisations in Kenya. Organisations seeking to embrace cloud-based services need to attend to these challenges to ensure better returns. They can do this by developing the right policies, training and investing in good bandwidth. The organisations continue to be drawn to the cloud-based services because of their potential benefits which are getting more attractive every day.

The findings of this study can be used by public organisations to develop policies governing the use of cloud-based services for records management. They can also be used by relevant training institutions to develop records management curricula to respond to the needs of the digital era organisations. The findings can also be used to create awareness about the benefits of cloud-based services for records management in public organisations in Kenya.

Recommendations

The respondents reported that public organisations are exploring the option of using cloud-based services for records management. The Ministry of Lands, Housing and Urban Development is one of these public organisations which are currently digitising their records with the view of reducing the need for physical spaces to store paper-based records and also to facilitate fast access and service delivery. The findings indicate that although they are facing myriad challenges, the organisations are determined to harness the benefits of cloud-based services. The respondents suggested the following actions to help in this effort:

1. Involve the top management of the organisation in planning and deployment of the cloud-based services. This will make the management to understand the need for cloud services and their potential impact on the performance of the organisation.

2. The organisation should clarify if the records in the cloud are covered under the existing records retention schedule. This will help determine how long the records are to be retained in the organisation's space in the cloud.
3. The organisation should provide guidelines on how records should be migrated so that they are comprehensive throughout the various stages in their lifecycle.
4. Public organisations should develop policies and guidelines to enhance good record management practices in the cloud.
5. The organisations should also invest in the training of the current staff on the management of cloud-services. This will enhance the success levels of the projects. It would also reassure doubtful staff that they would still be retained in the organisation albeit with new skills and responsibilities.
6. As much as cloud-based services do not require a lot of infrastructural investments, certain ICT requirements are essential for the successful adoption of the system. For example public organisations must invest in stable internet connections to enable access to cloud services.

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