Achieving Operational Efficiency by Adopting ICT in Diplomatic Records Management at the Ministry of Foreign Affairs, Kenya

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Abstract

Information and Communication Technologies have become a critical success factor for service delivery in Kenya's public sector. Applying ICTs in service delivery has become a game changer in public records management. It has completely transformed records management work procedures, methods, and principles. The study aimed to assess how operational efficiency can be achieved by adopting ICT in diplomatic records management at the Ministry of Foreign Affairs, Kenya. The study was guided by records continuum and hybrid theories and adopted the descriptive survey research design. The target population comprised 887 Ministry of Foreign Affairs employees, from which a sample of 87 participants was selected using a stratified and purposive sampling approach. Questionnaires and interview schedules were used to collect data, which was analyzed quantitatively and qualitatively using Statistical Package for Social Sciences and content analysis. The study revealed that the Ministry of Foreign Affairs had embarked on the assimilation of ICTs into its operational activities as a component of e-service delivery. As a result, the study established that diplomatic records, which were vital in achieving operational efficiency, were being created, accessed, and used in electronic format. Inadequate infrastructure for electronic records management programs was, however, found to be a significant hindrance to the realization and use of diplomatic electronic records. The study recommends that the Ministry of Foreign Affairs develop and execute a comprehensive electronic records management policy and regulatory framework to integrate e-records into Ministry's operational efficiency and service delivery. The Ministry of foreign affairs should collaborate with Information Communication and Technologies Authority to develop infrastructure for electronic records management systems to ensure that all software acquired for managing electronic records capture records management requirements to achieve operational efficiency and improved service delivery.

Keywords: *Electronic Records, Operational Efficiency, Ministry of Foreign Affairs, Diplomatic Records, Record Management Technologies*

1.0 Introduction

Information and Communication Technology (ICTs) has become a critical success factor for service delivery globally. It has affected how organizations create, receive, and maintain operational records. The application of ICTs in organizations' work processes and business has a far-reaching impact on records management, especially electronic records management (Lyman, 2014).

Kalusopa and Ngulube (2012) further argues that integrating ICTs in the public sector has transformed records management, especially in addressing the many challenges of records management within African government agencies. However, many scholars and researchers in records and archives management believe that the absorption of ICTs will have far-reaching impact on public records management when applied appropriately. Earlier studies by Wamukoya and Mutula (2005) pointed out the extent to which ICTs can be used to enhance effective records management in public organizations. Using ICTs in records management has brought active and profitable management of the organizational operations, which ordinarily would have been difficult.

Luyombya (2010) asserts that the introduction of ICTs in government organizations in Uganda in the 1990s has enhanced service delivery in public sector parastatals and has demonstrated the creativity to use it. The Uganda government has brought this initiative to public establishments since the 1990s. The framework of introducing ICTs, as recommended by Luyombya (2010), was on the condition of quality service delivery which beckons on the growth of digital societies. The use of ICTs, as envisioned in Luyombya's (2010) study, was to advance service delivery in the economy, administration, and health service parastatals, among many more. Besides, other areas of much concern, as reported in the study, were fostering communication, data and information distribution and organization within offices in the Uganda government parastatals (Luyombya, 2010).

In Kenya, the government has been expanding ICT- enabled services across public institutions through the e-Government Strategy of 2004, which outlines the objectives and processes for modernizing government. The achievement of e-Government is one of the main priorities of the Government of Kenya towards the realization of national development goals and objectives for Wealth and Employment Creation. Effective and operational e-Government will facilitate better and efficient delivery of information and services to the citizens, promote productivity among public servants, encourage the participation of citizens in government and empower all Kenyans (e-Government Strategy, 2004). As a result, there is a rapid generation of electronic records across government ministries in Kenya. The success of e-government for effective service delivery depends on how public organizations will manage electronic records (Ambira, 2016).

Kenya has taken a slow but gradual process in setting up the ICT infrastructure in the country precisely, at the Ministry of Foreign Affairs. Technology integration in the Ministry is informed by the desire to enhance administrative duties and offer better services to clients and international partners (Waithaka, 2018). One of the critical areas where the use of ICT at the Ministry will have a significant impact includes online dissemination of information, online sharing of documents and memos, and direct communication.

According to Derow (2019), diplomatic practice continues to evolve, especially with technological advancement. The modern approach to diplomacy emphasizes the need for timely and effective information made possible by electronic records management. Electronic records management can

potentially increase diplomacy effectiveness in Kenya through timely access to accurate and authentic diplomatic records.

1.1 Statement of the problem

Application of Information and Communication Technologies has become a critical success factor for service delivery in government of Kenya Ministries. This has a far-reaching impact on records management and on operational efficiency. The use of Information and Communication Technologies in the Ministry of Foreign Affairs is transforming how the ministry creates and manages records that document its mandate, functions and activities. Although the Ministry of Foreign Affairs of the Republic of Kenya has an exclusive and important role in managing Kenya's foreign policy as well as projection, promotion and protection of the country's interest and image, it not fully leveraged records management to enhance operational efficiency and delivery of services (Ministry of Foreign Affairs, 2015). There is no study has been carried out focusing on the management of its records and specifically the effect of ICTs in management of diplomatic records for operational efficiency. Studies on records management in Kenya have focused on areas such as records management as a basis for transparency at the Kenya national assembly (Rotich, Mathangani & Nzioka, 2017), records management traditions in the administration of public institutions in Kenya (Nyamwamu, 2018), the role of records management in public service delivery in county governments in Kenya (Abuki, 2014). This study therefore, aimed to bridge this research gap by assessing how operational efficiency can be achieved by adopting ICT in diplomatic records management at the Ministry of Foreign Affairs, Kenya.

1.2 Research Objective

The objective of this study was to evaluate the effect of ICT in the management of diplomatic records on operational efficiency at the Ministry of Foreign Affairs in Kenya.

2.1 Theoretical Framework

This study was informed by the records continuum theory and the hybrid records life-cycle theory. Theorists such as Jay Atherton, Frank Upward, and Peter Scott developed the Records Continuum Model (Karabinos, 2015). Based on Upward (2000), the theory offers an angle of records management at the establishment level, across units, institutional and inter-institutional. The theory also provides a view of recordkeeping at creation point, within groups, at organizational levels, and at inter-organizational levels. The records continuum theory depict the expanding context of the evidentially and trans-actionality value of records in organization.

The Hybrid Records life-cycle

Ngulube and Tafor (2006) developed this theory in 2006. The theory incorporates records lifecycle and continuum principles. It is a blend of earlier stages of the records continuum and the records life-cycle formation phases. Incorporating the records lifecycle and records continuum principles offers a template for the management of organizational records. The study opted for the records continuum theory and hybrid records life-cycle theory as a theoretical underpinning because the theories focused on the creation, capture and use of electronic records for organizational use. As a result, the two theories served as the foundation for the analysis aimed at determining the impact

of ICT use in diplomatic records management on operational efficiency at Kenya's Ministry of Foreign Affairs.

2.2 Literature Review

Information Communication Technology applications are central to every-day human activities. ICT refers to digital technologies utilized in the processing, storage and transmission of information (Olayemi, 2007). ICT refers to technology that is applied in the collection, storage, editing, and are used as a medium for transmitting information in different means. There has been transformation in ICT in the manner institutions undertake information storage and management (Wamukoya, 2015). Lyman (2014) maintains that in the current world, institutions have implemented the utilization of ICT to properly manage the large data volumes they deal with.

China has adopted ICT in fighting corruption. The success of this endeavor is attributable to application of ICT theory, (Welzhing, Yuzhong & Bowang, 2016). In their plans, there is public display of crucial details; collection of individual thoughts; an analysis of possible corruption areas and forecasts determinations; and finally, this information is passed to key agencies for action.

Guto (2020) did a case study at the University of Eldoret, focusing on the importance of information and communication technology (ICT's) in record management practices in combating corruption inside the institution. According to the conclusions of this study, employing ICT in record management assisted in preventing corruption since the automated record management method gave a proof of transactions and monitored every action. The study therefore recommended that institutions invest in record management systems.

3.0 Methodology

The study adopted a mixed method research by utilizing both qualitative and quantitative data. The use of descriptive survey design enabled the researcher to determine the context of existing situations without manipulating the subject. Primary data was gathered using questionnaires and interview guides, while secondary data was gathered through an examination of diplomatic records management and operational efficiency. Data was collected through questionnaire and interview from 65 respondents sampled from four Directorates in the Ministry of Foreign Affairs. The study employed a stratified sampling and purposive sampling technique in selecting participants. The strata comprised directorates and divisions within the Ministry of Foreign Affairs. Purposive sampling was employed to choose the key informants for this study, while simple random sampling was used to select the main respondents of the study from each stratum. A pretest was conducted to determine the reliability of the data collection tools. Validity was determined through experts' input, who suggested ways of revising the study instruments. Quantitative data was analyzed by use of the Statistical Package for Social Sciences (SPSS), where percentages and correlation were computed. The qualitative data was analyzed through content analysis.

3.0 Results and Discussion

Reliability results and response rate

A pilot study was conducted on eight participants, a tenth of the targeted Ministry of Foreign Affairs workforce, to ensure the instrument's reliability. Findings from pretesting were taken through calculation by Pearson's Product Moment Correlation Co-Efficient Formula to determine their reliability coefficient (r), which ought to be 0.7 and above. Cronbach's Alpha was applied to test consistency on the proposed questions, and the acceptable alpha coefficient is at least 0.70 (Cooper & Schindler, 2014). The pretest for this research revealed alpha values for all variables over 0.70, as indicated in Table 1.

Table 1: Reliability Statistics

Variables	Number of items in the Scale	Scale Reliability Coefficient (α)
ICT systems for e-records Management	20	0.894
Migration of records to digital	13	0.894
Access, retrieval and security of records	7	0.876
ICT systems for Retention of e-records	7	0.876
Disposition of e-records		

The Cronbach alpha score for ICT system for electronic records management was 0.894, with 20 items; the Cronbach alpha value for migration of records to digital was 0.894, with 13 items. ICT systems for search, access, retrieval and security of records and ICT systems for retention and disposition of e-records had seven items, each with a Cronbach alpha value of 0.876. The internal consistency was assessed by collecting and analyzing what the data should measure. According to Lee Cronbach in 1951, all the coefficients were within the 0.7 criteria. In conclusion, it was established that the constructions employed for the investigation were reliable (Hair et al., 2010).

Effects of using ICT in diplomatic records management on operational efficiency

The study sought to assess how ICT adoption in diplomatic records management had affected operational efficiency at the Ministry of Foreign Affairs, Kenya. As shown in Table 2, most respondents strongly agreed that the use of ICT affected the ministry's records management and operational efficiency.

Table 2: Effect of using ICT in diplomatic records management on operational efficiency

Did use of ICT affect		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Creation, capture, and storage of e-records	No	45	8	2	5	5
	%	69.2	12.3	3.1	7.7	7.7
Migration of records to digital archives	No	50	10	0	2	3
	%	76.9	13.4	0	3.1	4.6
Confidentiality, security, access, and use of e-records	No	35	20	0	2	3
	%	53.9	30.8	0	3.1	4.6
Adequate retention and disposal of e-records	No	30	20	5	3	7
	%	46.2	30.8	7.7	4.6	10.8

As indicated in Table 2, this study revealed that MFA adopted ICT as a tool for business operations and service delivery in line with the e-government strategy. The overall effect of this trend was the creation of electronic records across the Ministry. Most of the respondents, as shown in Table 2, strongly agreed that using ICT by MFA affected MFA's records management. The main areas identified were creation, capture, and storage of e-records 45(69.2 %;) migration of records to digital archives 50 (76.9%); confidentiality, security, access and use of e-records 35 (53.9%); adequate retention and disposal of e-records 30 (46.2%). As a result of these, all the 65 (100%) respondents were in agreement that the application of ICTs had effect on how diplomatic records in the ministry were created and managed and impacted on operational efficiency.

On the aspect of migrating records into digital format, the study established that MFA had initiated a digitization programme where old and current records were being converted into digital format. The officer in charge of records management in the ministry observed that about 30% of old records had been digitized which included diplomatic records.

The study similarly showed that ICT integration in the Ministry's operations affected records management practices. It found that integrating ICT in the ministry's work processes affected how the ministry created, used, maintained, and disposed of records. The findings further revealed that the Ministry created and received considerable amounts of electronic records because of the ICT integration across the ministry's departments and sections. The electronic records created/generated in the ministry identified by the respondents included e-mail 65 (100%), finance records 51 (78.9%), procurement records 44 (67.9%) and human resource 43 (67.8%). In addition, the study established those considerable volumes of electronic records were received in the ministry using online-based systems within MFA.

Similar to this study's findings Kemoni (2008), noted that electronic records created by government ministries in Kenya were transactional records which included born-digital records and digitized records arising from format conversion of manual records into digital formats through scanning. Luyombya (2010) also observed that adopting ICT as a tool for public service operations by government agencies had resulted in creating and accumulating electronic records across the ESARBICA region. Kemoni (2008) also identified that in the Republic of South Africa, the volumes of electronic and digital records increased across government organizations because of the adoption of ICT to enhance service delivery.

The study sought to establish whether MFA had adequate infrastructure for e-records management. As shown in Table 2, the findings revealed that most respondents agreed that ICT integration in records management had a far-reaching impact on the ministry's operational efficiency. However, the study revealed that there were no adequate infrastructures to support electronic records management. The findings further revealed that the current level of electronic records management at MFA was yet to be positioned to support service delivery.

According to the study's findings although MFA appreciated the use of ICT for effective service delivery, the lack of adequate electronic records management infrastructures will inhibit the use of e-records for operational efficiency in the Ministry. This was supported by a majority of the respondents' 51 (78.7%) opinion that the management of e-records in the ministry was not effectively implemented within the MFA for operational efficiency. The weaknesses identified by the respondents included lack of e-records management framework 57 (87.7%); inadequate e-records management infrastructure 52 (80.1%) and lack of skill and training in e-records management 50 (78.1%).

This study's findings were consistent with several studies reviewed in this study. First, as per Ambira's (2016) study, electronic records management in Government Ministries in Kenya was inadequately positioned to support e-government service delivery. Second, Nengomasha's (2013) observation noted that the electronic records created and received by government ministries in Namibia were transactional records that required prudent management to ensure their reliability for service delivery. Similar findings were established by a study by (Mampe & Kalisopa, 2012), who observed that management of electronic records at Central Philippine University was poor due to absence of formal systems that deal with electronic records at the university. The findings were also consistent with NARA (2015), which established that records management staff across Federal States agencies need more professional training in e-records management.

In an interview with Heads of Departments, the researcher asked to what extent the Ministry of Foreign Affairs has automated records management systems.

Respondent (A) put it that:

"I can say more than 60% of automation has been done, but we still expect much more concerning ICT to improve service delivery at MFA by carrying out most of its functions digitally."

The researcher asked how the level of awareness and attitude of staff towards good e-records management practices can be rated.

Respondent (B) answered:

"I can say that majority of employees' awareness and attitude towards e-records management is quite impressive. The changing environment of technology in the government sectors has contributed to this. They can interact well with computers in the ICT environment."

The researcher further asked if the ministry has provided training to employees concerning the benefits of ICT and the contemporary issues arising in information use and management.

Respondent (C) answered:

"Training is provided on rare occasions and sometimes never. I do not remember the last time I was educated on the benefits of ICT and issues arising with it in records management. Training is often planned but fails to commence due to lack of funds to facilitate the exercise."

On whether the ministry offices always had a sufficient and reliable network that eased MFA operations, respondent D answered that,

"We have a reliable and sufficient network, but challenges of net being down are experienced, especially when several users are online. I would rate network coverage MFA as average. More improvement on this is still underway."

The researcher also asked if there are enough computers for all employees dealing with e-records for effective and efficient dissemination of ministry information. Respondent (E) answered the following:

"Computers may not be enough to be allocated to all employees dealing with e-records, but at least each department is allocated some to ease information dissemination to enhance governance."

Operational efficiency

The study established that there was a direct proportionality between the dependent and the independent variables. Whereby, the operational efficiency at the Ministry of Foreign Affairs in Kenya increased proportionately with the increase in the application of information communication technology. Therefore, the probability values show that the operational efficiency at the Ministry of Foreign Affairs in Kenya was significantly influenced by the application of ICT in records creation, capture and storage (t=3.876, p=0.000), migration of records to digital format (t=2.423, p=0.020), use of ICT for security and access of records (t=3.293, p=0.002), and use of ICT in records retention and disposal (t=2.662, p=0.011). All the probability values were less than 0.05. Therefore, the operational efficiency at the Ministry of Foreign Affairs in Kenya was greatly influenced by the application of ICT in records management.

The study carried out correlation analysis to examine whether there was statistically significant interaction between the variables. The results in Table 3 below show that there was a strong and positive correlation between the application of ICT in the management of records and operational efficiency at the Kenya's Ministry of Foreign Affairs (r=0.760, p=0.000).

Table 3: Correlation analysis

		Operational efficiency
	Pearson Correlation	.760
Application of ICT	Sig. (2-tailed)	.000
	N	65

Similarly, the results of regression analysis in Table 4 below revealed that the operational efficiency at the Ministry of Foreign Affairs in Kenya was significantly influenced by the application of ICT as indicated by the probability value less than 0.05 at 95% level of confidence (t=3.876, p=0.000).

The correlation analysis revealed that there was a strong and positive correlation between the application of ICT and operational efficiency (r=0.760, p=0.000). Similarly, regression analysis confirmed that the relationship between ICT and operational efficiency was statistically significant (t=3.876, p=0.000). The inferential statistics above determined that there was a direct proportionality between the application of ICT and operational efficiency at the Ministry of Foreign Affairs. Operational efficiency at the Ministry increased proportionately with the increase in the application of information communication technology in records management.

Conclusion

The study concluded that there was a significant number / volume of records in electronic or digital formats created and used as a result of the use of ICTs in MFA. However, the existing practices and infrastructure for managing electronic records were found to be significantly inadequate to warrant operational efficiency. From these findings, the study concluded that although MFA appreciated the importance of the use of ICTs as an integral tool for effective service delivery, lack of adequate infrastructure for electronic records management will inhibit operational efficiency in the ministry.

Recommendations

The study established that the application and use of ICTs in electronic records was a key determinant of operational efficiency in the Ministry of Foreign Affairs. However, the failure of the ministry to integrate electronic records management as an integral part of service delivery would have negative effect on operational efficiency within the ministry. The study therefore recommended that, the Ministry of Foreign Affairs to develop and execute a comprehensive Electronic Records Management Policy and Regulatory Framework to integrate e-records into ministry's operational efficiency and service delivery. MFA in collaboration with ICTA to develop specification and functional requirements infrastructure for electronic records management systems to ensure that all software acquired for managing electronic records capture the requirements for operational efficiency and service delivery.

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