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## **Assessing the efficacy of electronic document management system in records management at Sokoine University of Agriculture**

By

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### **Abstract**

This study was conducted at Sokoine University of Agriculture (SUA) in the year 2022. The objective of this study was to assess the efficacy of EDMS in accessibility and use of records at Sokoine University of Agriculture. Specifically, the study was geared to find out the way EDMS is used in accessing and using documents at Sokoine University of Agriculture. The study used a cross section research design where by the data were collected at one time based on two approaches which are qualitative and quantitative. The study used a sample size of 100 respondents who were all SUA staff. 100 respondents were selected by using purposive sampling techniques, simple random and systematic random sampling from a population of 1300 SUA staff who. Results indicate that the use of SUA – EDMS is not difficult because majority of them (100%) reported that they are using EDMS. The study revealed that only leave of absence was a major document accessed using EDMS followed by annual leave and maternity leave. It was therefore concluded that the adoption of EDMS has to some extent reduced paper work in managing records at SUA. However, respondents were of the opinion that EDMS should improve on accessing other documents in the system like paternity leave, study leave and imprest forms. Moreover, EDMS should be improved to ensure EDMS is stable and available all the time, improving internet bandwidth speed, stability of power supply as well as find other alternatives for power supply. The EDMS should allow users to recover their own passwords instead of depending on system administrator to assign passwords all the time. But also regular training should be provided on how to use EDMS and change management.

**Keywords:** Electronic document management system, document management, electronic records management, records management, SUA.

### **Background of the study.**

Developments in information and communication technologies have led to the growth of electronic document management systems (EDMS), which have therefore resulted into

most public and private sector or organizations around the world to adopt in a plan to improve the management of electronic records (Abdulkadhim, *et al.*, 2015). The ease with which electronic information is created, received, changed and transmitted has led to the devolution of records management responsibilities to employees who may not be trained in, or wish to perform, this role (Joseph, 2010). Records managers today come upon a much wider range of records, paper-based and electronic, than they dealt with even ten years ago. Even the strategies adopted for integrating and managing paper and electronic records will be subject to change over time (Pauline, 2008).

An electronic document management system (EDMS) is defined as an automated, electronic document and records management system that enables organizations to manage unstructured information captured in paper and electronic formats, such as emails, word processed and spreadsheet contents (Pauline, 2008). EDMS supports many governments organizations to improve work process and forms publication, easier search of governmental or organizational records, cost saving from low use of materials. Furthermore, EDMS increases efficiency as well as effectiveness of services in the government organization, increases transparency and accountability in making informed decisions and enhances efficient and cost effective services to the public (Johnston and Bowen, 2005; Abdulkadhim *et al.*, 2015).

However, despite the remarkable benefits offered by EDMS and also attention shown by many governments to implement EDMS, many initiatives have failed to implement EDMS, particularly in developing countries (Abdulkadhim *et al.*, 2015). SUA as a part of public organization in Tanzania is estimated to have more than one thousand and three hundred (1300) employees. Therefore, due to the large number of employees with more than one campus which is scattered, to handle their records or documents using manual system or paper based system is very difficult. Therefore, in 2019 SUA officially decided to establish EDMS. This study focuses on the efficacy of EDMS from three perspectives; firstly, it will efficacy of EDMS in using and accessing of documents at SUA; secondly, it will evaluate the challenges facing employees in using and accessing EDMS and thirdly,

it will assess employee's perceptions on the use of EDMS in Sokoine University of Agriculture.

### **Statement of the problem**

Adaptation of EDMS in organizations aims to enhance accelerating work processes, delivering services to employees, increasing transparency and accountability as well as fast track decision making, while also lowering costs of operation (Bowen and Johnston 2005), (Luisa, Di Biagio and Ibricu, 2008). Despite the fact that organizations have adopted EDMS but they have failed to perform as expected. However, as shown by Abdulkadhim, Bahari, Bakri and Ismail (2015), many initiatives to implement EDMS especially in developing countries have failed. Some factors that have been cited as major interruptions are observed to be strategic, social and technical in nature. (Kwatsha, 2010). Sæbø, (2012) add that the main challenges of implementing E-government in Tanzania were lack of IT-skilled staff, lack of influence on how to prioritize, lack of funding and lack of awareness of the opportunities and potential of E-government.

Various studies have shown that implementation of new system is difficult due to the difference factors such as environment, availability of resources and willingness of top management. Thus, each country or organization has its own ways of implementing new systems as well as challenges vary from one country or organization to another. For instance, majority of the studies reviewed, such as Abdulkadhim *et al.*, (2015), Kwatsha, (2012), Joseph, (2009), Pauline (2008), Bowen and Johnston (2005), Sæbø, (2012) focused on the implementation, benefits, challenges on use of EDMS as well as perceptions towards EDMS.

Statistics shows that SUA have 1308 (one thousand three hundred and eight) employees. (SUA workers' council report December, 2021) Therefore, due to the large number of employees with more than one campus which are scattered, to handle their documents using manual system or paper based system is very difficult. So, the implementation of

EDMS is inevitable. But the efficacy of the system in terms of usage, accessibility and employee's perception is questionable which forms the gap that this study sought to address. Therefore, this study intended to assess the efficacy of EDMS in public organization on use and access of documents in SUA as a tool for improving the workflow, flow of communication as well as work efficiency. Specifically, the study sought find out the accessibility of EDMS at SUA and the way it is used by staff in their daily activities.

### **Justification of the study**

The study to this end was meant to clarify effectiveness of the EDMS to SUA top management, policy makers, researchers and all stakeholders in the public organization. From the perspective of policy makers, it was thought to enrich their sense of focus as to how best they can formulate, implement and amend EDMS policies. Top management will know the positive impacts of EDMS. From the perspective of researchers, it was thought to stimulate up interest in studying related topics in other researches. The findings of the study were also meant to assist in providing data, information and knowledge for proper planning, reduce the challenges facing the system as well as decision at the national and public institution level. Researchers would apply the recommendations of this study in adding new knowledge in area of the study.

## **LITERATURE REVIEW**

### **Introduction**

This chapter reports the literature review. It is the review of earlier studies associated to the research topic. Issues discussed in this chapter include, efficacy of EDMS in using and accessing of documents at SUA in terms of its accessibility, effectiveness to achieve intended results and the way it is used by staff.

### **Efficacy of EDMS in using and accessing of documents**

In a study done Friedman and Hagood (2002), it was indicated that to evaluate system effectiveness it is imperative to develop a balanced scorecard based on objective measures in the aspects of user satisfaction, internal process efficiency, resources use, and individual

impact as well as the frequency of used. Cho, (2007) added that success level of information System effectiveness depends on the quality of the system itself, its output information, its use level, whether users are satisfied with it, and its impact on individual and the organization.

Coombs *et al.*, (1999) have proved that there is a relationship between organizational characteristics and system success. The study indicated that there are six groups of factors crucial for EDMS successes. These include technological readiness, top management support, training and involvement, resource availability, system-related factors, as well as work environment and culture (Jones, 2012, Nguyen, 2011 and Hjelt, 2006). Moreover, the study has also determined the ranking of these factors in relations to their importance. The factor group “system-related factors” is thought the most important of all for successful EDMS implementation, followed by “top management support,” “resource availability,” “training and involvement,” “technological readiness,” and “work environment and culture.” Therefore, there is a relationship between organizational characteristics and efficacy of EDMS. There is therefore scant information the efficacy of electronic document management system (EDMS) in public organization on access and use of records, particularly at Sokoine University of Agriculture in Tanzania. This calls for a study of this kind.

## **RESEARCH METHODOLOGY**

### **Introduction**

This section discusses the research methodology which was applied during the study including description of the study area, research design, study population, sampling techniques and size, data collection methods and instruments, data collection procedures and data analysis.

**Description of the Study Area**

This study was conducted at Sokoine university of Agriculture which is located in Morogoro region in Tanzania about 200 km west of Dar es Salaam.

**Research design**

Research design is purposely meant to ensure that the study is relevant to the problem and economical based on two approaches which are qualitative and quantitative. Therefore, the study employed quantitative and qualitative research design.

**Study population**

The targeted population included 1300 employees from SUA which are categorized into three groups which are; academic staffs, administrative staff and technical staffs.

**Sample size**

In this study a number of respondents were selected by using purposive sampling techniques, simple randomly and convenience sampling to select 100 respondents from 1300 SUA staff who are Administrative staff, Academic staffs, and IT staff.

**Sampling Techniques**

The researcher adopted probability and non-probability sampling whereby purposive sampling was used to select IT staff as key informants and convenience sampling was used to get academic staffs and simple random sampling was used to get administrative staffs.

**Data collection methods and instruments**

The researcher used questionnaires and interviews guides to collect primary and secondary data. The questionnaire contained both closed and open ended questions. Secondary data was obtained from both published and unpublished documents and working records which are available at SUA.

### **Data Analysis**

In this study the researcher used Statistical Package for Social Sciences (SPSS) V16 to analyze quantitative data. Output was presented in form of tables, graphs, charts and figures. Qualitative data from interviews with key informants and open ended questions were analyzed through content analysis. Here non-statistical feedback and opinions rooted in people's feelings, attitudes, behavior were collected and organized in themes for interpretation (Jacob and Razarich, 2002).

## **PRESENTATION AND DISCUSSION OF RESEARCH FINDINGS**

### **Introduction**

This section deals with presentation and discussion of the findings. The discussion is based on objectives of the study which were to find out the accessibility of EDMS at SUA and the use pattern by staff in their daily activities. The section also discusses the social demographic characteristics of respondents to ascertain their suitability for eliciting relevant data for the study.

### **Social demographic characteristics of respondents**

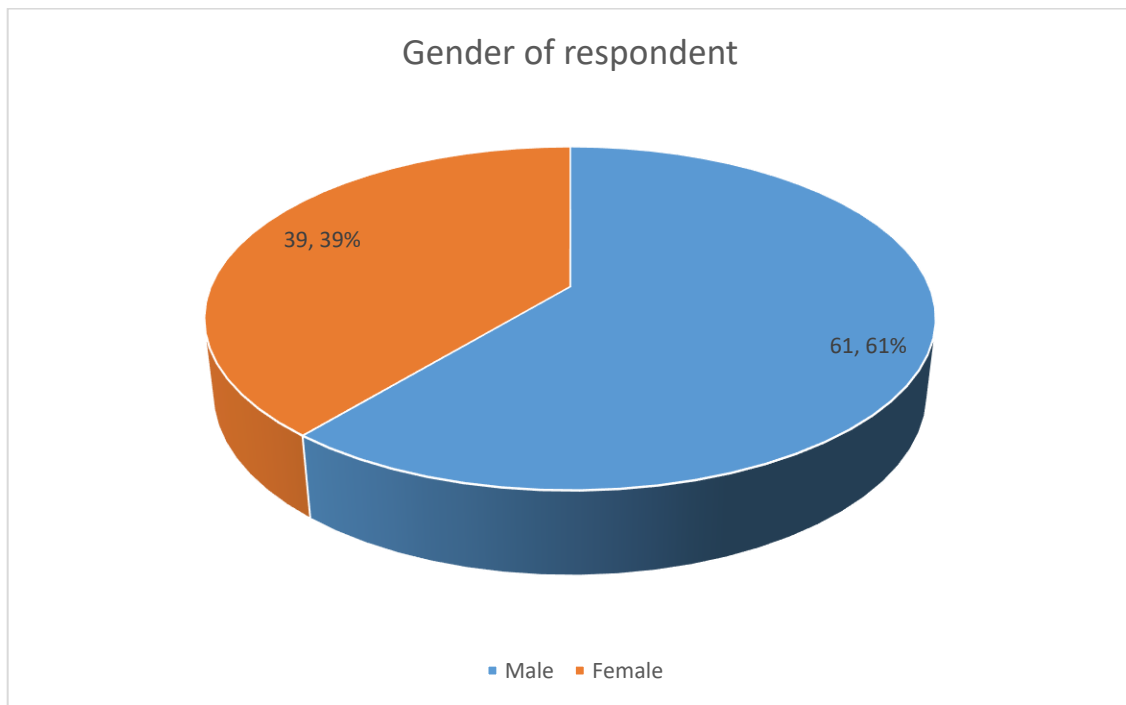
This part presents findings on characteristics of respondents. The study involved SUA staff grouped into three categories of academicians, technicians and administrative staff. Total number of respondents participated in the study were 100, all are SUA staff. Social demographic characteristics are very important in the study to show the suitability of the respondents for eliciting suitable data, and literature in different parts of the world shows that various socio-demographic factors influence the use or acceptance of technology.

### **Gender distribution of the respondents**

The demographic composition of the respondents revealed that 61(61.0%) of respondents were male SUA staff while 39 (39.0%) of respondents were female SUA staff (Figure 1). These findings suggest that even if men slightly exceeded the number of women, but both sexes were represented in the study. This slight variation in terms of gender composition may be due to historical and cultural background that promotes more male participation in education than females. According to Aina (2004), in developing countries like



Tanzania, extending access to education and training is often difficult because of bad cultural practices and high educational cost. One of the cultural malpractices in the Tanzanian society is giving boys first priority to any available education opportunity rather than the girls. This is similar with Mutimba, (2014), who in the study aimed to investigate the success of the implementation of electronic document and records management system in the Ministry of Higher Education Science and Technology found that more than half of the majority of the respondents who participated in the study and were users of the technology were male.



*Figure 1 Gender of respondent*

#### **Age distribution of the respondents**

Age of respondents shows that majority of the respondents 44% had age range between 41 – 50 years followed by 28% with age range between 31 - 40 years. Again the results

show that 13% had age range between 51 – 60 years and 12% had age range between 18-30 years. Only 3% had age range above 60 years (Table 1).

Age is another characteristic or variable which determines the use of new system. Young participants are keen to get information than older participants. Older ones are more risk averse and less likely to be flexible than younger ones and thus have a lesser possibility of system utilization and the adoption of new technologies (Alam *et al.*, 2018; Tata and Mcnamara, 2018).

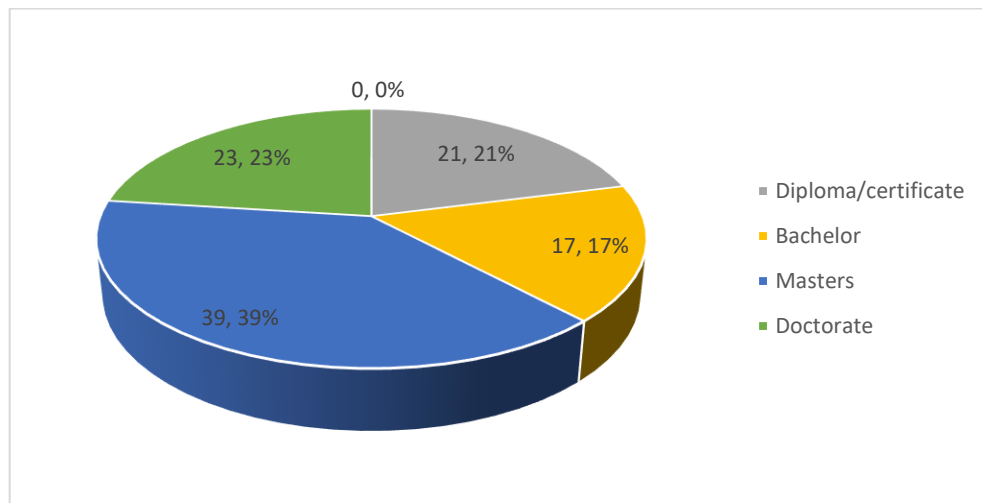
**Table 1: Age distribution of the respondents**

Age range (years)	Frequency	Percent
41-50	44	44
31-40	28	28
51-60	13	13
18-30	12	12
Above 60	3	3
Total	100	100

### **Education level of the respondents**

In regard with education level, data in Figure 2 shows that nearly a half of the respondents that participated in the study had Master's level of education as reported by 39% of the respondents followed by 23% who had Doctorate level of education. 21% had Diploma/certificate level of education, and 17% of the respondents had Bachelor level of education (Figure 2).

Education has been valued as a means for increasing knowledge about invention. An individual with education becomes critically aware of the need and scope for social change. Education is associated with a high level of intellectual capacity of new skills and expands knowledge (Mwalukasa, 2020). Education enables the individual users to know how to seek information on improved EDMS practices. This is because, as individuals get knowledge, they want to extend the scope of their experience through the modern sources of information. This means, education level is the factor that drives individuals to choose or accept a certain technology.



*Figure 2 Education level of respondents*

### **Ways in which EDMS skills were acquired**

The question was asked to the SUA staff with aim of knowing how they learned to use SUA EDMS. Data in Table 2 shows that 46.8% of respondents who participated in the study learned to use SUA EDMS through colleagues, followed by 21.8% of respondents who said that they learned to use SUA EDMS experience. Those who learned it through short course conducted from ICT experts were 14.5%. 16.9% reported that they learned

to use SUA EDMS through self-learning, and 18(18%) reported that they learned to use SUA EDMS through short courses conducted by ICT experts. These results concur with research carried out by Kaaki (2013) which found that more than half of respondents learned to use EDMS from colleagues. This implies that individual efforts in learning a new technology is higher than skills acquisitions from ICT experts contrary to what would have been done by the organization to conduct formal training sessions for staff to equip them with more skills on use of EDMS effectively.

**Table 2: Ways used to get knowledge and skills on use of EDMS at SUA**

<b>Variable</b>	<b>Frequency</b>	<b>Percentage</b>
Short course from ICT expert	18	14.5
Through experience	27	21.8
Self learning	21	16.9
Learn from others	58	46.8

Note: This was multiple response question, meaning that respondents were required to answer all the responses applicable.

Respondents were asked to indicate what kind of document do they access from SUA EDMS. All respondents (100%) reported that they access only leave of absence as a document. 9% of respondents reported that they access leave of absence and annual leave as a document through EDMS, while 3% respondents reported that they access study leave as a document through EDMS. Moreover, 2% of respondent apart from accessing leave of absence they access also Maternity leave as a document through SUA-EDMS (Table 3). From these results, it can be said that the EDMS at SUA has limited features or functionalities in managing documents/records. These might be due to fear of exposing multiple documents to staff which may compromise issues of copyright, privacy and similar matters.

Similar studies have been conducted in Southern, Eastern, Central and Sub-Saharan African countries. In southern Africa scholars such as Mosweu *et al.*, (2014) and Shonhe *et al.*, (2019) have revealed that, change management, privacy and security are among the challenges facing ERMS. In Malawi, scholars like Msiska *et al.*, (2017) and Chawani (2014) state that, lack of expert, lack of knowledge and ICT facilities has been observed to exacerbate challenges related to accessing and tracing records stored.

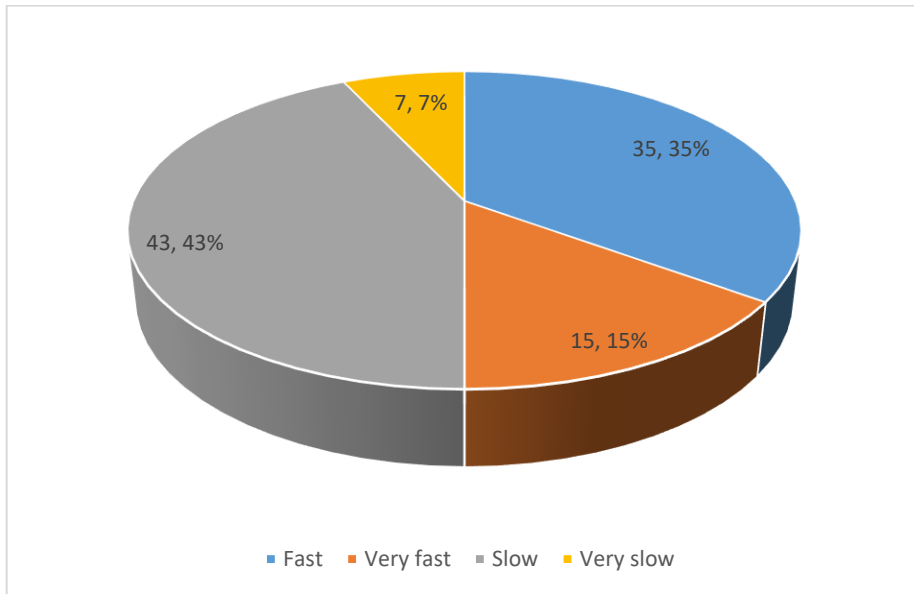
*“In support to these findings, the interview done from the EDMS administrator said that shortage of funds is the main reason for users to access only leave of absence. He mentioned other reasons like poor support from top management as well as poor ICTs infrastructure”.*

**Table 3: Kind of documents accessed from EDMS at SUA**

<b>Variable</b>	<b>Frequency</b>	<b>Percentage</b>
Absence leave	100	100
Maternity leave	2	2
Paternity leave	0	0
Study leave	3	3
Annual leave	9	9

### **Speed of SUA EDMS during document processing**

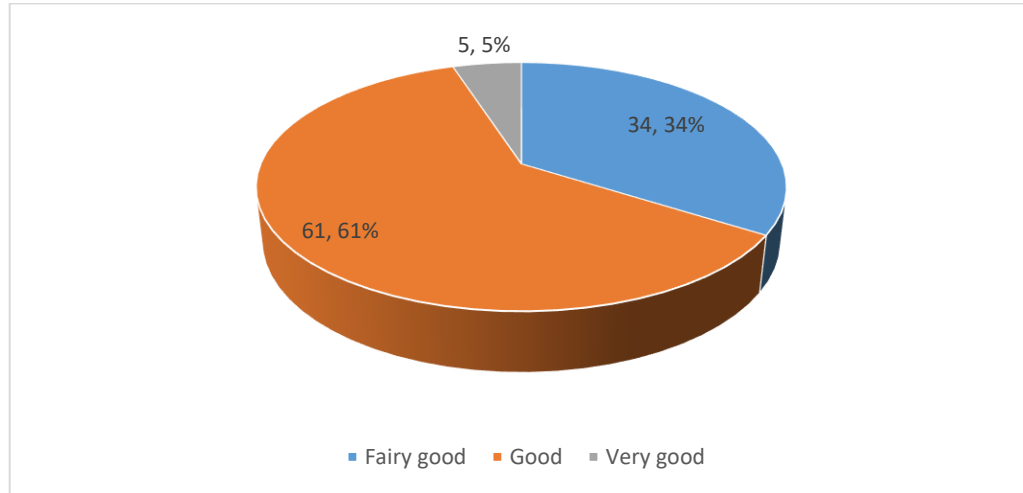
In respect with speed of SUA EDMS during document processing, the finding shows that 43% respondents who participated in the study reported that the speed of EDMS during document processing was slow, followed by 35% who reported that it was faster, 15% reported it to be very fast and 7% of the respondents reported that it was very slow (Figure 3). This can be due to the poor ICTs infrastructures such as poor network bandwidth, fluctuation or unstable power supply, kind of electronic devices used by user of SUA-EDMS as well as low server capacity.



*Figure 3 Speed of SUA EDMS during document processing*

### **Rating on effectiveness of SUA EDMS in retrieving documents**

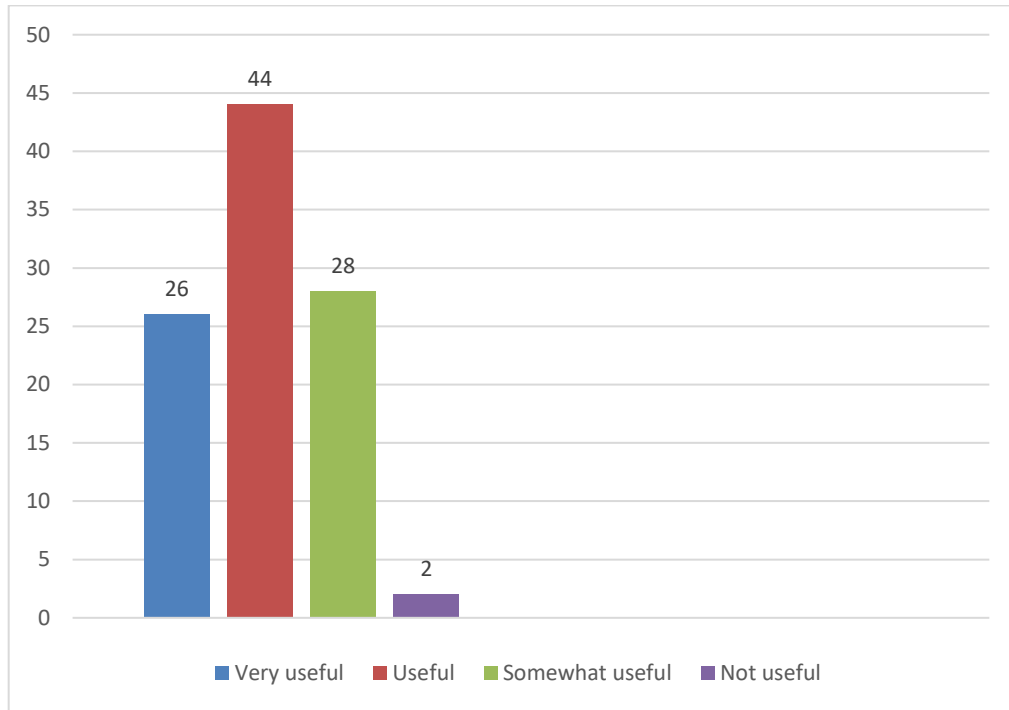
The respondents were asked to rate the effectiveness of SUA EDMS in retrieving documents. A majority of the respondents (more than half) 61 (61%) rated it to be good. Followed 34 (34%) who rated fairly good and 5 (5%) who rated very good (Figure 4). Thus, in terms of accomplishing output the system was good as most leave of absence were retrieved back by the administrator and feedback was given to responsible permit requesters. This finding implies that EDMS users perceived that the use of the system enabled them to overcome limitations of paper-based system and improved services delivery. These findings are significant in the fact that EDMS contributed to the success of individuals. Thus, all these factors have a significant impact on modern technology adoptions and strong predictor of technology acceptance.



*Figure 4 Rating on effectiveness of SUA EDMS in retrieving document*

#### **Overall rating on usefulness of EDMS in managing records at SUA**

The study results in Figure 5 show the respondents overall rating on usefulness of EDMS in managing records at SUA. The results show that, of the 100 respondents, most, (44%) of the respondents reported that overall, EDMS at SUA was useful in managing record at SUA, followed by 28% of the respondents who reported that the technology was somewhat useful. Furthermore, 26% of respondents reported that the technology was very useful, while very few, (2%) said that the technology was not useful. The rate of usage of EDMS differ from one individual to another, one organization to another as well as from one country to another due to the various factors; for the perspective of individual level age, education level, work experience and nature of work are among of factors cause difference. For the perspective of organization or/and country financial constraint, technological obsolescence, as well as organization / country culture are among of the factors cause difference.



*Figure 5 Overall rating on usefulness of EDMS in managing records at SUA.*

## **CONCLUSION AND RECOMMENDATIONS**

### **Conclusion**

Based on the findings and discussion above, it can be concluded that SUA EDMS has achieved some expectations for reducing paperwork in managing documents despite some negative challenges that staff perceive they are not yet in place.

### **Recommendations**

Taking into consideration the findings of the study, electronic records management systems need to be improved to ensure that it's implemented successfully to the latter. Electronic document and records management systems need to be implemented to ensure timely retrieval of records for speedy decision making with regards to the organization's mandate. The study therefore makes the following recommendations:



1. Regular training by ICT technicians should be provided to other staff on how to use EDMS and change management.
2. EDMS administrator/Technicians should add others features in the system like, maternity leave, annual leave, paternity leave, study leave and impress form.
3. EDMS administrator/technicians and SUA management should ensure that it is stable and available all the time by improving internet bandwidth, speed, improve stability of power supply as well as find other alternative for power supply.
4. The EDMS administrator/technicians should allow users to recover their own passwords once they are forgotten to expedite the use of the system all the time.

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