Examining the efficacy of Electronic Document Management System and Employees' Perceptions of its Usefulness at Sokoine University of Agriculture

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Abstract

This study was conducted at the Sokoine University of Agriculture (SUA) to assess the efficacy of Electronic Document Management System (EDMS) in the accessibility and use of records at the Sokoine University of Agriculture. Specifically, the study sought to assess employees' perceptions of the use of the Electronic Document Management System at the Sokoine University of Agriculture and identify the challenges facing employees in accessing and using EDMS at the Sokoine University of Agriculture. The study used a cross-section research design whereby the data were collected at one time based on two approaches which are qualitative and quantitative. The study involved 100 SUA staff. These were selected from a population of 1308 SUA staff by using purposive, sampling simple random, and systematic random sampling techniques. Results indicate that the majority of the respondents agreed that the use of SUA–EDMS fostered efficiency in management decisions, and perceive that the use of SUA–EDMS increases accountability. Among all the independent variables, duration at work and rating on effectiveness were found to have a unique contribution to a variation in the perceived usefulness of EDMS. It was concluded that the use of EDMS is very essential for the well-functioning of the organization in terms of faster access to records and which spearheads effective and efficient delivery of services to customers in the organization. The study recommends improving internet speed as one measure to improve the EDMS.

Background of the Study

Developments in information and communication technologies have led to the growth of electronic document management systems (EDMS) as new technologies for enhancing service delivery to customers and the society in general within the organizations. This has therefore resulted in most public and private sector organizations around the world adopting a plan to improve the management of electronic records (Abdulkadhim, *et al*., 2015). The ease with which electronic information is created, received, changed and

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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 management staff today come upon a much wider range of records, both paper-based and electronic records 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 (Joseph, 2008).

An electronic document management system (EDMS) is defined as an automated management system that enables organizations to manage unstructured information captured in paper and electronic formats, such as emails, word processing and spreadsheet contents (Joseph, 2008). EDMS supports many government organizations to improve work processes and forms publication, easier search of organizational records, and cost saving from low use of materials. Furthermore, EDMS increases the efficiency as well as the 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 & 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 organizations in Tanzania is estimated to have more than one thousand and three hundred (1300) employees. Therefore, due to a large number of employees with more than one campus, handling their records using the manual system or paper-based system is very difficult. Therefore, in 2019 SUA officially decided to establish EDMS with the view to improve document management within the university. This study focuses on the employees' perceptions of the use of EDMS at the Sokoine University of Agriculture and the challenges facing employees in using and accessing EDMS.

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 (Luisa & Ibiricu, 2008). Despite the fact that organizations have adopted EDMS they have failed to perform as expected. However, as shown by Abdulkadhim, *et al*., (2015), many initiatives to implement EDMS, especially in developing countries have failed due to many reasons.

Various studies have shown that implementation of new system is difficult due to different 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 the way they deal with challenges that vary from one country or organization to another. For instance, the majority of the studies reviewed, such as Abdulkadhim *et al.,* (2015), Kwatsha, (2012), Joseph, (2009), Joseph (2008), Bowen and Johnston (2005), Sæbø, (2012) focused on the implementation, benefits, challenges on use of EDMS as well as perceptions towards EDMS.

Due to the large number of SUA (1308) staff, it is difficult to handle their documents using a manual system. So, the implementation of EDMS is inevitable. But the way employees perceive it and the challenges that face them is not yet fully explored

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which forms the gap that this study addresses. Thus, the objectives of this study are: To assess employees' perceptions of the use of EDMS at SUA and identify the challenges facing employees in using and accessing EDMS at SUA.

Justification of the Study

The study to this end would clarify the effectiveness of the EDMS to SUA top management, that will become aware of the positive impacts of EDMS. From the perspective of researchers, it will stimulate the interest in studying related topics in other research. The findings of the study may assist in providing data, information and knowledge for proper planning, reducing the challenges faced at the institutional level. Researchers would apply the recommendations of this study in adding new knowledge in the area of the study.

Empirical Literature Review

This section reports the literature review. It is the review of earlier studies associated with the research topic. Issues discussed in this section include employees' perceptions of the use of EDMS as a predictor of its usage at SUA and the challenges facing employees in using and accessing EDMS in SUA.

Employee's Perception of the Usefulness of EDMS

There are a number of studies conducted around the world on employee's perceptions of the usefulness of EDMS. For example, Sezgin *at el*. (2014) conducted a study on the Perception of Electronic Document Management Systems (EDMS) as a Transformational Information and Communication Technology (ICT) for Public Institutions in Turkey. It involved a survey method that involved 320 participants. The results of this study revealed that the majority of the users who participated in the survey had a positive perception of the new system. In general, 71% of them would like to use the system in the future, and 69% thought it was a good idea to use the system. Again, 62% of the users found the system useful and functional for their work and agreed that it enabled their work to be done quickly. Also, 61% of them agreed that the quality of the output/ product from the EDMS was high.

Furthermore, among 180 users who have made additional comments as qualitative data, 60 of them gave credit to the speed and efficiency of the system, including reference to business processes. 40 users appreciate the ease of use and practical nature of the system. 30 of the users participating in the survey also specifically commented on the savings of time, paper, and communication cost among the positive aspects of the new EDMS.

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Factors Influencing the Adoption of Information Systems such as EDMS

There are various factors that influence the adoption of Information Systems (IS) in various facilities. A study by Hossain *et al.*, (2019) found that demographic characteristics such as age, gender, education level, occupation, access to ICT devices, and awareness of eHealth significantly influence the adoption of hospital information systems. This scholar articulated that age has a significant influence on the adoption as the elder people have been reluctant to use the new system, preferring to use mostly the manual system. This is also applicable to the education level and occupation of the user (Hossain *et al*., 2019).

The adoption of Health Information System for instance, requires a high level of governance and support from the top-level management. The researcher, Ross *et al.*, (2016) reported that there must be government policies and processes that govern dictionary management as this is very critical in electronic health adoption and usage in general. This should be accompanied by the design and implementation of government policies for Health Information System (HIS) adoption in various health care centres.

Moreover, the adoption of IS requires smooth financial support for the operation, user training, implementation, and awareness. Several studies like Busagala & Kawono, (2013b); Kotzé *et al*., (2013) and Semwanga *et al.*, (2021) have shown the importance of adequate finances in boosting IS adoption. The financial resources are used to enable the procurement, installation and maintenance of IS technologies. Also the workers can be motivated financially though incentives which will increase the desire to use the digital health systems.

Studies on the factors influencing the adoption and usage of IS have been done in different contexts and this makes the level of adoption and implementation of IS differ from one country to another. In the same vein, Busagala and Kawono (2013) depicted that the constraints faced in the adoption of HIS in Tanzania are the high cost of ICT infrastructure, shortage of health workers and lack of funds. Scholars like Ross *et al*., (2016) and Semwanga *et al.*, (2021) concluded that studies on the implementation of IS vary depending on the knowledge and potential of adopters and users. However, the above factors are mainly limited to technological, governance, financial and demographic characteristics.

Theoretical Framework Used in the Study

A theory is defined as a scientifically suitable set of general principles which are offered to explain a phenomenon that has been observed over time and cannot be discredited by the existing knowledge (Merriam-Webster Collegiate Dictionary, 2000). Theories are useful and have been used in various researches in order to achieve a set of objectives. Many theories have been articulated to inform and explain IS implementation. Some of them are Diffusion Innovation Theory (DOI) which explains how Information Systems innovation gains momentum and diffuses through a specific population affected by the innovation itself, time, channels of communication, and an individual's social system (Kaminski, 2011); Theory of Reasoned Action (TRA) which is a social-psychological attitude-behaviour model that examines normative social influences on behavioural intention (Ajzen, 2011; Erlirianto *et al*., 2015); Fit between Individuals Task and

Technology (FITT) (Prgomet *et al*., 2019); Theory of Planned Behaviour (TPB), which extends the theory of reasoned action to incorporate actors' perceived control over the outcomes of their behaviours (Ajzen, 2011), and Technology Acceptance Model (TAM) which proposes that technology acceptance and use are affected by an individual's perceived ease of use, perceived usefulness, and subjective norms (AlBar & Hoque, 2019; Kalayou *et al*., 2020; Patil, 2016).

The TAM is a model that is widely used to model how users come to accept and use technology and has proved to be the most tested, influential and best operationalized approach (Alipour *et al*., 2019; Blaya *et al*., 2010; Venkatesh & Davis, 2000) thus, this study has therefore used TAM to build a framework for adoption of EDMS at SUA.

TAM Overview

TAM considers two factors that determine whether a computer system will be accepted by its potential users: perceived usefulness (PU), and perceived ease of use (PEOU). Perceived usefulness refers to an individual's assessment on how the use of a specific system improves the execution of work tasks within a specific organizational acceptance context while perceived ease of use relates to the assessment of whether the use of a specific system can be learned without being free from physical and mental effort (Alipour *et al*., 2019; Davis, 1989). Hence, the key feature of this model is its emphasis on the perceptions of the potential user. That is, while the creator of a given system may believe the system is useful and user-friendly, it may as well not be accepted by its potential users unless the users share those beliefs of the creator.

The higher the perceived usefulness and ease of use of a system, the more likely it is for individuals to be willing to use the system and more productive and vice versa (Harst *et al*., 2019). For instance, an adult who perceives that digital games are difficult to play or they are a waste of time will be unlikely to want to adopt this technology, while another adult who perceives that digital games are easy to learn as they provide needed mental stimulation will be more likely to want to learn how to use such digital games. TAM serves as a useful general framework and is consistent with a number of investigations into the factors that influence an individual's intention to use new technology (Braun, 2013). Several studies have used the TAM as a grounding framework, either in its original form (Davis, 1989) or in the extended model (Venkatesh & Davis, 2000).
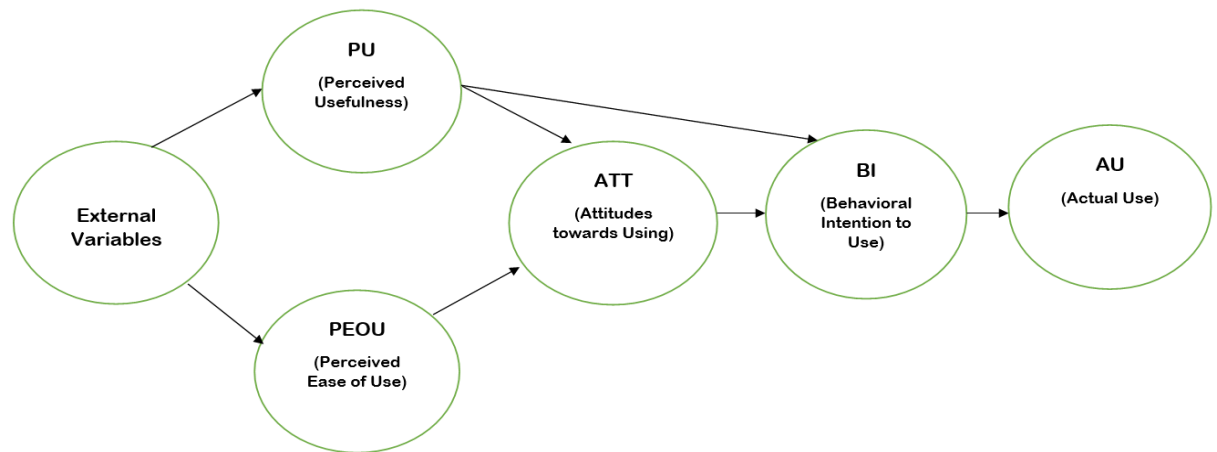
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Figure 1: Technology Acceptance Model
Source: Davis (1989).

TAM2 is an extended form of TAM which was developed in order to explain perceived usefulness and perceived ease of use (PEoU) from a social influence and cognitive instrumental processes' viewpoints (Venkatesh & Davis, 2000).

It has been established that when confronted with a new information technology, PEoU of individual users, which for this study refers to staffs at SUA, can demonstrate behaviours ranging from complete rejection, active resistance to genuine acceptance of technology (Keller, 2007). For this reason, it is extremely important to determine staff's PEoU regarding EDMS technologies before incorporating them into their day-to-day activities and planning any intervention. The PEoU of technologies by staffs should be justified, that is, should not be based on administrators' optimism or prior rejections, but on empirical data that should be in line with the specificity of their use and the specificity of contexts (Ware & Warschauer, 2006). The present study is built on the version of TAM 2 modified by Arshad, Tan and Hashim (2012). This version comprises *s*ix core constructs namely awareness, perceived usefulness, perceived ease of use, attitudes towards use, behavioural intention and actual system usage.

Perceived ease of use of EDMS in the context of this work is defined as "the degree to which a person thinks that the use of a EDMS will be free of physical and mental efforts". Swanson (1982) states that perceived ease of use is an important behavioural determinant. He hypothesizes that potential users will select and use information based on a trade-off between perceived information quality and associated cost of access. In Swanson's work, associated cost of access is found to be similar to perceived ease of use. Similarly, Davis (1985) affirms that people tend to use or not to use a system to the extent that they believe it will free them of efforts. According to him, the amount of effort required to use a system could directly affect its usage behaviour (perceived ease of use can influence use). This follows from the definition of "ease": "freedom from difficulty or great effort". Effort is a finite resource that a person may allocate to the various activities for which he or she is responsible (Radner & Rothschild, 1975). Nonetheless, an application perceived to be easier to use will assuredly be accepted and consequently used by a large number of users and vice versa.

Social influence processes are represented by subjective norm, voluntariness, and image, while cognitive instrumental processes refer to: job relevance, output quality, result demonstrability, and perceived ease of use. Extending TAM to TAM2 was expected to enhance the performance to the model.
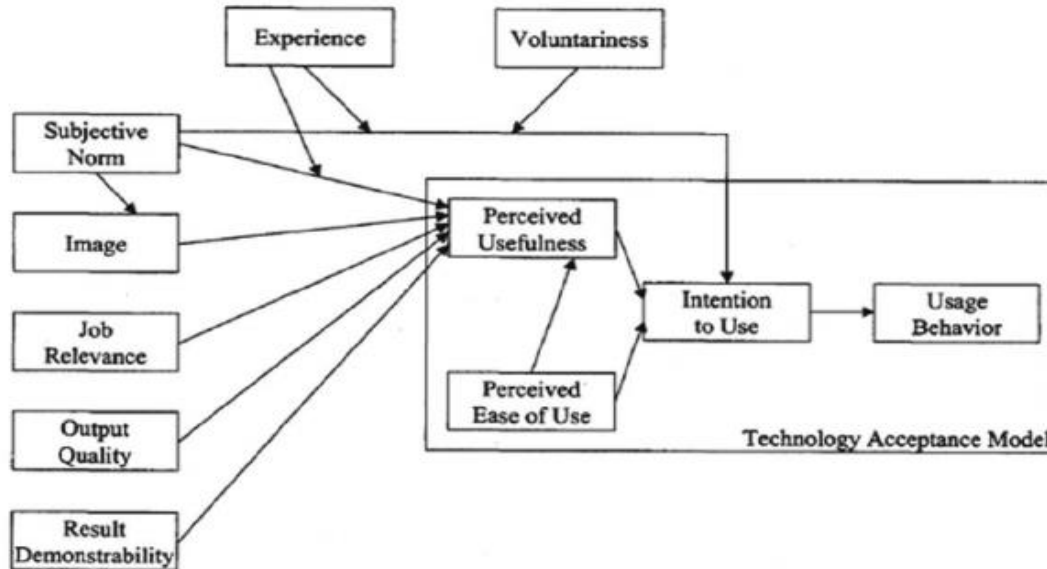

Figure 2: Diagram of TAM2
Source: Venkatesh and Davis (2000).

TAM Limitations

The model assumes that people plan their behaviour and that they are rational in their actions. That is people evaluate the usefulness and ease of use of technology when they develop intention to use it and therefore actually use it. The problem with this is that people are not entirely rational in their decision making and not entirely rational in their behaviour either. Not everything that we do is planned or reasoned.

The model does not tell us how to make technology easy to use. It does not give us a better design advice how we should build better technology other than those mere advice "make sure it's useful and make sure it's easy to use".

Though perceived usefulness and perceived ease of use are both valid indicators for the acceptance and use of an IT, both factors are impacted by other independent variables such as culture, education level, job position and function, data quality, and system security (Harst *et al*., 2019; Kong *et al*., 2019). In Western culture for the majority of people perceived usefulness is more important in determining the intentions and actual use, while ease of use appears to be the key in African culture (Kollmann, 1998; Lucke, 1995; Venkatesh *et al*., 2007).

Research Methodology

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This study was conducted at SUA which is located in Morogoro region in Tanzania about 200 km west of Dar es Salaam. The study employed quantitative and qualitative research design so as to ensure that both qualitative and quantitative data were collected. The targeted population included 1308 employees from SUA who are categorized into three groups which are; academic staff, administrative staff and technical staff.

In this study 100 respondents were selected by using purposive sampling techniques and probability sampling techniques (simple and systematic sampling). The researcher adopted probability and non-probability sampling techniques whereby purposive sampling was used to select IT staff as key informants. Simple and systematic random sampling techniques were used to select administrative staff and academic staff respectively. The researcher used questionnaires and interview guides to collect primary and secondary data.

The researcher used Statistical Product for Service Solutions (SPSS) Version 16 to analyse quantitative data. Output was presented in form of tables and graphs. Qualitative data from interviews with key informants and open ended questions were analysed through content analysis. Qualitative data analysis involves reading and interpreting massive volumes of raw data, separating unimportant from important data, recognizing patterns, and developing a framework for communicating revealed information (Mbwete, 2015). Data collected during the in-depth interviews from key informants (head of departments and EDMS administrator and ICT technicians), documentary review and observation. To get the patterns of significant themes, data was accurately filtered by breaking verbal discussions from different participants into smaller units of information such as the perception, values, and attitudes of respondents (Samwel, 2019). The obtained themes were categorized according to the specific objectives and research questions. The verbatim quotations from respondents' views were taken into consideration and placed under the respective themes. This means that the analysis followed a pattern that matched the methods before conclusions were drawn from the findings. This process was done through the content analysis approach.

Results

This section presents results and discussion of the findings. The discussion is based on objectives of the study which were to assess employees' perceptions on the use of EDMS at Sokoine University of Agriculture and identify the challenges facing employees in using and accessing EDMS in SUA. 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 the 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. 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 61.0% of respondents were male SUA staff while 39.0% of respondents were female SUA staff (Figure 1).
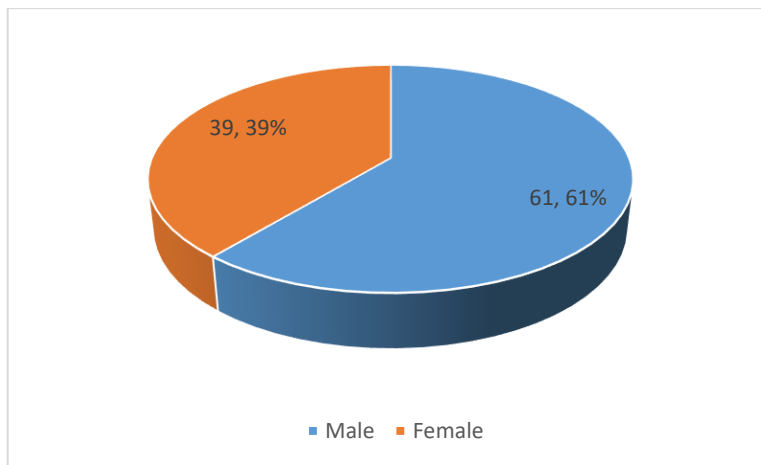

Figure 1: Gender of respondents n=100

Age Distribution of the Respondents

The study found that the majority of the respondents 44% had age range between 41 – 50 years followed by 28% with age range between 31 - 40 years. Moreover, 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).

Table 1: Age distribution of the respondents, n=100

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% with Doctorate level of education. 21% had

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Diploma/certificate level of education, and 17% of the respondents had Bachelor level of education (Figure 2).
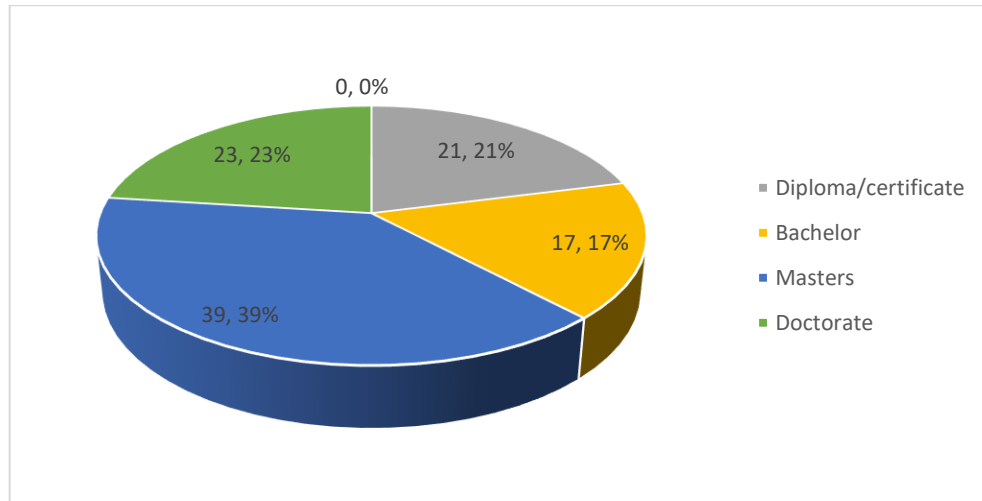

Figure 2: Education level of respondents n=100

Employees' Perception on the Usefulness of EDMS at SUA

Respondents were asked to indicate on how they perceive the usefulness of SUA EDMS. The majority (71%) of the respondents agreed that the use of SUA – EDMS fostered efficiency in management decision making followed by (15%) who were neutral which means that they are not sure if the use of SUA – EDMS fostered efficiency in management decision making. 11% of respondents strongly agreed that the use of SUA – EDMS fostered efficiency in management decision making, while three percent of the respondents disagreed that the use of SUA – EDMS do not foster efficiency in management decision making.

In terms of usefulness, the candidates involved in the study were asked to indicate on how they perceive the usefulness of SUA–EDMS which shows that more than a half (62%) of the respondents agreed that the use of SUA – EDMS increases accountability of the staff in an organization followed by 19% who strongly agree that the use of SUA–EDMS increases accountability of the staff in an organization. However, 16% of respondents were neutral which means that they are not sure if the use of SUA–EDMS increases accountability of the staff in an organization, while no one reported that the use of SUA-EDMS does not increase the accountability of the staff in an organization.

The study also asked respondents to indicate how they perceive the usefulness of SUA – EDMS in terms of data/information accessibility. Results in Table 3 shows that nearly a half (45%) of the respondents agreed that the use of SUA – EDMS provide ease access to and use of data and information followed by 31% who were neutral which means that they are not sure if the use of SUA – EDMS provide eases access to and use of data and information. 20% of respondents strongly agreed that use of SUA – EDMS provide eases

access to and use of data and information., while only one respondent (4%) reported that the use SUA - EDMS does not provide eases access to and use of data and Information.

Participants in the study were asked to indicate on how they perceived the use of SUA – EDMS in terms of easing sharing of information. Table 3 shows that nearly a half (46%) of the respondents agreed that the use of SUA – EDMS eases sharing of information and data followed by 35% of the respondents who were neutral that the use of SUA– EDMS eases sharing of information and data. 19% of respondents strongly agree that the use of SUA – EDMS eases sharing of information and data, while 3% of respondents reported that the use of SUA EDMS does not facilitate ease sharing of information and data.

Study units were asked to indicate on how they perceive the use of SUA – EDMS in terms of minimizing time and money spent on information access. Table 3 shows that 52% of the respondents agreed that the use of SUA – EDMS minimizes the time and money spent on information access, 33% who strongly agreed that the use of SUA – EDMS minimizes the time and money spent on information access. 11% of respondents were neutral, while very fewer respondents (4%) disagreed that the use of SUA EDMS does not minimize the time and money spent on information access.

Further questions were asked to indicate on how the respondents perceive the use of SUA–EDMS in terms of facilitating transparency. Table 3 shows that majority (42%) of respondents agreed that the use of SUA– EDMS facilitates transparency of organization's operations, 33% were neutral and 21% of SUA staff strongly agreed that the use of SUA – EDMS facilitates transparency of organization's operations, and 4% respondents reported that the use of SUA - EDMS does not facilitate transparency of organization's operations.

In terms of increasing security of information and data results show that the majority (36%) of the respondents agreed that the use of SUA–EDMS increases the security of information and data, 36% were neutral, 22% respondents of strongly agreed that the use of SUA–EDMS increases security of information and data, while six percent of the respondents reported that the use of SUA–EDMS does not increase security of information and data.

The perception on the use of SUA - EDMS is that majority of the SUA Staff reported that the use of SUA–EDMS is not difficult to use, which might be because majority of them participated very well on various ways of learning on how to use SUA– EDMS which included short course from ICT experts, through experience, self-learning and learning from the others. Some of the SUA staff were neutral which means that they are not sure if it is difficult to use the SUA–EDMS.

Traditionally, records management is often considered to be a boring responsibility of administrative or records staff but with the implementation of an EDMS, records management suddenly becomes the responsibility of every employee in the organization. An all-encompassing communication strategy which involves staff from the very first stage of the project to the very end of the implementation is the core of a successful EDMS change management plan (Wilkins *et al*., 2007).

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Table 2: Employees' perception on the usefulness of EDMS at SUA n=100

Perceived importance Factors	SA		AG		N		DA	
	F	%	F	%	F	%	F	%
Fostering efficiency in management decision making	11	11	71	71	15	15	3	3
Increases accountability of the staff in an organization	19	19	62	62	16	16	3	3
Eases access to and use of data and Information	20	20	45	45	31	31	4	4
Eases sharing of information and data	19	19	46	46	35	35	0	0
Minimizes the time and money spent on information access	33	33	52	52	11	11	4	4
Facilitates transparency of organization's operations	21	21	42	42	33	33	4	4
Increases security of information and data	22	22	36	36	36	36	6	6

Note: SA=Strongly Agree; AG=Agree; N=Neutral; DA=Disagree

Employees' Perceived Efficiency on the Use of EDMS

Respondents were asked to indicate on how they perceive ease of use of SUA–EDMS. Results in Table 3 shows that majority (67%) of the respondents reported that SUA–EDMS is not difficult to use and this might be due to the fact that a majority of them had ever participated very well on various ways of learning on how to use SUA–EDMS as shown in Figure 4. 15% of the SUA staff were neutral which mean that they are not sure if it is difficult to use the SUA–EDMS or not. 12% of the respondents agreed that it is difficult to use SUA-EDMS, while 6% strongly agreed that it is very difficult to use SUA–EDMS.

Table 3: Employees' perceived efficiency on the use of EDMS n=100

Perceived ease of use of SUA EDMS	Parameter	Frequency	Percentage
SUA–EDMS is difficult to use	Strongly agree	7	10.0
	Agree	19	27.1
	Neutral	20	28.6
	Disagree	24	34.3
	Strongly agree	13	18.6
SUA–EDMS is easy to access	Agree	39	55.7
	Neutral	13	18.6
	Disagree	5	7.1
SUA–EDMS has a friendly user interface	Strongly agree	11	15.7
	Agree	33	47.1
	Neutral	19	27.1
	Disagree	7	10.0
SUA–EDMS is stable (Available all the time)	Strongly agree	10	14.3
	Agree	19	27.1
	Neutral	25	35.7
	Disagree	16	22.9
	Strongly agree	22	31.4

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SUA–EDMS facilitate easy sharing of information or record	Agree	26	37.1
	Neutral	21	30.0
	Disagree	1	1.4
SUA–EDMS provides timely feedback	Strongly agree	18	25.7
	Agree	30	42.9
	Neutral	16	22.9
	Disagree	6	8.6

Source: Researcher, 2022.

Respondents were asked to indicate on how they perceive ease of use of SUA–EDMS in terms of easy to access, user interface, stability and availability, facilitating easy sharing of information or records and giving timely feedback. Table 4 shows that more than a half (53%) of the respondents agreed that it is easy to access SUA–EDMS**.** 18% of the staff strongly agreed that it is very easy to access SUA–EDMS. Again 28% of respondents were neutral which means that they are not sure if it is easy to access SUA–EDMS or not, while fewer (7%) reported that it is not easy to access SUA–EDMS.

In terms of user interface, 38% of the respondents agreed that SUA–EDMS has a friendly user interface, followed by 27% of SUA staff who were neutral, nine percent strongly agreed that SUA–EDMS has a friendly user interface while 26% respondents reported that it does not have a friendly user interface. In addition, 50% of respondents reported that it is not stable followed by 27% of the respondents who were neutral, 17% of the staff reported that it is stable, while six percent strongly agreed that SUA-EDMS is very stable. In terms of easy sharing of records, results show that 53% of the respondents agreed that SUA – EDMS facilitate easy sharing of information or records, followed by 29% who were neutral, 15% strongly agreed that SUA–EDMS facilitate easy sharing of information while three percent reported that SUA – EDMS does not facilitate easy sharing of information.

Lastly, results show that 37% of the respondents were neutral which means that they are not sure if SUA–EDMS provides timely feedback or not, followed by 35% of who agreed that SUA–EDMS provides timely feedback. 18% reported that SUA – EDMS does not provide timely feedback. Yet 10% strongly agreed that SUA–EDMS provides timely feedback.

Overall Rating on Usefulness of EDMS in Managing Records at SUA

The study results in Figure 7 show the respondents overall rating on usefulness of EDMS in managing records at SUA.
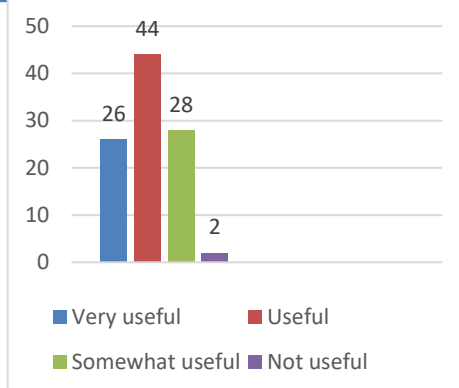
Figure 7: Overall rating on usefulness of EDMS in managing records at SUA.

The results show that, of the 100 respondents, 44% of the respondents reported that overall, EDMS at SUA was useful in managing records. In addition, 28% of the respondents 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 not only from one individual to another, but also from 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 the factors that cause differences. For the perspective of organization and country; financial constraints, technological obsolescence, as well as organization and country culture are among the factors that cause differences.

Modelling the Factors Influencing Overall Rating on Usefulness of EDMS at SUA

It was imperative to measure the factors influencing rating the usefulness of EDMS at SUA. This was done using ordinal logistic regression because the nature of data specially the dependent variable was measured at ordinal level (1=useful, 2= somewhat useful and 3= not useful). Results in Table 4 indicate that the variables predicting usefulness of EDMS (duration at work, age, sex, education level and rating on effectiveness of EDMS) contributed by 30.9% to 42.6% to the variation on rating on usefulness of EDMS at SUA as presented by Cox and Snell and Nagelkerke values. Furthermore, the Wald values (Chi-square values) in Table 4 indicate that they are non-zero values showing that there is relationship between the dependent variable (perceived usefulness) and independent variables. Of all the independent variables, duration at work and rating on effectiveness have a unique contribution to variation on usefulness of EDMS because they have p-values below 5% and 1% level of significance (p=0.05 and 0.0001 respectively).

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Table 4: Factors influencing rating on usefulness of EDMS at SUA n = 100

Variables						95% Confidence Interval	
	Estimate	Std. Error	Wald	Df	Sig.	Lower Bound	Upper Bound
Duration at work	0.137	0.072	3.613	1	0.050*	0-.004	0.279
Age of respondent	1.325	3.139	0.178	1	0.673	-4.828	7.477
Sex of respondent	0.230	0.632	0.133	1	0.715	-1.008	1.469
Education level	0.898	0.959	0.878	1	0.349	-0.981	2.778
Rating on effectiveness of EDMS	18.284	0.676	731.858	1	0.000**	16.959	19.609
Cox and Snell	0.309						
Nagelkerke	0.426						

Note: ** Statistically significant at 1% level; * Statistically significant at 5% level.

Challenges of using SUA–EDMS

On respect to challenges affecting the use of SUA EDMS, staff were asked to indicate challenges influencing the use of SUA EDMS. The findings are shown in Table 5.

Table 5: Challenges of using SUA–EDMS

Challenges	Frequency	Percentage
Low internet bandwidth	90	23.7
Difficult to use SUA–EDMS	16	4.2
Lack of enough skills on the use of SUA–EDMS	36	9.5
Lack of electrical devices example: computer	41	10.8
System has poor user interface	40	10.6
Difficult to navigate the system	34	9.0
Limited feature and functioning of the system (Absence only)	59	15.6
Unstable power supply	63	16.6

Results show that majority (23.7%) of the staff reported that they were facing challenges in the use of SUA EDMS due to low internet bandwidth, 16.6% face the challenge due to unstable power supply. Furthermore, 15.6% of the staff reported facing challenges due to limited features and functionality of the system; they argue that EDMS performed only one function which is leave of absence. Also, 10.8% of respondents reported lack of electronic devices such as computer. Additionally, 10.6% of the staff reported systems' poor user interface, 9.5% reported lack of enough skills. 9% reported difficulties to navigate the system, and 4.2% said that they find it difficult to use SUA-EDMS which is a challenge to them. In support of these findings the interview done to the EDMS administrator mentioned some general challenges of using SUA- EDMS by remarking that:

> *"Internet problem, users don't want to change from manual system to electronic system. Moreover, users can not recover their password, users tend to forget their passwords, system has got its on backing icon and some of browsers can not open the EDMS.''*

Suggested Improvement to be done of SUA–EDMS

Suggested improvements from qualitative interviews and self-administered questionnaire show that the majority (36.04 %) of the respondents reported that internet speed should be improved in order SUA–EDMS to work properly. Again 28.8% of the respondents indicated that SUA–EDMS should have other forms rather than leave of absence only while 13.5% reported that user interface should be improved. Furthermore, 3.6% of the respondents suggested that SUA–EDMS should be made stable and available all the time. Other suggestions were ensuring quick response and improved power stability (1.8%) and developing a good and interactive user interface (0.9). Other suggested encouragement of staff to learn use of computer, find alternative power sources, find expert to manage EDMS, increase number of days beyond 5 for leave of absence, policy changes for official electronic documents, to give alert to the person for decision, use in-house expert to update EDMS, simplify the procedure for use of EDMS and EDMS to have pdf downloads. In additionally, the SUA- EDMS administrator was of the opinion that:

> *"The trainings should be provided regularly to all staffs also the internet should be available all the time when using the system and the staff should use the system*

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because it keeps employee's information safely compared to the manual (paper format) system whereby sometime some of the important information are lost or even destroyed."

Discussion of the Results

Demographic characteristics of respondents have shown that even if men slightly exceeded the number of women, but both gender 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 priority to any available education opportunity rather than the girls. This is similar to a study finding by Mutimba, (2014), who found that more than half of the majority of the respondents who participated in the study on technology were male. Age also determines the use of a new system. Young participants are keen to get information than older participants. Other studies have also observed and reported that 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).

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.

The availability of EDMS at SUA has high benefits because it facilitates many activities including; decision making, easy sharing of information, enhance communication, minimize cost in terms of time and money as well as enhancing accountability which subsequently results in improved work productivity. In support of these findings, it has been reported widely that EDMS have made communication and decision making more effective among employees (Afonso, *et al*., (2014), Venkatesh *et al*., (2003) and Schapp *et al*., (2010). Moreover, Johnston and Bowen, (2005) and Abdulkadhim *et al.*, (2015) reported that EDMS enhance decision making, facilitate accountability, improve efficient and effectiveness, increases transparency, easier search of governmental or organizational records, cost saving from low use of materials and increased productivity in the organization are among the benefits of establishment of EDMS.

Perceived increased efficiency and usefulness may be due to the fact that tangibility, reliability, responsiveness, accessibility, competence, credibility and customer knowledge were positively related to customer satisfaction in SUA organization. Lwoga (2020) and Ho *et al*., (2019), have also revealed that service quality results in the most influence on user satisfaction. Thus, these findings imply that ERMS enables users get

services of good quality and makes continual usage intention. Lwoga (2020) has as well reported that the system quality positively influenced health workers to be satisfied with the eHMIS.

In terms of challenges, similar results from other studies have been reported in Eastern Africa, such as that by Limo *et al*. (2019; Mammo (2012); Issa *et al*., (2018); Dotto (2015); Kamatula (2018); Guto (2017) and Lwoga (2020), who have revealed that poor infrastructure, ICT equipment and facilities, frameworks and guidelines and budgetary provisions are the major challenges hindering adoption, access and use of ERMS in East African organizations.

Conclusion

It can plausibly be concluded that the use of EDMS is very essential for well-functioning of the organization in terms of faster and timely access to records and which spearheads effective and efficient delivery of services to customers in the organization. The present study has revealed this due to a positive perception indicated by staff who were interviewed at SUA.

Study's Contribution and Implications

This study uplifts the notions that new technologies may offer improved work performance when adopted in institutions. It also posits the fact that if a new technology is perceived useful by staff, then its acceptability and wide use may be increased in the organization which ultimately improves organization performance and employees' morality and productivity. This implies that it was not a loss for the university to invest in such a technology and other similar technologies at work place. The study has validated the TAM model as a suitable one for study of information systems like the EDMS adoption at SUA.

Recommendations

Based on the findings above, the following recommendations are made and must be addressed by each unit concerned:
1. The university management should ensure improved internet speed;
2. The ICT unit should ensure they improve EDMS interface and add other forms to the system such as annual leave to the EDMS.
3. The ICT unit should continue to offer training especially to new university staff on the use of EDMS especially new university employees.

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