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THE IMPACT OF INFORMATION SYSTEM ON ELECTRONIC RECORD MANAGEMENT

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ABSTRACT

Information system is a managerial decision making tool that the companies use for their business operations. The aim of this paper is to examine the impact of information system on electronic record management. The study analyzes 129 employees of Industrial Training Fund in Adamawa state. Questionnaire was used for gathering the related data. The time As a result, the paper shows inform system has significant impact on electronic record system according to different indicators. The implications of the paper can be used for guiding the researchers about the related field. The study recommends that there is need for adequate sensitization of management on the role of information systems in electronic record management procedures.

Keywords: information system, information system resources, electronic record management

Introduction

Generally, Information and Communication Technologies (ICTs) have become a critical success factor needed for accomplishment of set goals and tasks in every organization and human endeavors. Different scholars such as Blurton (1999:46); UNESCO (2002); Anunobi, Anyanwu, Oga & Benard (2011); Ofori-Dwumfuo & Kommey (2013); Enakrire (2016) & Enakrire & Ocholla (2017), have over flogged the understanding of ICTs, to mean a multifarious technological tools and resources, used for varied operations in organizations.

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This is an information age in which the use of information systems has become the central nervous system for record and information management. Information systems have brought about increased, consistency, security, control and efficiency in the storage and retrieval of record in an organization. Despite these benefits of integrating information systems to record management procedures, it is however unfortunate to state here those studies have shown that most organizations still find it difficult to integrate information systems into their record management procedure. This situation have been attributed to some problems which include the following:

Lack of capacity or skill: This can be attributed to the inability of organizations to evaluate their record management personnel for regular training and retraining programs so as to acquire the necessary skills required for the integration of information systems into record management procedures of the organization. High cost of acquisition, installation and maintenance of information systems makes it difficult for most organizations to invest in information systems, even where they acquire the equipment's, the cost of maintenance and consumables is always on the high side.

Poor organizational policies and procedures for record management: The record management policies -in-some organizations are such that do not create the enabling condition for the integration of information system into the record keeping procedure. Where good policies exist, they are either inadequate or inconsistent across the organization. Inadequate exposure of record managers to skills related to information system application in record management, thereby making them historians of the concept without the practical knowledge of the application of information system to record management procedure. To fill this gaps this study examines the impact of information system on record management in industrial training fund in Adamawa state.

Aim and Objective

The main purpose of the study is to examine the impact of information systems on electronic record management. Specifically, the study will examine the following:

i. Identify the information system resources required for integration into electronic record management procedure.

ii. Examine the effect of information systems on electronic record management procedure.
iii. Identify the problems affecting the integration of information system into record management procedure.

LITERATURE REVIEW

Information System

An information system is any organized system for the collection, organization, storage and communication of information. Silver, Marc, Lynne, Cynthia ad Mathis (1995) provided some views on information system that includes software, hardware, data, people, and procedures. O'Brien, (2003) provided another system view of information system which also‘ adds processes and essential system elements like environment, boundary, purpose, and interactions. The Association for Computing Machinery defines “Information systems specialists as focusing on integrating information technology solutions and business processes to meet the information needs of businesses and other enterprises, Rockart, (1996).

Similarly, information system is viewed on two perspectives, information system as an academic discipline and the computer base information system. A computer base Information System (IS) is a system composed of people and computers that processes or interprets information, D’Atri De Marco Casalino, (2008). The term is also sometimes used in more restricted senses to refer to only the software used to run a computerized database or to refer to only a computer system. However, Information system is an academic discipline, focuses on study of systems with a specific reference to information and the complementary networks of hardware and software that people and organizations use to collect, filter, process, create and also distribute data. An emphasis is placed on an Information System having definitive Boundary, Users, Processors, Stores, Inputs, Outputs and the aforementioned communication networks. Any specific information system aims is to support operations, management and decision making, O‘Brien,(2003).

Information systems typically include an ICT component but are not purely concerned with ICT, focusing instead on the end use of information technology. Information systems are also different from business processes. Information systems help to control the performance of business processes. O’Brien, (2003).

Alter, (2013). Argues for advantages of viewing an information system as especial type of work system. A work system is a system in which humans or machines perform processes and activities using resources to produce specific products or services for customers. An information system is a work system whose activities are devoted to capturing, transmitting, storing, retrieving, manipulating and displaying information, Alter (2013). As such, information systems interrelate with data systems on the one hand and activity system son the other. An information system is a form of communication system in which data represent and are processed as a form of social memory. An information system can also be considered a semiformal language which supports human decision making and action. Similarly, Beyond-Davies (2009), views information systems as the primary focus of study for organizational informatics.

Management Information Systems

For historical reasons, many of the different types of Information Systems found in commercial organizations are referred to as management Information Systems (Mare, Silver, Lynne & Mathis, 1995). However, within our pyramid model, Management Information Systems are management-level systems that are used by middle managers to help ensure the smooth running of the organization in the short to medium term. The highly structured information provided by these systems allows managers to evaluate an organization's performance by comparing current with previous outputs. Mare, Silver, Lynne, and Mathis (1995).

Electronic Records Management

Electronic records refer to records that are dependable on relevant machines for access or reading, that is, computer hardware and software such as e-mails, database and word processing (Tafor 2003). To Duranti (1999) components of electronic records are not limited to medium, content and action. The major difference between e-records and traditional paper re-cords is that its components do not physically exist but are kept in different parts of the system.
According to the National Archives and Records Service of South Africa (2019) electronic records is the information which is generated electronically and stored by means of a computer technology. “Electronic records are the evidence, in digital form, of transactions undertaken by individuals or by organizations” (McDonald 2006). An electronic record is anintangible soft record created,

managed, shared and presented through theusage of an ICT system. However electronic records may be categorized as follows: text files, files produced by word processing programs or by others software, Data files computer process able files that store numeric and sometimes textual information as quantitative values so that, numbers can be manipulated using arithmetic processes. Analogue audio and visual records, sound documents and images to be played back; disaggregated data information collected through remote sensing systems; databases structured collection of interrelated data.

Machine instruction sets records created by the action of intelligent machines; Image files records containing computer process able images that generally exist as hard copy before being converted into images and digital documents files consisting of numeric data, images or sound recorded digitally in one uniform structure.

Theoretical Review

This study is developed based on the system theory and information system theory.

System theory and system thinking

According to Fuenmayor (1991) system refers to a ''complex whole of related parts''-whether it is biological (e.g. human or an ecosystem), structural (a railway system), organized ideas (e.g. the democratic system), or any other assemblage of components comprising a whole" (Fuenmayor, 1991). Systems thinking is a more complex concept and "balances the focus between the whole and its parts, and takes multiple perspectives into account" (Cabrera, Colosi & Lobdell, 2008). Senge (1990), argued that Systems thinking is a discipline for seeing whole a framework for seeing interrelationships rather than things, for seeing patterns of change rather than snapshots (Senge, 1990,). There have been many definitions regarding the concept of system thinking, but they all include the ability to see the whole and its interconnections to its environment (Wolstenholme, 2003,)

The primary concepts on systems thinking were introduced in disciplines like biology, physics, psychology and they include sub-concepts such as: parts/wholes, environment, structure/process, positive and negative feedback, information and control, open systems, holism, and the observer (Mingers & White, 2010). It was in 1950 when a biologist Ludwig von Bertalanffy noted

that all systems studied by physicists are close systems, meaning that there is no interaction between them and their environment.

Von Bertalanffy (1950) also examined the nature of open systems i.e. systems that receive information from the environment and interact with it. This is the main idea of general systems theory (GST) which was later taken up in Operations Research and in Management Science. These developments include management cybernetics (Beer, 1967), system dynamics (Forrester, 1968), systems engineering (Hall, 1962) and what we know as systems approach (Churchman, 1979; Weinberg, 1975).

METHODOLOGY

The method of research design used for this study was survey research design.

The target population for this study comprised of all the secretaries and record management staff of Industrial Training Fund in Adamawa state and the total number of staff is 129. The sample population for this study comprised of 129 staff of Industrial Training Fund. The researcher adopted the entire study population for the study because the number is manageable. The sampling technique used was census sampling technique. The questionnaire was the main instrument used to elicit data from the respondents; each item on the - questionnaire had five options likert scale rage from strongly disagree to strongly agree.

The data gathered were analyzed using the mean rating of the subjects on a five point Likert scale. This was obtained as follows:

$$\frac{x = \sum fx}{\sum f}$$

Where: X = Responses made (option)

F = Frequency

∑= Summation

The mean score on the scale was 3.00 obtained by up the 5 values of Likertscale and dividing it by 5 that is.

$$\frac{1+2+3+4+5}{5} = \frac{15}{5} = 3$$

With the mean of 3 and a degree of freedom of 3.00, any question with amean rating of 3.00 and above was accepted and any mean below 3.00 was rejected.

Decision Rule

With chosen level of significance of 3.00, and responses above 3.00 will beaccepted, while responses below 3.00 will be rejected.

RESULT AND DISCUSSION

The data for the study were analyzed using the mean rating on a five point likert rating scale. Each category of response was allocated scores from 1to5, thus, strongly disagreed (1), Disagreed (4), Undecided (3), agreed (4) and strongly agreed (5).

The mean on the scale is 3 and a chosen level of significance of 3.00 is used. Any mean that is below 3.00 was rejected while any mean that is equal to or greater than 3.00 was accepted.

Research Question One: What are the information system resources required for integration into electronic record management procedure?

Table 1: Responses on information system resources required for integration into electronic record management procedures

S/N	ITEMS	SA	A	UND	DA	SDA	Σfn	X	REMARKS
		5	4	3	2	1			
A	Hardware Resources (Physical computer equipment and associated devices, machines and media).	56	37	0	11	14	464	3.93	Accepted
B	Software Resources (Program and procedure)	44	46	6	13	9	457	3.87	Accepted
C	Data Resource (Data and Knowledge bases).	34	41	2	23	18	404	3.42	Accepted
D	People Resource (End users and IS specialist, system specialist, programmers and database administrators)	19	52	3	10	34	366	3.10	Accepted
E	Network (Communication media and network support)	27	38	10	18	25	378	3.20	Accepted
	Grand Mean							**3.51**	**Accepted**

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Table 1 showed the opinion of respondents on information system resources required for integration into electronic record management procedure. The table revealed that all the items outlined were unanimously accepted by the respondents as the information system resources required for integration into electronic record management procedure. This was indicated by a grand mean of 3.51 for all the cases outlined.

Research Question Two: What are the effects of information systems on electronic records management procedures?

Table 2: Response on the effects of information system on electronic records management procedures

S/N	ITEMS	SA	A	UND	DA	SDA	Σfn	X	REMARKS
		5	4	3	2	1			
A	Eliminate time wastage by reducing the time and energy required in the storage and retrieval of record	32	44	8	13	21	407	3.45	Accepted
B	Improves system flexibility as new applications can be developed and system can structured meet record requirement.	13	28	19	21	37	313	2.65	Accepted
C	Lead to improvement in the security and integrity of records	39	33	16	8	22	413	3.50	Accepted
D	Reduction of redundancies and inconsistencies in record management procedures	48	23	7	21	19	414	3.57	Accepted
E	Leads to improvement in the efficiency and effectiveness of record managers	52	38	6	8	14	460	3.90	Accepted
	Grand Mean							**3.40**	**Accepted**

Table 2 showed the opinion of respondents on the effects of information systems on electronic records management procedure. The table revealed that all the

items outlined were accepted by the respondents as the effects of information systems on electronic records management procedure. This was indicated by a grand mean of 3.40. Item 'b' was however rejected as indicated by a mean of 2.65.

Research Question Three: What are the problems affecting the integration of information systems into electronic record management procedures? Table 3: Responses on the problems affecting the integration of information systems into electronic record management procedures Table 3 showed the opinion of respondents on the problems affecting the integration of information systems into electronic record management procedures. The table revealed that all the items outlined were accepted as the problems of integrating information systems into electronic record management procedures. This was indicated by a grand mean of 3.30. Item'c' was however rejected with a mean of 2.90.

Table 3: Responses on the solutions to the problems affecting theintegration of information systems into the electronic record management system

S/N	ITEMS	SA	A	UND	DA	SDA	Σfn	X	REMARKS
		5	4	3	2	1			
A	Organizations should by way of appropriation make available funds for the acquisition, installation and maintenance of information system	53	42	3	8	12	470	3.98	Accepted
B	Technical safeguards and security PINs should be adopted to avoid unauthorized access to records	41	54	5	7	11	461	3.91	Accepted
C	Ensure effective and good policies on record management procedures	35	43	8	19	13	422	3.58	Accepted
D	Ensure adequate exposure of personnel to information system applications through regular training and retraining programs	29	48	7	10	24	402	3.41	Accepted

E	Improved public supply of electricity and make provision for alternative supply because information systems are strictly dependent on electricity.	34	37	3	18	26	389	3.30	Accepted
	Grand Mean							**3.63**	**Accepted**

Table 3 showed the opinion of respondents on solutions to the problems affecting the integration of information systems into electronic record management procedure. The table revealed that the entire items outline as the solutions to the problems of integrating information systems into electronic record management procedures were accepted by the respondents. This was indicated by a grand mean of 3.63.

Discussion of Findings

Based on the result of the data analysis, the following findings were made: The result of the data analysis for research question one on Table 1 revealed that the information system resources required for integration into electronic record management procedure include hardware resources, software resources, data resources, people resources, and network resources. This is in line with the study of O'Bien (2003) who suggested that for an information system to be able to achieve its aims, it must be made up of the resources of people, hardware, software, data and network.

The result of the data analysis for research question two on Table 2 revealed that the effects of information systems on electronic record management procedure include elimination of time wastage, improvement in the security and integrity of records, reduction of redundancies and inconsistencies, and improvement in the efficiency and effectiveness of record managers. Gilbane, (1933) express a similar view and opined that the integration of information systems into electronic record management procedure will lead to effective and efficient, creation, storage, retrieval retention and disposal of records. The findings however, rejected improvement in system flexibility as one of the effect of information system son electronic record management. This may not be unconnected with the fact that respondents feel technological developments continue unabated and

new system will always be developed to replace old ones The result of the data analyzed for research question three on Table 3 revealed that the problems affecting the integration of information system into electronic record management procedure include the high cost of purchasing, installation and maintenance of information systems, securely issues, inadequate capacity or skills and inadequate supply of public power. This findings is in line with that of Davies (2009) increasing cost of information system resources, security challenges and lack of technical knowhow are major challenges affecting information system application in organizations The findings however, revealed that poor organizational policies on electronic record management procedure may not necessarily be a major challenge to the integration of information systems into electronic record management procedures. The result of the data analysis for research question four on table 4.5revealed the solutions to the problems of information system application in the office to include improve findings for the acquisition, installation and maintenance of systems, technical safeguards and security PINs, adequate exposure of record managers to information system applications through regular training and re-training and improved public supply of electricity.

Conclusion

Based on the findings of the study, the following conclusions were made: The integration of information systems into the electronic record management procedure of the organization is critical to its survival, because of the trend of development in the office which is ruled by technology.

The integration of information system into electronic record management constitutes an inevitable tool for improving the efficiency and effectiveness of staff in record management.

There are myriads of problems affecting the integration of information systems into electronic record management procedure. These problems if not properly addressed will affect the capacity and ability of the organization to deliver on its mandate. This is in view of the fact that everything about the organization revolves around the quality of its record and information.

Recommendations

Based on the conclusions of the study the following recommendations were made:

i. There is need for adequate sensitization of management on the role of information systems in electronic record management procedures. This will place them on a better position to appreciate and understand the need for adequate appropriation 'of funds for the purchasing, installation and maintenance of information systems.
ii. Technical safeguards and security PINs should be adopted to avoid unauthorized access to records through hacking and cracking.
iii. Staff in charge of records management should be evaluated regularly, so as to determine their strengths and weaknesses in the area of electronic record management. The result of such evaluation can be used to structure a regular training and re—training programmed for the staff. This will help expose them to relevant skills and competencies in the area of information system application.

Suggestion for Further Studies

The following topics were suggested for further studies: further study should examine information system skills and competencies required by secretaries for work in a modern office. Assess the problems of electronic record management procedures in an organization and the process of management information system in an organization.

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