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Obstacles Facing the Development of MIS in the River Nile State (RNS) Public Sector – Sudan

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Abstract
This study investigated and identified the obstacles facing the development of MIS in the RNS. In addition, it checks out the existence, importance and the employment of MIS in the RNS. The study applied the descriptive research design of survey type. Data were collected from a sample of 221 reflects the employees in some RNS ministries holding different job positions using stratified random sampling technique. Data collected were analyzed using frequencies count, percentages and chi square test statistics. The study revealed that MIS was not adequately employed in the RNS institutions. Therefore, it confirmed that MIS was very important to improve the management performance. The study showed that MIS was not adequately used for formulating policies and strategies in the state institutions. The study identified several obstacles facing the development of MIS in the RNS. It was recommended that proper orientation should be given to MIS development in the state. Also, training programs should be organized to ensure proper and adequate employment of MIS in generating and disseminating information.
Furthermore, the RNS government should set up unified information technology policy to enable all the state institutions to obtain information required with in specific standards and criteria.
Keywords: Management information systems (MIS) MIS obstacles MIS development
River Nile State (RNS)

1. Introduction

Management Information systems (MIS) concept mainly focuses on where information technologies are used, and how are related to the organization strategy. In recent the purpose of MIS has changed from efficiency improvement and cost reduction at the functional level to performance increase at the corporate or strategic level (Moonsang et al .1999). While computers were ideal for routine transaction processing, managers soon realized that the computers' capability of performing rapid calculations and data comparisons could produce meaningful information for management (ustudy 2011).
Nowadays every aspect of management relies heavily on information to thrive and survive (Ajayi,I.A et al. 2007). Information has become the lifeblood for all organizations, which means nothing can move without it (W.B. Adeoti-Adekeye 1997). Organizations if they want to change their circumstances and environments needs to disseminate the information to various levels of management. MIS play a certain role in the decision-making because it provides necessary and accurate information for better decision-making on the issues affecting the organizations regarding human and material resources. MIS aimed at assisting manager and operating personnel to produce timely, accurate information and up to date data and information required for efficient and effective process (Saleh Alzahrani 2010).

1.1 MIS Concept

The term MIS can be seen as a database management system tailored to fulfill the needs of the managers or decision makers in an organization with accurate, timely, adequate and correct information.
MIS is defined as a system using formalized procedures to provide management at all levels in all functions with accurate information based on data from both internal and external sources, to enable managers make timely and effective decisions for planning, directing and controlling the activities for which they are responsible (W.B. Adeoti-Adekeye 1997).
Another definition: MIS is an information system that generates accurate, timely and organized information so managers and other users can make decisions, solve problems and supervise activities (Saleh Alzahrani 2010) .
MIS is integrated system of man and machine for providing information to support operations, the management and the decision making function in the organization (solvedassignments.org 2011).
We can conclude from above definitions that MIS is a collection of hardware, software, people, rules, regulations and procedures which work together to produce, restore, retrieve, and transmit information to help and support managers in all levels to make correct and accurate decisions. In other words MIS is the right form of system that disseminates right information to right persons at right time with low cost to improve workers and work productivity.

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MIS like others information systems has several functions which through it can produce the needy information. We can mention these functions as follows:

- Data collection: This means to collect the data from it is sources to produce information.
- Data processing: This it means all the operations required to transfer the data to meaningful forms (information). These operations include data calculations, sort, and merge …etc.
- Information production: This function contains report generating and information dissemination.
- Data management: This contains the restore, maintenance, and the retrieval of data and information.
- Data monitoring and security: this function is the kernel of any information system, because all the above functions can be handled easy but to secure and control the data collected and information produced from fraud and hacking is the backbone of the information system.

1.2 The role of MIS

Management Information System (MIS) is basically concerned with the process of collecting, processing, storing and transmitting relevant information to support the management operations in any organization. The main idea behind the MIS is to keep a continuous supply of information flowing to the management. Afterward using the data and information gathered from MIS to make decisions (Philip, G 2007).

The role of a management information system is to convert data from internal and external sources into information that aid in making effective decisions for planning, directing and controlling the activities for which they are responsible (Asefeh Asemi et al.2011).

The role of MIS in decision making can be realized from its aims and objectives. The aim of MIS is to develop a viable system to maximize the effective use of modern data approach to management practices (Saleh Alzahrani 2010). MIS also aimed to assist managers and operating personnel, to produce timely and accurate information not only to decide present and future operations, but also to pinpoint potential problems that need to be rectified (Ajayi,I.A et al 2007).

The managers need information to carry out their managerial functions;

MIS ensures that an appropriate data is collected from the various sources, processed and sent further to all the needy destinations. MIS expected to fulfill the information needs of an individual, a group of individuals, the managers and the top management to take a course of actions.

MIS helps the clerical personnel in the transaction processing and answers their queries on the data pertaining to the transaction. MIS help the middle management in short term planning, target setting and controlling the business functions though the provision of an historical and future information. MIS also play a vital role of information generation, communication, problem identification and helps in the process of decision making.

One of the most important uses of IT is the development of HR. IT enables managers and employees to have access to the organization system or HR information system (L. Weatherly 2005).

More sophisticated information systems extend management applications to decision making in areas such as compensation and performance appraisals.

Managers can schedule jobs interview or others issues, through the necessary information provided by the information system.

We concluded that the role of MIS is the information provision, to support managers in all levels and other employees to handle the problems from problems recognition stage to the solution implementation and evaluation, also provide information and feedback to prepare necessary reports to improve the work efficiency.

2. Statement of the problem

MIS is an information system based on new information technology such as computer software and hardware to perform all the managerial missions.

Since the past decade there are significant advances in computer hardware, software and human computer interfaces. The advances in these areas have affected many aspects of work practices such as reducing the burdens of the work for people in every sector. Moreover ICT is becoming significantly important in any sector. In the context of MIS the ICT revolution changed the ways to gather and disseminate information whether in public or private sector.

Currently computer networks play a major role in controlling and directing the information flow among organizations. Many countries (developed and developing) established a series of national computer networks systems to link different sector to enhance information flow and exchange.

In RNS unfortunately, these technologies has not yet been adopted to gain advances. Most of the work within and between all the offices and departments is a manual work. The use of computer technologies for processing the data is still falling behind.

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The lack of MIS implementations doesn't only leave the firms dissatisfied with their current situation but also creates problems establishing and maintaining priorities in the future goals planning (Gottschalk, p 1999).

The study attempts to investigate why MIS is not adequately implemented, How the RNS public sector can reshape the institutions through establishing MIS based on new information technologies to gain its benefits to the all state residents.

The problem of this study is to investigate and determines the obstacles facing the development of MIS in The River Nile State public sector.

2.1 Purpose of the study

The purpose of this study is to investigate and determine the uses of MIS in the RNS public sector institutions, therefore, investigate the extent to which MIS is important. The study also exams, identifies, and ranked the obstacles and constraints facing the development of MIS in the RNS public sector.

3. Material and Methods

The study used the descriptive research of the survey type in form of questionnaire and interview. The population for the study is the reflection of employees in some state ministries (RNS /Sudan) which cover ministry of agriculture, health, local administration governors', finance, education and investment. The stratified random sampling technique was adopted to cover 250 employees holding different job positions.

The questionnaire contained two sections. Section one personal information of the respondents while section two contained thirteen items on the existence of MIS, the importance and uses of MIS and the obstacles and constrains facing the development of MIS in the RNS.

Altogether 250 questionnaires were distributed of these 239 questionnaires were returned among them 18 questionnaires were not suitable for analysis.

4. Data analysis and discussion

The data collected were coded and processed into a Statistical Package for Social Science (SPSS). (250) questionnaires were distributed of these (239) questionnaires were returned giving a response rate of (95.6%). Descriptive statistics were used to characterize the response to each question in the questionnaire. Each question was tested at 0.05 level of significance.

4.1 Demographic data

The participants were asked to specify their gender the result in table 1 show that most of respondents were male (117 = 52.9%) female (104= 47.1%) its clear show that the study cover the employees in their diverse gender which reflects their views, experience and knowledge of MIS obstacles for the recent situation in the State institutions, therefore they can participate in future development of MIS.

Participants were asked about their highest academic qualifications the responses were grouped in three levels table 2 show that majority of respondents were graduates (bachelor degree) (141= 61.6%) Followed by high school graduate (49=22.2%) only (31=14%) were postgraduate. According to the percentages above those whom are bachelor degree graduate are predominant, and is a reflection of the awareness of the education.

For the purpose of this study as shown in table 3 respondents were grouped in three classes according to their age. They were asked to specify their age group. Most respondents (85=38.5%) were aged between 31 and less than 40 years followed by (73=33%) aged from more than 40 years then (63= 28.5%) aged in between (20-30). from observation it could be realize that the younger generation are exposed to information technologies. As shown in table 3 although more than 40 years constitute 33% it is clearly seen that the younger generation between 20-40 years constitute a greater percentage of 67% which reflects the exposure of most people MIS development in RNS.

Table 4 shows that more than 10 years in work are predominant, while below 5 years is the least predominant. It is assumed that the more experience one is in the work place does not translate into the knowledge of MIS except one is working in MIS field. The younger generation is more exposed to the development of MIS, this because of the interest they might exhibit towards the development of MIS in RNS.

The participants were asked to specify their job position the result as shown in table 5 show that general manager (6 =2.7%) ,department manager (62 = 28.1%) , and others jobs (153=69.2%) . MIS requires sharing and dissemination of information to enhance the organizations performance. Therefore, it is necessary each department of the organization should provide information to improve the work. By so doing it will contribute in the development of MIS.

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4.2 The existence and uses of MIS in the RNS

To achieve the goals of this study, respondents were asked to identify the existence of information system based on modern information technologies in the RNS institutions, as a result, it was clear that the audiences agreed on IS based on modern IT existence , the answer was (116=52.5%). Among this percentage, according to job positions we found out that 56.5% of the department manager answered no information system applied. According to the work experience the majority agreed with existence of IS the percentages was (52.2%, 51.9%, and 54.1%) respectively.

Furthermore, respondents were asked is information system employed to support decision making process through out of disseminating needed information, and you rely on information generated by computerized systems to guide your decisions on key issues the answer was (113=51.1%) agreed. According to this percentage, we found out that the department managers 56.5% answered no, while the general managers neutral (50%) and the other jobs were answered yes (54.2%). according to the work experience the majority of the respondents agreed on the use of IS in decisions making and daily works issues the percentages were (52.2%, 51.9%, and 50%) respectively.

In addition, respondents were asked does strategies and policies formulated base on information generated by information system, the answer was (119 =53.8%) not agreed. According to job position the department manager 61.1% answered no, general manager were neutral (50%) while other jobs answered yes (51%). According to the work experience the respondents less than five years of experience answered no (58%), whom more than ten years of experience (54.1%) answered no while those who work experience between five and ten years answered yes (51.9%).

The chi square test indicated that the respondents answers were completely independent of basic information (gender, age,…etc) in the answers, which means all the answers were unbiased at 0.05 level of significance.

4.3 The importance of MIS for work improvement

To identify and ensure the respondents knowledge regarding the importance of MIS for work improvement the target audience were asked the employment of IS lead to quick information exchange within and between the departments, the answer was (59.3% = 131) agreed. According to job position we found out that the answers was (83.3%, 54.8%, 60.1%) respectively, while according to the work experience the answers was (58%, 50%, 65.3%) respectively.

furthermore, to identify the role and the impact of IS and computer technologies on management performance, the audience were asked that IS and computer technologies lead to improve management performance in all managerial levels, the answer was(87.3=193) agreed. According to the job position the answers were (100.0%, 91.9%, 85.0%) respectively, while according to the work experience the answers were (87.0%, 90.7%, 85.7%) respectively.

In addition, the respondents were asked that the implementation of IS enable link of administrative functions all over the state; which make the information flow and retrieval accurate, easy and fast (94.1=208) agreed. In accordance with job position the answers were (100.0%, 98.4%, 92.2%) respectively, while according to the work experience the answers were (92.8%, 94.4%, 94.9%) respectively.

The chi square test indicated that the respondents' answers were completely independent of basic information (gender, age, etc…) in the answers, which means all the answers were unbiased at 0.05 level of significance.

4.4 Obstacles facing the development of MIS in the RNS

The responses were asked to identify the obstacles limit the development of MIS in the RNS. It is clear that the sample of the study agree that there are constraints limiting the development of MIS in the RNS. Those obstacles were ranked up according to the respondents answer in table 6.

Table 6 reveals that 91.9% of the respondents indicated that the MIS development constraint is the lack of system applications software, while 91% have seen lack of well-trained employees limit the MIS development, moreover 81.4 indicated lack of planning and activities related to the use of information technology as reason to limit MIS development. Additionally, 79.9%, 78.7% respectively have seen the non-existence of information networks between and within departments is the constraint of MIS development. 68.3% indicated insufficient number of computer machine in the work locations limit the development of MIS. Finally, 52.9% of the respondents have seen the lack of manager support as obstacle facing the MIS development in the RNS institutions.

The chi square test indicated that the respondents' answers were completely independent of basic information (gender, age, etc…) in the answers, which means all the answers were unbiased at 0.05 level of significance.

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5. Discussion

The study revealed that the majority of the respondents agreed that MIS was applied and used in the state institutions. But we found out that the department managers did not agreed that MIS applied and used, the others answers regarding job position and work experience percentages were falls below expectations. These results indicated the inadequate MIS implementation, the justifications is that the department managers are most closely associated with MIS and their task is to design and manage the flow of information in order to improve productivity and decision making process. The study also revealed that the majority of the respondents agreed on the use of information generated by computerized MIS to guide the decision-making process. But we observed from the answers that the department managers were not satisfied with the information generated by MIS for decision making. This shows that the level of utilization of MIS for decision making falls below expectation. The inadequate use of MIS in decision making may not facilitate accurate and up to date information required for effective and efficient planning in the state institutions. This result agrees with (Ajayi, I. A. et al 2007) who claimed that adequate use of MIS will enhance accurate and timely information which are needed for effective decisions. The study also found out that MIS was not adequately used to formulate policies and strategies in the state institutions. More than 53% of the respondents indicated that MIS was not adequately used to support policies and strategies formulation. The study confirmed the importance of MIS to supply the users in different positions with the required information in needed time to enhance the work in the state institutions. Furthermore, the study confirmed that the implementation and employment of MIS will provide accurate and timely information which are needed for effective decisions and other issues related to the work enhancement. This result confirmed that the respondents believed that the computer technology and MIS has numerous roles and impact on managerial performances. This reflects the implementation of the computerized systems will lead to improve the managers and employees performance with providing necessary and up to date data and information. According to the finding it is glaring that the utilization of IT will lead to increase performance. (Kamran Nazari et. al 2012), (Adewoye & Obasan 2012) pointed out that the utilization of IT leads to increase the performance and efficiency. Also the study revealed that MIS is much important for linking administrations units in the state which result in reducing the redundancy of information and supply the units with up to date required information due to use of MIS.

The study found out that the RNS public sector suffers from several problems confront the MIS development such as lack of systems application software. The study revealed that there was new technologies equipments illiteracy among the staff, which result in a gap exists between work requirements and the ability of staff personnel to understand these requirements.

The study found out that there was a poor planning and control for the activities related to the use of IT, which can not allow the staff to take full advantages of MIS. This result agrees with (Saleh Al-Zhrani, 2010) result who claimed lack of coordination and control activities on the use of technology does not allow us to take full advantage of MIS. The study also revealed technical infrastructures concerning computer machines and networks was a problem facing the MIS development in the RNS institutions. The researcher believes such problems reduce the work speed, which reduce the usefulness of the use of new technologies equipments.

The study found out that management support was not extreme obstacle, this result confirmed (Philip, 2007) result who claimed management support is extremely important for successful IS planning and successful IS implementation, also agreed with (Thong, Yap, & Raman, 1996) who confirmed top management support is typically presented as one of the key success factors of IS effectiveness.

6. Conclusion

Based on the findings of this study, the study showed that the individuals of the sample strongly agreed that MIS is very important for information exchange within state institutions to improve the work and supply the management with up to date information to improve the managerial performance. The findings of this study confirm that the implementation of MIS enabled easy and accurate information exchange, flow and retrieval. The study findings that there are several obstacles facing the development of MIS in the RNS and were identified.

It recommends that proper orientation should be given to MIS development in the state institutions. Also, training programs should be organized to ensure proper and adequate employment of MIS in generating and disseminating information to improve the works in the state institutions.

The researchers recommend that the RNS government should set up unified information technology policy to enables all the state institutions to obtain information required with in specific standards and criteria. Also the obstacles should be treated by the concerned authorities in accordance with the priorities in the arrangement to handle it.

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Table 1: Gender classification

	Frequency	Percentage
Male	117	52.9
Female	104	47.1
Total	221	100.0

Table 2: Academic qualification

	Frequency	Percentage
Secondary school	49	22.2
Graduate	141	63.8
Postgraduate	31	14.0
Total	221	100.0

Table 3: Age

	Frequency	Percentage
20-30 years old	63	28.5
From 31-40 years old	85	38.5
More than 40 years old	73	33.0
Total	221	100.0

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Table 4: Work experience

	Frequency	Percentage
Less than 5 years	69	31.2
5-10 years	54	24.4
More than 10 years	98	44.3
Total	221	100.0

Table 5: Job position

	Frequency	Percentage
General manager	6	2.7
Dept. manager	62	28.1
Others	153	69.2
Total	221	100.0

Table 6: Obstacles ranking:

s/n	obstacles facing MIS development	Percentage
1	Lack of system applications software	91.9
2	Lack of well-trained employees to deal with new technologies	91
3	Lack of planning and activities related to the use of information technology	81.4
4	No information networks for information exchange between the departments	79.6
5	No information networks for information exchange within the departments	78.7
6	Insufficient number of computer machine in the work locations	68.3
7	Lack of management supports	52.9