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The Hermeneutics of Education Management Information Systems for Kitinga Primary School in Mwingi Central - Kenya

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Abstract
The data or information records are very important in any organization. With the increase in generation of data in the Kenyan education sector, there is need to devise appropriate means and strategies of storing and retrieving the available data which was hitherto written manually. The Modern Information Communication Technology has necessitated the use and application of Education Management Information System. This is vital in planning and evaluating the education system more efficiently and effectively. It emphasizes on good routines that provide suitably detailed reports in accurate, consistent and timely manner. This article examines the main functions of primary schools in Kenya; identifies the available state and data information that are available in Kitinga Primary school; and finally analyzes the role of Education Management Information Systems in decision making. In actualizing the research findings, various approaches are identified in decision making although, emphasis is drawn on the views expressed by Simon (1997).The descriptive survey design, random and purposive sampling was used to elicit data that was useful in drawing conclusions for appropriate decision making to enhance school performance. The findings revealed that the school is in the process of digitizing and automating its records because, a good data management information system is essential in capturing, processing, storing, retrieving, updating and devising current information which is essential in running the school.
Keywords: data, management information systems, education management information systems, decision making

1.1. Geographical background

Kitinga Primary school which is located in Mwingi Central, Kitui County in Kenya was started in 1986 as a pre-school. In 1988, the pioneer class one pupils were enrolled. And, with the support of the local community, Kitinga primary school has developed tremendously with the pupil population increasing to 589 while posting good academic performance. The school has been leading all the other public schools within the sub county and has attracted favour from the Kitui county government leading to the building and renovation of the tuition blocks. In addition, the county government has constructed a standard administration block giving the school a new face lift. The school has 14 permanent and pensionable teachers hired by the Teachers Service Commission (TSC), two teachers employed by the Parents and Teachers Association (PTA) and three (3) support staff.

1.2. Introduction to Education Management Information System

In the earlier days, communication, data or information in Kitinga Primary school was recorded, stored and processed in paper format. But, with the increase in various forms of organizations and activities in the school, large amounts of data have been generated making their storage cumbersome and challenging to retrieve. Liberalization and globalization in the contemporary society have led to the invention of computers to facilitate effective usage of information processing and management. This has further led to the existence of different information systems which have been developed for specific purposes depending on the needs of the school. In this article, we examine the meaning and purposes of Management Information System and Education Management Information System in providing quality education in Kitinga Primary school.

At inception, the concept of Management Information System (MIS) was a manual process which was used to collect information and pass it on to persons who were responsible in making decisions (Asefeh et al, 2011). But, with time, MIS has become a computer based information system that is very important for all managers. There are many definitions of management information systems. Waston (1987) describes it as being "an organizational method of providing past, present and projected information related to internal operations and external intelligence. It supports the planning, control and operation functions of an organization by furnishing uniform information in the proper time frame to assist the decision makers". Telem (1999) defines MIS as "a management information system designed to match the structure, management task, instructional processes, and special needs of the school". Management Information System according to Obrien (1999) is "a term given to the discipline focused on the integration of computer systems with the aims and objectives of an organization".

The available MIS information describes the past events, the current situation and then predicts the future happenings. When this is captured, it is presented in written form and applied in decision making (Raymond, 1996).

In education, information is crucial for the purposes of managing, planning and even evaluating the education system. This is why; Management Information System has been used in the field of education, adopted in all fields of knowledge and practice thus giving rise to Education Management Information System (EMIS). This in essence is an information system for managers of the Education System which focuses on data collection, storage, integration, analysis and dissemination (UNESCO, 2003a). In Kenya, EMIS has been designed to be used by planners and administrators to plan and administer the education system more efficiently and effectively. It emphasizes on good routine that provide suitably detailed reports in accurate, consistent and timely manner in schools.

1.2. Statement of the problem

The introduction of computers in the education curriculum is a new innovation which has revolutionized learning in the 20th and the 21st centuries in the world and Kenya in particular. In 2005, the Kenyan Government in conjunction with the Ministry of Education (MoE) developed a policy on establishing an Education Management Information System in schools (MoE, 2005). To date, it has not been adopted in all schools. Instead, a lot of emphasis has been laid on budgeting, structural infrastructure and power connectivity. This is one of the agenda that are being fulfilled by the current political regime in Kenya as evidenced in their campaign manifesto. These promises among others are being gradually fulfilled by distributing laptops to a few pilot primary schools in Kenya. The aim of this pilot process is to ensure that all Standard one pupils in primary schools have access to these electronic gadgets. But, due to poor planning, it is surprising that, most schools are yet to receive these laptops! The questions at hand are; what will happen to those primary standard one pupils who have not received their learning lap tops? Will those pupils who have been introduced to these devices use them in the progressive years? Will they be abandoned or upgraded? Are their teachers fully compliant in computer literacy (Cromey, 2000)? In Kenya, most primary schools have poor or non existing structural development to even store the newly introduced laptops if at all they have them. These are some of the questions that need to be addressed if this important Information Communication Technology (ICT) has to thrive. A casual visit at most primary schools in rural areas in Kenya reveals that, most of the records are stored in files which are not well kept in protected cabinets. Moreover, most of the teachers in primary schools are P1 trained graduates who have minimum training in computer pedagogical knowledge and skills. Perhaps, it is only a few of them who have either spent some little time in cyber cafes in town centres that have managed to print their personal identification number (PIN) revenue certificates, opened Email addresses and learned the characters of the key board! In the contrary, head teachers are managers in their respective schools and it is mandatory for them to be conversant with the contemporary knowledge and skills, computer use and operations.

1.3. Objectives

In this article, we examine the main functions of primary schools in Kenya with particular reference to Kitinga Primary school; identify the available state and data information that is available; and finally analyze the role of Education Management Information System in decision making in this school.

2.1. Methodology

The study was conducted adopting a descriptive survey design in investigating the contemporary position and nature of phenomena. This was further augmented by the need to examine diverse decision making processes coined by Herbert Simon together with James March in the early 1950s to comprehend organizational behavior (Asefeh et al, 2011). They emphasized a three step approach where human beings are rational and for an individual to make any decision, he or she also examines the possible alternatives instead of just focusing on the options which are available (Gordon, 1993). This model was further reviewed by Huber (1980) who developed a five tier approach where a problem is first identified and investigated leading to the development of alternative solutions where one is selected and effected leading to a further evaluation of the solution and if possible make necessary changes as need arises. This approach was modified by Gorry and Morton (1971) and Simon (1997) who developed six essential steps that could be applied to the decision making process which includes analyzing a situation, making alternative searches leading to an option evaluation based on a selected objective/s and selected criteria. This is vital in making decisions which can ultimately be reviewed (Certo, 1997).

3.1. Data presentation and discussion of findings

In Kitinga Primary school, there exist different aspects of data which are important in establishing the requisite information in decision making. This in essence is vital in solving pertinent problems that are found in the school environment as described below:

Table 1: Pupil enrollment

Class	Boys	Girls	Total
1	40	46	86
2	38	42	80
3	42	41	83
4	35	32	67
5	41	38	79
6	38	36	74
7	35	38	73
8	28	29	57
Total	**297**	**292**	**589**

The student enrollment record as shown in table 1 is an important indicator for the survival of a school. It is important in establishing, projecting, and allocating the human, material, infrastructural and related financial demands of the school.

Table 2: KCPE Exams Enrollment

Year	Boys	Girls	Total	Mean score
2015	28	30	58	305.89
2014	31	27	58	301.07
2013	27	22	49	292.50
2012	29	32	61	281.00
2011	24	22	46	278.02

The information tabulated in table 2 is an important tool in tracking the academic progressive record of Kitinga primary school over the years. This is vital in comparing the school's performance with other schools in the county and ascertains areas of improvement by offering remedial solutions for visibility. It is evident from the information posted above that the school's performance is steadily improving over the years.

Table 3: Teaching Staff Professional Qualifications

P1	ATS IV	ATSIII	ATS I	Grad Teacher II	Graduate Teacher 1	Total
4	1	1	2	4	2	14

The data provided in table 3 indicates the categories of academic members of staff and their professional qualifications. It is evident that the teachers in this school are of high professional calibre where the majority are either graduates or have attained the Approved Teacher Status (ATS). This has led to the posting of improved progressive results in the KCPE examination over the past five years.

Table 4: Teaching Staff Academic Qualifications

KCSE	DIPLOMA	Degree	Masters	Total
6	2	5	1	14

The table above shows that academic members of staff have been able to improve on their academic training by furthering their studies. In fact, six of them have attained university education.

Table 5: Board of Management Members' Qualifications

KCSE	DIPLOMA	Degree	Masters	Total
8	2	3	1	14

The diversity in academic training of the Board of Management is indicated in table 5 above. This is a clear indication that the school has focused Board of Management (BOM) members who are of sound academic level worth being emulated.

Table 6: Pupil Administration

President	Deputy President	Cabinet secretaries
		Education
		Energy and petroleum
		Environment and natural resources
		Health
		Sports, culture and Arts
		Water and irrigation

In line with the local administration, Kitinga primary school has a well established system of pupil administration structure as exemplified in table 6. These pupil administrative leaders work closely with the school's administration to address various issues affecting their fellow pupils in school.

4.1. Management information system and decision making

In Kenya, we cannot ignore the contribution of information technology in educational institutions. The government has invested a lot of resources in constructing computer laboratories in schools, connecting electricity to most schools, supplying them with computers and training personnel to oversee the success of the programme. This is the reason why computers are a significant component not only in teaching and learning, but also in keeping records in schools. In this regard, the government should provide capacity building that is relevant to Information Technology by training primary school teachers (MoE, 2005). In all organizations, managers require the right data and information to enable them derive appropriate decisions so as to enhance their performance.

This is no exception to Kitinga Primary school. Quality education is assessed by focusing on pupils' success in examinations, extra curriculum activities, instilling pupil discipline, bench marking with other schools, reporting to higher authorities, communicating with parents and other stake holders, solving problems related to groups and individuals, assisting pupils who are needy, guiding and counseling and making projections (UNESCO, 2010). After presenting the above information, the head teacher is capable of making decisions thus enhancing the performance of the school.

5.1. Summary

The Education Management Information System in Kenya is an important procedure in capturing, processing, storing, retrieving, updating and deriving up to date information that is essential in managing the daily functions of schools. This facilitates follow up activities on routine based matters which are vital in effective school planning and improvement.

In fact, some of these matters are related to allocation of equitable resources, distribution of teaching load to teachers, scheduling a teaching time table and evaluating the daily activities which are vital in monitoring the operations that take place in the school. This turn around effect has enhanced effectiveness and significantly improved performance in the schools (Condie et al., 2007, Visscher &Wild, 1997; Pegler, 1992).

In this study, it is evident that, before the introduction of information technology, the head teacher at Kitinga primary school used to spend so much time in dealing with complex issues related to the efficiency of school programmes. Relevant data which is vital in school management was initially kept poorly because there was no guideline on how it needs to be done. But now, the head teacher's work load is much lighter. It is easier to track and monitor each component of the school data while emphasizing on good time management because, most of the information that has been presented in tables in this article is available in hard copy and is secured in lockable cabinets at the School. The soft copies are well saved in the Head Teacher's personal laptop and backed up in flash disks and a portable hard disk.

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