

Importance of Management Information System in service Delivery and Paper Work in Nigeria University

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Abstract: *The study was on management information system, the study aimed to examine how management of information system has assisted in service delivery in Nigeria universities; examine how management information system has assisted in reducing paper work in the universities. The study had a population's size of 1,928, out of which a sample size of 332 were utilized using Freund and William's formula. Instrument used for data collection was primarily and secondary questionnaire. 275 staff returned the questionnaire and correctly filled. The survey method was adopted for the study. Three hypotheses were formulated and chi-square (χ^2) was used for the test with the aid Chi-square (χ^2) statistical tool for hypotheses one and three and Z-test for hypothesis two the aid of Special Package of Statistical Software (SPSS). The result was revealed that management information system has assisted in service delivery to a high extent hence, $\chi_c^2(95, n = 150) = 0.889, p < 0.5$; management information system has assisted in reducing paper work to a large extent, hence, $\chi_c^2(95, n = 150) = 36.042, p < 0.5$. The study concludes that poor management information system has been identified as a bottleneck in the successful management of universities in Nigeria. The study recommends that proper orientation should be given to managers at all levels as well as in-service training for secretaries to ensure proper and adequate use of MIS facilities in generating and disseminating information for better decisions in the universities.*

Keywords: *Management Information System, Investment, Organization*

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I. Introduction

1.1 Background of the Study

The problem of management information system as an important tool to achieving organizational objectives is challenging to managers of any organization especially the modern day institutions. No organization can realized its goals and objective without a conscious effort using a well organized management information system. All businesses share one common asset, regardless of the type of business. It does not matter if they manufacture goods or provide services. It is a vital part of any business entity, whether a sole proprietorship or a multinational corporation. That n asset is information. Information enables us to determine the need to create new products and serv. Information tells us to move into new markets or to withdraw from other markets (Encyclopedia of Management).

The essence of study is to show the relevance of management information system to management and to ascertain whether it has helped in facilitating decision making or management and to determine the extent to which it has enabled planning, control and operational function of an organization (Agu, 2001). The information system stores documents and revision histories, communication records and operational data. The trick to exploiting this recording capability is organizing the data and using the system to process and present it as useful historical information. Manager can use such information to prepare cost estimates and forecasts and to analyze how manager actions affected the key company indicators (Markgraf, 2017).

1.2 Statement of the Problem

Information is a generic term, because it has been described as the livewire of any enterprise (public, private, local firm, Multinational company, manufacturing, merchandise, and franchise business, retailing stores, multiple chain stores or service oriented organization). It provides the relevant concept and intelligence to enable the right thing to be done at the right time. In spite of the fact that management information system supplies decision makers with facts, likewise, it supports and enhances the overall decision making process. MIS also enhance job performance throughout an institution. At the most senior level it provides the data and information to help the board and management to make strategic decisions (top management decisions or long lasting decisions) and at other levels of management MIS provides the means through which the enterprise

activities are executed, monitored, controlled and information are distributed to management, supervisors, employees and customers.

1.3 Objective of the Study

The main objectives of this study are to critically examine the impact of Management Information System on the universities. The objective of the study includes to:

- i. Examine how management of information system has assisted in service delivery in Nigeria universities
- ii. Examine how management information system has assisted in reducing paper work in Nigeria universities.

1.4 Research Questions

In order to get a clear picture and focus for this study we can pose serious questions necessary for the solution of the problems we have identified in solution

- i. To what extent is management of information system has assisted in service delivery in Nigeria universities?
- ii. To what extent is management information system has assisted in reducing paper work in Nigeria universities?

1.5 Research Hypotheses

- i. Management information system has assisted in service delivery to a high extent hence
- ii. Management information system has assisted in reducing paper work to a large extent

1.6 Significance of the Study

The following will benefit from this study, the management of universities and other profit and non-profit organization in terms of accurate and pertinent information which will be needed to make better decision in every organization.

1. To knowledge and broaden the understanding of management information system to academician, it opens up areas where further research work need to be done.
2. To employees the benefit of this study is to show the most appropriate management information system that will enable them carryout their duties in the organization.
3. Finally, to the government the benefit of this study is to facilitate decision making to help government to determine the extent to which it will enable the planning control and operational functions of the government to attain the standard of efficiency required from them.

II. Review of Related Literature

Concept of Framework

Concept of Management Information System

A management information system (MIS) is a computerized database of financial information organized and programmed in such a way that it produces regular reports on operations for every level of management in a company (Suchi, 2017). The system of Management Information System shows that communication is needed to carry out the managerial functions and for linking the organizations with its external environment. Management Information System provides communication link that makes the activities and responsibilities surrounding management or managers possible, Burns, (2011). The focus in Management Information System coupled with improved processing as led to the reduction in bottlenecks attached to management process. Managers have re-organized for years so that traditional accounting information aimed at the calculation of profit have been of limited value for control. Yet in many companies, this has been virtually the only regular collected and analyzed type of data. Managers need all kinds of non accounting information about the external environment such as social, economic, political, and technical development. In addition, managers need non accounting information on internal operations. The information should be quantitative.

Management information system use formalized procedures to provide management at all levels in all functions with appropriate information based on the data from both internal and external sources to enable them to make timely and effective decision for planning, directing and controlling the activities for which they are responsible. An effective management information system typically employs computer and other sophisticated technology to process information that reflects the day to day operations of the company. Based on the above, management information system is an integrated manual computer system that provides information to support the operations of managements and the decisions making functions of a company. Management information system is also a collection of people, procedures and devices organized to convert data from internal and external sources into information and communicate such information in an appropriate form to management at all levels Kenneth and Jane Laudon (2003) Dos Santos (1991).

Concept of Investment

An investment is an asset or item that is purchased with the hope that it will generate income or will appreciate in the future. In an economic sense, an investment is the purchase of goods that are not consumed today but are used in the future to create wealth. In finance, an investment is a monetary asset purchased with the idea that the asset will provide income in the future or will be sold at a higher price for a profit. Investment can be used to refer to any mechanism used for the purpose of generating future income. In the financial sense, this includes the purchase of bonds, stocks or real estate property. Additionally, the constructed building or other facility used to produce goods can be seen as an investment. The production of goods required to produce other goods may also be seen as investing (Investopedia).

Concept of Organization

Human beings cannot live in isolation. They are unable to fulfill their needs and desires alone, because any one individual lacks the strength, ability, time and potential. In simple words, organisation is viewed as a group of persons formed to seek certain goals. Organisation is not a new and modern invention or phenomenon (Diksha, 2017). Organisations are defined as collectivities that have been established for the pursuit of relatively specific objectives on a more or less continuous basis. Organisations have more or less fixed boundaries, a normative order, authority rank, a communication system and an incentive system which enables various types of participants to work together in the pursuit of common goals. Organisation is the process so combining the work which individuals or groups have to perform with the facilities necessary for its execution, that the duties so performed provide the best channels for the efficient, systematic, positive and coordinated application of the available effort (Diksha, 2017).

III. Theoretical Framework

Theory of Information System (Concise description of theory)

The theory of evolution as presented by Darwin (1859) holds that variability exists in the inheritable traits possessed by individual organisms of a species. When this variability results in differences in the ability of each organism to reproduce in their environment, those traits that improve reproductive ability will become dominant in the species. Species are thus evolving, under environmental pressure, such that their ability to reproduce is improved rather than evolving toward to some pre-established endpoint. Framed in this manner, evolution serves to explain change at the level of the species and not at the level of the individual. Since the work of Darwin (1859), evolutionary theory has been applied to a broad range of situations involving change processes. For instance, the field of computer science has seen the introduction of evolutionary algorithms such as genetic algorithms.

Extensions and adjustments have also been introduced, with punctuated equilibrium (Eldredge and Gould, 1972) being one of the most prominent. Within organizational theory, Nelson and Winter (1982) have presented selection as operating at the level of the firm with some firms surviving the competitive environment while others perish.

Ein-Dor and Segev (1993) make the distinction between evolutionary and evolutionist theories. Evolutionary theories concern themselves with the mechanisms that produce change while evolutionist theories address the direction of change and its final destination. Despite the importance of this distinction, the term evolution is generally applied in both types of discussions.

2.3 Empirical Review

How Management of Information System has Assisted in Service Deliver

Richard (2014) conducted a study on the public sector management information systems, UK. Management information systems (MIS) are fundamental for public sector organisations seeking to support the work of managers. Yet they are often ignored in the rush to focus on 'sexier' applications. This study aims to redress the balance by providing a detailed analysis of public sector MIS. It firstly locates MIS within the broader management monitoring and control systems that they support. Understanding the broader systems and the relationship to public sector inputs, processes, outputs and outcomes is essential to understanding MIS. The paper details the different types of reports that MIS produce, and uses this as the basis for an MIS model and a description of the decision-making benefits that computerised MIS can bring. Finally, the paper describes generic public sector MIS that address internal government transactions, public administration/regulation, and public service delivery. Real-world examples of all types are provided from the US, UK, Africa, and Asia.

Nokuthula (2015) conducted a study on the role of management information systems in measuring organisational performance in the KwaZulu-Natal Department of Arts & Culture. Government departments collect process and use information for planning and reporting to comply with diverse legislation at operational and strategic level. Information systems play an important role in the collection and processing of information,

making it possible to process large quantities of information, and synchronise and share it. Management information systems are used to process information both at strategic and operational level to monitor activities, assess and plan new services, and monitor trends which enable senior managers to effectively manage the strategic direction of an organisation. Management information systems play an important role in measuring organisational performance. The purpose of the study was to describe the role of management information systems (MIS) in measuring organisational performance in the KwaZulu-Natal Department of Arts & Culture. A case study approach was used to investigate the research problem. Managers of the core programmes of the department were included in the study. Face-to-face interviews and self-administered questionnaires were used to collect data. The study concluded that the role of MIS in measuring organisational performance was limited in the department. The department did not have an integrated PMIS (performance management information system) or adequate capacity to develop and manage such a system. The study recommends that the department should formalise its performance measurement framework and build capacity to fully implement a PMIS. Further studies should include participants who are not in management and should examine the records management systems in greater detail.

How Information System has Assisted in Reducing Paper Work

Yusuf, Isyaka and Kazeem (2014) conducted a study on the impact of management information system (MIS) on the Performance of Business Organization in Nigeria. The role of Management information system (MIS) in business environment has evolved over time to become an integral part of its business operations in Nigeria. The use of information systems (ISs) has increased in the last 10 years not only by firms, but also by individuals and even governments. The use of ISs was encouraged by the technological breakthroughs; the advancements in telecommunications such as the internet, the globalization that created a global unlimited marketplace, the strong growing for information economy, and the rise of competitive digital firms. All of these factors transformed the ISs from data processing systems to decision support systems and became the foundation of the new business environment. This study looks at various challenges and prospect of MIS in Nigeria. The study was conducted in Federal Capital Territory, Abuja, North-Central Nigeria with the use of questionnaire and interview to collect data that was statistically analyzed using the Z-test. The study also attempts to highlight the impact of management information system in Nigeria Business Organization. It intends to determine how the information system helps an organization to perform effectively. The study recommends that business organization should introduce flexibility in the nature or pattern and structure of MIS, attention should also be paid to communication through the media agencies as a way of promoting company's control of the market as well acquiring appropriate and suitable computer software and program to meet MIS ever growing growth and expansion in the global business market environment.

Yaser, Alina and Nor (2014) conducted a study on the meaning of management information systems and its role in telecommunication companies in Yemen, Malaysia. Management information system one of the most important tools in any organization, which aims to provide reliable, complete, accessible, and understandable information in a timely manner to the users of the system. Management information systems assisted in automating tasks. Automation can save time, money, resources, reduce employee's staff, and enhance organizational workflow. In addition assist in increased organization productivity, effectiveness, increase customer satisfaction, and efficiency of the work. In the telecommunication companies, MIS in general enables to collect, processing and storage of the information; with overall purpose to make that information available on demand in the required format. Telecom Companies can't work without management information systems as the number of participants in these companies more than million subscribers, so it's hard to save their data using the manual method (using files). Synthesizing from the literature and interviews with some of the employees of telecommunications companies in Yemen, this paper attempts to explain the concept of MIS and clarify the role of MIS in telecommunication companies in Yemen.

Summary of Literature Review

IV. Methodology

The study used a survey to evaluate the impact of management information system on the performance of universities in Nigeria. The survey approach was adopted because the respondents were spread all over the Institutions that make up the study organization; hence, the researcher was interested in obtaining their views through the use of questionnaire and personal interviews. The area of study includes Enugu State University of Science and Technology (ESUT), University of Nigeria, Nsukka (UNN) and Institute of management and technology (IMT) Enugu. The idea of choosing the institutions was growing number of staff in the institutions. Two sources of data were utilized in the study. They included primary and secondary sources. The primary sources were personal interview and the administration of questionnaire. Out of a population of 1928 staff, 332 staff was sampled. The sample size of 332 was chosen after applying the Freund and William's formula for the determination of adequate sample size. 275 staff returned the questionnaire and accurately filled. That gave 83

percent response rate. The closed-ended questionnaire was utilized. The validity of the instrument was tested using content analysis and the result was good. The reliability was tested using the Pearson correlation coefficient (r). It gave a reliability co-efficient of 0.92 which was also good. The data were analyzed using Pearson product of moment correlation for hypothesis one, Chi-square (χ^2) for hypothesis, Z-test for hypothesis three with aid of Special package of statistical Software (SPSS).

4. Data Presentation and Analysis

Table 4.1 Distribution and Return of the Questionnaire

Firms	Number Distributed	Number Returned	Percentage	Number not Returned	Percentage
ESUT	93	73	21	20	6
UNN	207	172	53	35	11
IMT	32	30	9	2	0
Total	332	275	83	57	17

Source: Field Survey 2017.

Table 4.1 shows that 332 questionnaires representing 83 percent of the questionnaire were returned, while 57 representing 17 percent were not returned. The table presents analyses and interprets the data collected for the study. Frequency table and percentages were used for data analysis. A total of three hundred and thirty two (332) copies of questionnaires were prepared and distributed to the respondents from the three selected Institutions, a total of 275 were duly completed and returned.

Table 4.1.1 Response on whether diverse workforce planning has effect on employees job satisfaction in the Universities

	ESUT	UNN	IMT	Total	Percent
Strongly Agree	32	57	11	100	36
Agree	18	100	14	133	48
Neutral	4	-	1	5	2
Disagree	13	8	2	22	8
Strongly Disagree	5	7	3	15	6
Total	72	172	31	275	100

Source: Field Survey 2017.

From table 4.1.1 above, 100 respondents out of 275 representing (36 percent) strongly agree, 133 respondents (48 percent) agree, that diverse workforce planning has effect on employee job satisfaction in the Universities. 5 respondents (2 percent) were neutral, 22 respondents (8 percent) disagree, while 15 respondents (6 percent) strongly disagree that diverse workforce planning has effect on employees job satisfaction in the Universities.

Table 4.1.2 Response on whether career development plan for diverse workforce employees increases the productivity in the universities

	ESUT	UNN	IMT	Total	Percent
Strongly Agree	39	90	14	143	53
Agree	25	47	11	83	30

Neutral	2	5	2	9	4
Disagree	2	17	3	23	7
Strongly Disagree	4	13	1	17	6
Total	72	172	31	275	100

Source: Field Survey 2017.

From table 4.1.2 above, 143 respondents out of 275 representing (53 percent) strongly agree, 83 respondents (30 percent) agree, that career development plan for diverse workforce employees increases the productivity in the universities. 9 respondents (4 percent) were neutral, 23 respondents (7 percent) disagree, while 17 respondents (6 percent) strongly disagree that career development plan for diverse workforce employees increases the productivity in the universities.

4.2 Test of Hypotheses

This study has three (3) Hypotheses which were tested with the Microsoft assisted package SPSS. As earlier stated, Pearson correlation coefficient was used to test hypothesis one (1), Chi-square χ^2 was used to test hypothesis two, while Z-test was the statistical tool used to test hypotheses three (3). The computed hypotheses were presented as follows:

Table 4.2.1 Hypothesis One: Management information system has assisted in service delivery to a high extent

	Mean	Std. Deviation	N
Management of information system	1.98818	1.26276	275
Service industry	2.3818	1.29979	275

Source: Field Survey 2017.

Table 4.2.1 Hypothesis One: Management information system has assisted in service delivery to a high extent

		Management of information system	Service industry
Management of information system	Pearson correlation sig. (2-tailed) N	1 275	.889** .000 275
Service industry	Pearson Correlation sig. (2-tailed)N	.889** .000 275	1 275

** Correlation is significant at the 0.05 level (2-tailed)

Decision Rule

If the calculated correlation coefficient (r) is greater than the critical correlation coefficient (i.e. $r_{cal} > r_{critical}$), there is a significant correlation hence the null hypothesis is rejected and the alternative hypothesis accepted accordingly.

Decision

From the result displayed in the correlation table above the Pearson product moment correlation coefficient is 0.889. This result is greater than the critical correlation coefficient of 0.88 (i.e. $r_{cal} = 0.889 > r_{critical} = 0.88$). Hence, this result indicates that management information system has assisted in service delivery.

Hypothesis Two: Management information system has assisted in reducing paper work

Table 4.2.2 Hypothesis Two: Management information system has assisted in reducing paper work

		paper work					
		ESUT	UNN	IMT	Total		
Management information system has assisted in reducing paper work	Strongly	Count	68	17	48	133	
	Agree	Expected	Count	59.50	20.4	53.10	133.0
	Agree	Count	45	23	35	83	
		Expected	Count	37.20	17.2	28.70	83.0
	Neutral	Count	2	1	6	9	
		Expected	Count	4.00	1.2	3.80	9.0
	Disagree	Count	23	8	8	31	
		Expected	Count	23.90	8.3	6.80	31.0
	Strongly	Count	12	2	5	19	
	Disagree	Expected	Count	8.50	4.1	6.40	19.0
		Count					
	Total		123	51	51	275	
			123.00	51.00	51.00	275.0	

Table 4.2.2 Chi-Square Tests

	Value	Df	Asymp Sig. (2-sided)
Pearson Chi-Square	36.042 ^a	8	.000
Likelihood Ratio	34.036	8	.000
Linear-by-Linear Association	.287	1	.592
N of Valid Cases	275		

Decision Rule

If the calculated chi-square is greater than the critical chi-square (i.e. $\chi^2_{cal} > \chi^2_{critical}$) – reject the null hypothesis and accept the alternative hypothesis accordingly.

V. Result

Table 4.2.2 shows the chi-square test statistics computed from the frequency distribution that the chi-square computed value $\chi^2_c = 36.042$ is greater than chi-square table value $\chi^2_t = 15.51$ with 8 degrees of freedom at 0.05 level of significance.

VI. Decision

Since the chi-square computed $\chi^2_{\text{cal}} = 36.042$ is greater than critical $\chi^2_{\text{critical}} = 15.51$ the null hypothesis should be rejected. Therefore, we conclude that management information system has assisted in reducing paper work.

4.3 Discussion of Findings

4.3.1 How Management Information System has Assisted in Service Delivery

In the hypothesis one, management information system has assisted in service delivery to a high extent hence, $\chi^2_c(95, n = 150) = 0.889, p < 0.5$. Moreover, it is impossible to plan activities over a long period of time effectively without effective information. Information is supposed to be created through the discipline of enquiry and research with peer moderation to ensure validity and societal influence. Therefore, the information needed for effective decision-making in universities cannot be provided from people's often-deficient memories Ajayi and Omirin, 2007).

4.3.2 How Management Information System has Assisted in Reducing Paper Work

In the analysis of the findings of the study, it was stated that, how management information system has assisted in reducing paper work to a large extent, hence, $\chi^2_c(95, n = 150) = 36.042, p < 0.5$. However, Management information system has changed the physical layout of offices to accommodate local networks and departmental integrated systems Yusuf, Isyaka and Aina (2014)

VII. Conclusion

Based on the findings of this study, management information system is useful in the area of decision making as it can monitor by itself disturbances in a system, determine a course of action and take action to get the system in control. Poor management information system has been identified as a bottleneck in the successful management of universities in Nigeria. In a university organization where information cannot be stored or retrieved as at when needed, it becomes difficult or impossible to take accurate and timely decisions on long and short term planning such as: expenditure estimates, revenue estimate, cost of each programme of the universities and the like. Ineffective use of MIS in decision making by some of the universities usually result in failure of academic programmes, ineffective budgeting, wastage of resources, inaccurate projection of students' enrolment and manpower needs, poor motivation of staff, poor resource allocation among others.

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 organizations. Therefore, managerial objectives are absent or unclear, probably due to inadequate information, there is no basis for a search. Without information obtained through a search, there are no alternatives to compare, and without a comparison of alternatives the choice of a particular course of action is unlikely to yield the desired result.

5.3 Recommendations

In the light of findings enumerated above, the following recommendations were made towards using the management information system to achieve the objectives of human resources development in Nigerian universities.

1. It is therefore recommended that the MIS units should be adequately financed and maintained to ensure free flow of information and adequate use of MIS in decision making on long-term and short-term planning as well as budgeting.
2. Proper orientation should be given to managers at all levels as well as in-service training for secretaries to ensure proper and adequate use of MIS facilities in generating and disseminating information for better decisions in the universities.

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