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## **EFFECTS OF INTEGRATED FINANCIAL MANAGEMENT INFORMATION SYSTEM ON PERFORMANCE OF PUBLIC SECTOR IN NIGERIA**

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### **Abstract:**

*The purpose of this study is to analyse the effectiveness of Integrated Financial Management Information System (IFMIS) on performance of public sector in Nigeria. Public finance management has come under immense scrutiny by donor community as well as general public in a call for enhanced accountability of the government expenditures for an improved public service delivery. To analyse the effectiveness of identified factors on the use of the system, descriptive and inferential statistics were used. The sample size was drawn from the sections of finance department that includes, budgeting, procurement and internal audits, and at public works department where the financial systems are applied. The study revealed that there was a positive relationship between the effectiveness of IFMIS on public financial management and the independent variables; financial reporting, budgeting, internal controls and projects as was revealed in the regression analysis. The study concluded that there was a relationship between IFMIS in public finance and financial reporting, budgeting, internal control and government projects as 72.4% of the effectiveness of IFMIS was accounted for by the study independent variables. The relationship gave 95% confidence level of effectiveness. The study recommended that the IFMIS be enhanced and improved at system development level so that it gives real figure and factor in more functions of operation linked to financial service for better service delivery.*

**Keywords:** *Integrated Financial Management Information System; Performance.*

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### **1. Introduction**

Over the past decade developing countries have increasingly embarked on computerizing their government operations particularly with respect to Public Sector. This follows a growing interest in the quality of public sector financial management in developing countries by the donor community. In contrast, during the cold war, aid was generous, but often doled out to political allies with few questions (Allan & Hashim, 2006). In the early years after the fall of the Berlin Wall in 1989, interest in the state affairs was limited, but following the World Bank's report, the

role of the state became increasingly prominent in development efforts, and particularly in the drive against poverty (World Bank, 2008). The new agenda recognized that, while there may be too much intrusion in the state economy, there may be also too little government capacity to make policy, perform basic administrative functions, work with private partners, and ensure the provision of infrastructure and public services (Hopelain, 2004). In 2003, the UK's Department for International Development (DFID) issued its guide on public expenditure management which noted that, in recent years, there has been a dramatic surge of interest in public expenditure issues amongst governments, development agencies and the wider public. This shift was seen in the eyes of World Bank to offer Africa a chance to leapfrog intermediate stages of development (DFID, 2003). As a result, consultants and other advisors of governments in Africa started toying with idea of the introduction of modern information technology, the Integrated Financial Management Information Systems -IFMIS (World Bank, 2004).

The government of Nigeria has for a long time been very much concerned over the persistent poor performance in financial management due to lack of reliable and timely information for decision making. A review by the office of accountant general at treasury, financial management, accounting systems and role of audits revealed weaknesses in the management of financial information. The review focused on the need to develop a strategic plan aimed at improving the financial management systems; skills and capacity within the government financial operations units. It also reviewed how timeliness of financial information, if improved, could form the basis for improving control of expenditure against budget (Kinyua, 2003). The government of Kenya took an initiative to address the shortcomings of the financial reporting system and to ensure good governance. The International Monetary Fund (IMF) carried out a survey in government accounting in early 1993 followed by a diagnostic study sponsored by the World Bank; this led to introduction of IFMIS. The main objective of this project was to computerize the whole accounting and auditing system in the country. The idea behind computerizing the whole system was generation of accurate and reliable financial statements; to monitor fiscal deficit; to forecast flow of cash; to manage public debt and to achieve effective financial controls (Kinyua, 2003). The old accounting system lacked timeliness, accuracy and most importantly transparency. Accounts of any organization, large or small, are the most important tool for curbing the corruption by keeping an eye on cash flows and more importantly to give the overall inner picture of the organization to the stakeholders which helps them take informed decisions (Kearney, 2004).

While talking about the country as an organization the importance of the accounts becomes much more vital. So the importance of these accounts increases in manifolds. The old manual system was like a haunting monster even to a common government employee where employees were going to the accounts office for a number of services like salary issues, provident fund and pension deductions and take long time to have any of the issues processed. Experience gained showed that, in the old system a common man had a series of unlimited problems and hurdles to face in order to get his financial claims accomplished on time. But, unfortunately, till the recent past the government did not pay proper attention to overcome these problems due to the status of the economy of the country. On the other hand common man faces enormous difficulties and lacking in transparency in benefiting from public financial management. After the introduction of IFMIS this ultimate goal was achieved almost immediately. The main objectives of this project was to achieve timely, accurate and complete accounts with transparency and most

importantly to facilitate the common government, employee regarding their financial status. But to date, there is a lot more to be done to achieve this goal and maintain it effectively.

## **2. Integrated Financial Management Information System**

An IFMIS is a fiscal tool for government that bundles all financial management functions into one suite of applications. It is an Information Technology (IT) based budgeting and accounting system designed to assist the government entities on how to plan budget requests, spend their budgets, manage and report on their financial activities, and deliver services to the public more efficiently, effectively and economically. IFMIS operates on a common structure and platform that will enable improved compatibility and consistency of fiscal and financial information, reduces governments overall investment in the development of expensive accounting systems in each government entity. One of the basic features of the IFMIS is the ability to interface with a number of existing and planned automated systems such as the Integrated Personnel Payroll Data (IPPD) and Government Payments Solution (G-pay). IFMIS software to Kenya government was contracted to oracle financials in 2003. Effectiveness and improved outcomes are important goals for any IFMIS acquisition. The objective of implementing an IFMIS system is to increase the effectiveness and efficiency of state financial management and facilitate the adoption of modern public expenditure management practices in keeping with International Public Statement of Accounting Standard IPSAS.

Information technology management is a combination of two branches of study; information technology and management. There are two incarnations to this definition. One implies the management of a collection of systems, infrastructure and information that resides on them. Another implies the management of information technologies as a business function. Information technology is the acquisition, processing, storage and dissemination of vocal pictorial, textual and numeric information by a microelectronics based combination of computing and telecommunications, effective use of information technology contributes to high level of effectiveness in execution of various organization functions (Michale, 2001). Information management system is therefore the combination of information, communication and system components with management approach to ensure effective information processing retrieval and communication in a systematic manner The integration of the information processing and management in a system is perceived as a useful technique of processing and maintaining data, controlling and communicating useful information in the manner that is needed (Goll, 2003).

## **3. Statement of the Problem**

According to Kinyua (2003), the government had consistently experienced misappropriation of funds and lacks appropriate control mechanisms in PFM of funds which leads to poor service delivery and overspending. Despite existence of manual based control systems, lack of accountability in government expenditure has been a concern to the general public and international institutions such as World Bank and IMF (Kinyua, 2003). This calls for enhanced PFM and accountability. In the year 2005, IFMIS was introduced to cushion the government against loss of revenue against unauthorized expenditure. There is a broad agreement that freely functioning IFMIS can improve accountability by providing real time information that financial and other managers can use to administer programs effectively, formulate budget and manage

resources. It was on this background that the study aimed at assessing the effectiveness of IFMIS on public sector in Nigeria.

#### **4. Objectives of the Study**

The general objective of the study was to analyse the effectiveness of IFMIS on performance of public sector in Nigeria. The specific study objectives are

- 1) To analyse effectiveness of IFMIS on performance in public finance.
- 2) To verify effects of IFMIS on budgeting of public finance.
- 3) To assess how IFMIS has affected internal controls in public finance.
- 4) To establish how IFMIS has affected performance of government projects in public finance.

#### **5. Theoretical Framework**

##### **5.1. Communication Theory**

Bill (2001) said that communication theory provides a numerical measure of the uncertainty of an outcome. For example, we can say that "the signal contains thousands of bits of information". Communication theory tends to use the concept of information entropy, generally attributed Information Communication Technology (ICT) which is a general term that describes any technology that helps to produce, manipulate, communicate or disseminate information. ICT merges computing with high-speed communications links carrying data, sound and video. ICT can also be defined as an automatic acquisition, storage, manipulation, movement, control, display, switching interchange, transmission or reception of data or information. The two important major components of ICT are computers and telecommunications (Michale, 2001).

##### **5.2. System Theory**

According to Kang'ethe (2002), a system is a group of related and interacting components, which work together to achieve a desired purpose or set of objectives. The writer further observes the need to have control elements to ensure that the process gives the desired level of out-put and avoid or reduce wastage. Emerging Information and Communication Technology (ICT) can play an important role in fighting corruption in public finance systems by promoting greater comprehensiveness and transparency of information across government institutions. As a result, the introduction of IFMIS has been promoted as a core component of public financial reforms in many developing countries. Yet, experience shows that IFMIS projects tend to stall in developing countries, as they face major institutional, political, technical and operational challenges. Case studies of more successful countries indicate that factors supporting successful implementation include clear commitment of the relevant authorities to financial reform objectives, ICT readiness, sound project design, a phased approach to implementation, project management capability, as well as adequate resources and human resource capacity allocated to the project (Chena, 2009).

### **5.3. Empirical Review**

According to USAID (2008) report, integrated financial management information system IFMIS is an information system that tracks financial events and summarizes financial information. Generally it refers to the use of information and communication technology ICT in financial operations to support management and budget decisions, fiduciary responsibilities and the preparations of financial reports and statements. In the government realm, IFMIS refers more specifically to the computerizations of PFM process from budget preparation and execution to accounting and reporting with the help of an integrated system for financial management of line ministries, spending agencies and other public sector operations.

Barry (2001) says that the level of complexity of IFMIS is much higher than other ICT-based government reforms due to inherent complication of public financial management system. It involves not only ministry of finance but also all line ministries and other multiple spending units. However, integrated public financial management system is quite a challenging task and requires multiple conditions to be satisfied for successful implementations of long term sustainability. Even though ICT automates the tasks involved in performing business processes such as purchase requisitions, quotations, quotations analysis, and preparation of local purchase orders, deliveries and goods receipts. With IFMIS programs changes the way government information is captured, summarized and communicated and the benefits of these advances should not be underestimated. The introduction of IFMIS system should not just be seen as a technology fix, since simply automating tasks that did not need to be carried out in the first place rather IFMIS implementation should be seen as a public financial reform that affects how things are done across government ministries and parastatals (Jack & Khemani, 2005).

### **6. Integrated Financial Management Information System (IFMIS) and the Public Financial Management (PFM)**

There are three major reasons why governments undertake IFMIS program mainly in the implementation process to integrate financial data since finance has its own set of revenue numbers. Procurement has another version and other different business units may each have their own versions of how much they contributed to revenue. An IFMIS creates a single version of the truth that cannot be challenged because everybody is using the same system. To standardize the government financial accounting and budgeting process, computerized system for treasury management together with policy framework and institutional reforms must be implemented to the letter (Allan & Hashim, 2001).

The IMF and the World Bank have been involved extensively in advising governments in developing policy and institutional budgeting and accounting set up and function in accordance with international practices. With the rapid infusion of Information Technology in Nigeria, organizations are now realizing the critical role that ICT pay in business financial management in all sectors. IFMIS are also implemented and used successfully almost all the time in the commercial world. The design and functionalizing government IFMIS is critically different from that of private enterprise systems because governments are not driven by profits but rather by measures of accountability, ensure compliance with budget laws, other public finance rules and regulations and an entirely different set of accounting rules and reporting requirements. They

must be designed to support a multitude of distinctly public sector-oriented functions and organizational arrangement (Soh, 2007).

## 7. Research Methodology

The study applied descriptive research design to describe the effectiveness of IFMIS on performance of public sector relating to various independent variables, identified as; financial reporting, budgeting, internal controls and government projects. Each variable was analysed in relation to the effect it has on public financial management system. This restricted and guided the researcher in remaining focused on to the specific objectives of the study. The secondary data was subjected to a regression equation model to test the relationship between the dependent variable, IFMIS Performance and the independent variables of financial reporting, budgeting, and internal control and government projects.

## 8. Regression Analysis

This section presents regression analysis used to establish the relationship between the dependent variable, change in IFMIS performance and independent variables which were financial reporting, budgeting, internal controls and government projects. In order to understand the relationship the following regression model was developed.

$$\hat{Y} = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + \varepsilon ;$$

Where;

$\hat{Y}$  = change in IFMIS performance, a = Public finance,  $X_1$ =Financial reporting

$X_2$ = Budgeting,  $X_3$ = Internal control,  $X_4$ = Government projects

$b_{1,2,3,4}$ = Slopes associated with  $X_1$ ,  $X_2$ ,  $X_3$  and  $X_4$  respectively

$\varepsilon$  = standard error

From analysis results, the coefficient of determination,  $R^2$  explains the amount of variation in the effectiveness of IFMIS in public finance management on financial reporting, budgeting, internal controls and projects implemented, the closer the value to 1, the better the model. From the above model there was a positive relationship between the dependent and independent variable, i.e. the adjusted  $R^2$  was 0.724 (72.4 percent). This means that 72.4 percent of change in effectiveness of IFMIS was accounted for by independent variables i.e., financial reporting, budgeting, internal control and reporting at 95 percent confidence level. Independent coefficients for  $X_1$ ,  $X_2$ ,  $X_3$  and  $X_4$  are 0.6332, 0.6092, 0.431, and 0.404 respectively.

## 9. Research Results

The study had sought to analyse effectiveness of IFMIS on public finance in Nigeria through financial reporting, budgeting, internal control, and completed government projects.

**Regression Analysis Model**

| Variable | Coefficient | Std Error | t-statistic | Prob.  |
|----------|-------------|-----------|-------------|--------|
| a.       | 520 .0552   | 11.064    |             | 0.0000 |
| X1       | .6332       | 0.79917   | 7.638       | 0.0000 |
| X2       | .6092       | 0.68621   | 5.121       | 0.0000 |
| X3       | .431        | 0.81210   | 4.652       | 0.0000 |
| X4       | .404        | 0.74146   | 2.543       | 0.0001 |

R-squared 0.878 Mean dependent variable 171.000

Adjusted R2 0.724 S.D. dependent variable 16.232

S.E. regression 4.311 F-Statistic 69.046

Log likelihood 1204.1 Probability 0.0011

Durbin Watson stat 70.224

The study regression model is therefore presented as:

$$Y (72.4\%) = 0.520 + 0.6332 X1 + 0.6092 X2 + 0.431 X3 + 0.404 X4$$

From the above regression model, holding all independent variables constant the effectiveness of IFMIS on performance of public sector would be 0.520. However as a results of interaction of variables in the IFMIS its established that, a unit increase in financial reporting through IFMIS caused an increase on performance of public sector by a factor of 0.6332, a unit increase in budgeting would cause an increase on performance of public sector by a factor of 0.6092, also a unit increase in internal control would cause an increase on performance by a factor of 0.431, finally unit increase in projects would cause an increase performance by a factor of 0.404. The study established there was strong relationship between the IFMIS and financial reporting (0.6332).

From the findings, IFMIS was found to be effective on performance of public sector, in both quantitative analysis and in regression analysis. This agrees with IMF (2006) findings on use of IFMIS in public finance management. The study found that financial reporting had improved due to use of IFMIS. This also agree with USAID(2008) that reporting systems have been improved by use of a single reliable platform of financial reporting since IFMIS tracks financial events and summarize reports effectively.

The study findings show that there was timely preparation of budgets using IFMIS. This echoes IMF recommendations for use of a comprehensive budget management system for prompt service delivery. As was noted by Bill (2001), although automated systems facilitates many controls during transaction process, the study found that internal controls faced a number of challenges as the system was not water tight in controlling all the financial processes. Heidenhoff (2002) had noted that the difficulties faced by governments in completing projects were related to lack of effective public financial management systems. The study found that through application of IFMIS especially on budgeting, and in reporting, a number of projects initiated through the system have been successfully completed and on time.

## 10. Conclusions

The following conclusion can be drawn that a relationship existed between IFMIS and public finance in financial reporting, budgeting, internal control and government projects. This shows that IFMIS had influenced public finance management in Nigeria. Financial reporting in Osun State was greatly influenced by IFMIS. Budget was adequately managed by IFMIS in public finance in the State. Internal controls although faced with challenges had improved on use of IFMIS.

## 11. Recommendations

The following recommendations deduced from the findings. Since only 72.4 percent of the entire IFMIS is explained by the four variables; financial reporting, budgeting, internal controls and projects, 27.6 percent is not explained and therefore this study recommends that the IFMIS be enhanced and improved at system development level so that it gives real figure and factor in more functions of operation linked to financial service for better service delivery. Osun State Government should consider prioritization on improvement of internal controls on the IFMIS as the module controls all other modules of the system.

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