



# LOCAL GOVERNMENT PAYROLL MANAGEMENT INFORMATION SYSTEM MODEL: A CASE OF MAYUGE DISTRICT

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**Abstract:** Globally employers are struggling to maintain effective and efficient payroll and protect employee data, their organisations against fraud through the use of information communication technology (ICT). The aim of the research was to identify the key elements of an effective integrated personnel and payroll system (IPPS) that would aid in the development of improved model for payroll management in the local government and specifically Mayuge district. This research employed design science approach in the methodology which was deemed appropriate since the end result was to develop an artifact or a model. The findings brought out several elements amongst which include payroll, time and attendance management, employee data management, recruitment, selection, learning management, training system, performance management, employee self-service and leave management, furthermore the research discovered that the existing system was prone to manipulation at several points and there is need to develop a model to eliminate the anomalies. In conclusion there is need to improve on the IPPS in order to curb on the fraudulent activities within the payroll. Finally all districts across Uganda specifically the Chief Administrative Officers (COAs) must check and monitor their payroll systems and the ministry of local government the findings of this research to reduce financial loss by the government through fraudulent acts.

## I. INTRODUCTION

Employers across the globe are struggling to maintain effective and efficient Payroll to protect the organisation against any form of fraud and this has evolved through so many stages until recently when computerization came in handy to reduce the challenges. An effective and efficient payroll process must ensure that employees are paid accurately and consistently and gives Human Resource department employees the chance to focus on other aspects of their job (Kritika, Shukla, & Nitasha, 2015). This was also emphasized by Bernik (2007), with the concept of payroll Management information System evolved from employee record keeping with computerization beginning in the 1960s into more intricate reporting and decision systems in recent

years. The recent improvements in ICT have a simplified generation of information in real-time, self-service, and interactive work environment (Lai, 2017).

Governments all over the world are the most singular largest employers of labour and at the same time having challenges with their payment management system which does not protect them against irregular payments by those in charge and therefore there is need to improve on the payment system. The nature of government operations requires intensive labour hence the need to ensure employment rates are at desirable levels with a very effective and efficient payroll management system to ensure smooth operations of government business (Kannyiri & Mumuni, 2015).

In 2009 Ugandan government introduced the use of Integrated Personnel Payroll System (IPPS) which was majorly to improve on the information management of employees in government departments and at the same time reduce the mismanagement of government information in this area. Mafabi, (2017) argues that paper-based management of employee records cannot help any organisation to sustain its operation in this 21<sup>st</sup> century hence Information Communication Technology (ICT) have helped organisations to revise and transformed into an automated system to ease the work of the human resource. ICT innovations have enhanced the recruitment processes to bring about efficacy, usefulness, and receptiveness to what the clients need (Emanghe, & Amoramo, 2020).

Even with the introduction of IPPS which was part of the Public Service Reform programmes aimed at strengthening accountability and improved service delivery through automation of Human Resource functions and provision of reliable and timely information for decision making. Kiwawulo, (2022), pointed out ghost workers in the IPPS as reported by the Auditor General, John Muwanga in 2012, and several flaws in the system, the IPPS file lacked integrity checks on the payroll master file which is used for processing monthly payments. Another audit in July, 2013 unearthed 15,021 ghosts on the payroll between July 2013 and August 2014.

Mayuge district, uses IPPS for employee benefit management right from salary payment, retirements benefit management and employee attendance. However, it has been observed that



the system is not effective in eliminating ghost workers and deterring fraud.

## II. PROBLEM STATEMENT

Mayuge District Local governments continues to experience the challenge of ghost workers and fraud instances despite the implementation of the integrated personnel and payroll system (IPPS), scholars have continuously and consistently flaws which include lack of integrity and verification checks on the payroll master file used for processing monthly payments, duplicate employee entries, accounts, and errors in the appointment and dates of birth (Businge, 2011; kiwuwa, 2014; Kiwawulo, 2022; URN, 2021).

## III. OBJECTIVE.

The objective was to identify key elements of an effective personnel and payroll System to enable system developers to develop an integrated personnel payroll system for Local governments,

## IV. LITERATURE REVIEW

1.1. HUMAN RESOURCE MANAGEMENT SYSTEM (HRMS)  
HRMS is a part of the Management Information System, is a group of several systems that contain and provide a lot of information that supports the management of a company (Suharto & Sulisty, 2018). Bamberger et al, (2014), added that an effective HRM system is a hybrid system consisting of both commitment and control HR practices, and has much more significant positive effects on firm's performance. The payment system in any organization or institution is very paramount to its general wellbeing, the local government system, there are two major types of payment expenditures which include capital expenditures and recurrent expenditures. Under recurrent expenditure, we have personnel costs and overhead costs. This study takes a closer look at personnel costs, which refers to staff salaries or wages, payment of staff salaries or wages, for local government staff have to be pay rolled into a system that allows for fairness and accountability (Ogedebe and Babatunde, 2012).  
Integrated personnel and Payroll information System is a software or online solution for the data entry, data tracking, and data information needs of the Human Resources, reporting begins with recruitment and ends with retirement. Therefore integrated personnel and payroll information System facilitates the use of computer technology to streamline HR operations, cut costs and ultimately enhance the effectiveness of human resource management (Tariq, 2020, Afande, 2015).  
According to Farajim & Anichebe, (2019), Integrated Personnel and Payroll Information System (IPPIS), is a world Bank-Assisted project under the Economic Reform and Government Project (ERGP) which was aimed at establishing a reliable and comprehensive database for the public service, facilitate manpower planning, assist in providing information for decision making, eliminate double dipping and credentials

falsification, facilitate easy storage, update and retrieval of personnel record for administrative and pension process, and to facilitate staff remuneration payment.

Micah & Moses, (2018) Stated that Ghost workers and payroll fraud refers to all processes of employee impersonations that have salary cost implication on the concerned government, It includes all illegal, unauthorized, unqualified, fictitious and non-existing staff that makes salary claims from the government coffers which implies that underage, overage, backdated employments, inherited employments, unqualified staff and unauthorized staffs even though they report for work daily, are categorized as part of ghost workers and payroll fraud in the public service. In most instances, these fraudulent public officeholders forge the necessary documents and authorizations to add an employee on the payroll.

## 1.2. ELEMENTS OF AN EFFECTIVE PAYROLL MANAGEMENT SYSTEM (PMS)

Currently, the payroll management system encompasses, Payroll, time and attendance, Employee data management, recruitment, Selection, learning management, training system, performance record, employee self-service, and leave management. PMS design, selection, and use are contested as a set of meanings associated to the technology that either undercut or accentuate its perceived worth and relevance, influencing the amount to which it is employed strategically or administratively. HR departments may effectively and efficiently administer data in areas ranging from benefits to regulatory compliance using sophisticated PMS software in the form of stand-alone solutions and ERP (enterprise resource planning) systems ( Shiri,2012).

## V. RESEARCH METHODOLOGY

This research study Adopted a design science approach, this type of research design deemed appropriate because the end result was to construct and evaluate software artifacts, constructs, models, methods, and instantiations, by which important payroll management system problems could be addressed. The step was to identify the key elements of the existing system and providing a model with improved elements that could help in eliminating the flaws and fraud in the IPPS software. Requirement gathering was carried out to help in identifying the elements of the IPPS, there was use of observation, self-administered questionnaire and face to face interview where the respondents were selected through purposive sampling. More information was collected from secondary source through examining the existing system and literature. The auditor General's report formed part of the source of documents that provided information (Peffer, et al, 2007).

## VI. RESULTS AND FINDINGS

Two methods of data collection were used to gather requirements i.e. Questionnaires and interview guides were



distributed and administered respectively to sample of a 23 employees, sampling was done purposively basing on education level and working experience from members of

human resource department, administration, information technology and record department.

Table 1 sex distribution of the respondents

Sex	Number respondents	Percentage
Male	12	52.2
Female	11	47.8

The sex distribution of the respondents were fair with 52.2% males and 47.8% females, the research was gender balanced as seen from the table 1 above. The respondents were able to give clear information because of the balanced distribution of gender.

Table 2 Number of respondents from different department with different level of Education.

DEPARTMENT	MASTERS DEGREE	BACHELORS DEGREE	DIPLOMA	CERTIFICATE	OTHERS
HUMAN RESOURCE	1	4			
ADMINISTRATION	3	4	5	2	
RECORDS				2	
INFORMATION TECHNOLOGY		2			

From the above table 2 sampling were carried out based on the department and level of education, in the human resource department, there were five respondents one holds a master’s degree and the other four bachelors’ degree, administration three respondents with masters’ degree, four holds bachelors’

degree, five undergraduate diploma and 2 with certificates in records department had two respondents with certificates while information technology department had two respondents with bachelors’ degree.

Table 2 Working Experience in local government

Response	Frequency	Percentage
3-5yrs	3	13.1
Between 6-10yrs	12	52.1
Between 11-15 yrs.	6	26
Over 15yrs	2	8.7
Total	23	100

**Results from the primary source**

Majority of the respondents (52.1%) had worked in local government between six to ten years followed by 26% who had worked for 11 – 15 years, 13.1% had worked for 5 years and below while 8.7% had worked for more than 15 years. Thus most of the employees were already with the district when the IPPS was introduced and have better idea and knowledge about the system and are able to effectively answer the questionnaire.

The findings show that the current systems can easily be manipulated and ghost workers can be added without the authorities realizing, hence employee numbers could be entered from one district when actually that employee is going to be paid from another district so connivance between system users between districts is very possible in the system.

Secondly the system lacked control which means the human resource can connive with the Chief Administrative Officer (CAO) and enter ghost workers with pretense that the workers are on leave since the IPPS lacks the leave module and allows double payment in the same month. There are other features that is not incorporated in this system which may help in the control of fraud like the attendance module, automatic denial of payment to all employees who have reached retirement age (retirement management module)

There is lack of verification of employees entered in the system by heads of department hence the employees being payment in each of the departments are not known by the heads of departments because they do not have such rights, therefore it is possible for human resource manager to include other ghost workers within departments without the heads



knowing who is paid in their departments. Furthermore, it was established that these officers (IPPS users) have a tendency of signing in once on a computer (staying signed in) and also not signing out after using a computer meaning anyone who gets access to that computer can access the account and do anything like modification, addition or deletion of employees the system does not sign out automatically when in idle mode, lack of integrity checks on the payroll file which is used for processing monthly payments this is evidenced by the existence of many duplicate employees' entries accounts and errors in the appointment which are fertile grounds for breeding ghost workers.

Another important finding is that IPPS system is controlled by ministry of public service, and have all the rights on the system as they can enter any one's account and do anything which means they can add, delete or modify employee details including adding ghost worker. Human resource officers in charge of payroll deliberately add ghost workers with an aim of earning more, for example in 2015, they discovered that the principal human resource officer in charge of salaries could add ghost workers every month and government lost close to 100M, this was revealed in the Auditor General's report.

#### VII. CONCLUSIONS.

There were numerous challenges faced in the existing system that needed to be addressed and these have given rise to development of this model. These challenges were helpful in determining the model that was fit to address them. In this information age every organization needs to embrace information systems most especially in Human resource management for competitive advantage. The research discovered that the IPPS had very few modules like payroll management, pension management, establishment control, training management and electronic document management system but lacked other modules that could bring about proper control against fraud and lacked segregation of duties in the system which is a key element in proper management of information system

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