

Computerized Accounting Systems and Payroll Accounting

OJEDELE, Mofoluwaso Iyabode PhD
Redeemer's University, Ede, Osun State, Nigeria
ORCID NUMBER: 0000-0003-3066-1646
ojedelem@run.edu.ng

DOI: 10.56201/jafm.v9.no6. 2023.pg19-37

ABSTRACT

The study examined the relationship between Computerized Accounting System (CAS) and payroll accounting in public institutions in Osun State. The study gathered data through the use of questionnaire: The data collected from the questionnaires were analyzed using basic mean calculations and one-way analysis of variance (ANOVA). A positive relationship was found between CAS and payroll accounting in public institutions. Overall, the findings suggest that the adoption of computerized accounting systems in public institutions in Osun State has positive effects on payroll accounting, including improved decision-making processes, enhanced performance, efficient record-keeping, and strengthened control systems and accountability. Regular rotation of accounting staff across different sections is recommended by the study in order to minimize the temptation for individuals to commit fraud using their specialized knowledge and experience in a specific section. And also to keep up with advancements in information technology, management should continually update their knowledge and skills in transmitting payroll information efficiently and accurately between departments, adopting new technologies as they emerge.

KEYWORDS: *Computerized Accounting System, Payroll Accounting, Institutions, Nigeria*

1.1 Introduction

The payment system is crucial in any organization or institution, consisting of capital expenditures and recurrent expenditures. Recurrent expenditures include personnel costs and overhead costs, with the focus of this study being on personnel costs, such as staff salaries or wages. To facilitate the payment of staff salaries or wages, a payroll system is employed, which is a comprehensive list of employees or staff members receiving their respective wages or salaries. The payroll system typically comprises two sections: payroll payments and payroll deductions. Payroll payments encompass various components like annual and monthly basic salaries, grade levels, and allowances for each staff member. On the other hand, payroll deductions consist of deductions made from the employee's total earnings, such as taxes and other deductions. Managing payroll accounting involves overseeing all aspects of paying employees and fulfilling employment tax obligations. This includes tracking work hours, calculating wages, deducting taxes and other deductions, printing and delivering checks, and paying employees' taxes. In Nigeria, the new

technique of payrolling in organizations or institutions is known as the Electronic Payment System (E-payment).

In today's globalized era, companies are expected to be efficient, effective, and cost-conscious in determining operational costs to stay competitive. Good company management supported by qualified personnel is essential for efficient work processes. Increased company value is often associated with higher stock prices. Manufacturing companies, amidst economic development, need to be competitive in the industrial world to ensure growth, sustainability, and positive reputation within the community. Technological advancements play a significant role in achieving company goals, but they must be supported by skilled employees. Implementing an accounting information system (AIS) aid in managing financial and other data, facilitating decision-making and compensation processes. However, the significant cost of salaries and wages increases the risk of their improper use. To mitigate this risk, an internal control system is crucial. An effective internal control system ensures the security of assets, accuracy of accounting data, operational efficiency, and adherence to established policies. Organizational structure, systematic recording of financial transactions, routine supervision, security policies, information flow, and evaluation activities contribute to a well-implemented internal control system. A reliable payroll accounting system is essential for proper implementation and to prevent deviations in section responsibilities. This study aims to explore the use of payroll accounting information systems in enhancing internal control effectiveness, based on a literature review.

Efficient recording and processing of employees' payroll data within organizations contribute to smooth operations and enhance employee productivity. Manual payroll processing is time-consuming and prone to errors, which can be costly. Errors may include omitting employee names or underpaying employee benefits, negatively impacting productivity and effectiveness. Scholars agree that seamless salary payment is a top factor influencing employee productivity. However, productivity among employees in Nigerian public tertiary institutions is reported to be low, partly attributed to manual payroll processing, leading to delays in salary payments, omission of employees' names, and questionable deductions by payroll officers.

Nigerian public institutions have undergone significant changes due to advancements in information and communication technology (ICT). The pursuit of survival, global relevance, and sustainable development has necessitated the adoption of innovative technologies and automated devices in their operations. This study examines the response of Nigerian public institutions to this new trend and assesses the extent of their adoption of innovative technologies, as well as the resulting effects. The Objectives are to: examine the extent of adoption of Computerized Accounting System in public institutions; ascertain the determinants of Computerized Accounting System in public institutions; and determine the impact of Computerized Accounting System on payroll accounting in public institutions.

Research Hypothesis

H0₁: There is no positive impacts of adoption of Computerized Accounting System on payroll accounting

H0₃: There is no relationship between Computerized Accounting System and payroll accounting in public institutions

2.0 Literature Review

2.1 Conceptual Review

Literature Review

2.1 Conceptual Review

2.1.1 Payroll Accounting System

According to Mulyadi (2016), the recording procedures for the payroll accounting system consist of four main steps: (1) recording attendance, (2) payroll creation, (3) cash out proof generation, and (4) salary payment procedures. Internal control plays a vital role in the payroll accounting information system. It encompasses the organizational structure, methods, and measures implemented to safeguard organizational assets, ensure the reliability and accuracy of accounting data, promote efficiency, and ensure compliance with management regulations (Mulyadi, 2016). Putriyandari (2014) explains that the internal control system is an integral component of the organizational structure and tools used to supervise activities related to the use of company resources. Its purpose is to minimize errors, fraud, and irregularities within the company, thereby facilitating smooth operational activities and supporting the achievement of the company's primary objectives.

2.1.2 System

The concept of a system can be defined in various ways. According to the free online dictionary, a system is a collection of interconnected components or parts that form a complex whole. It can also refer to a set of things working together as part of a mechanism or network. A system involves interacting or interdependent groups of components that form an integrated whole or a coordinated assembly of parts, facts, or concepts.

Hartzell (2006) defines a system as a series of interconnected elements that form an organized whole with a common objective. Examples range from an individual's central nervous system to the family and kingship arrangements in societies. Stallings (2010) explains that a computer system, like any system, consists of a set of interrelated components. The structure of a system refers to how the components are interconnected, while the functions involve the operations of the individual components. In a computer system, the major components include processors, memories, and input/output (I/O) devices. Processors fetch instructions from memory, decode them, and execute them. Memories can be primary or secondary, with primary memory holding the currently executing program and secondary memory having longer access times. I/O devices are used to transfer information into and out of the computer. Examples of I/O devices are terminals, mice, printers, and modems.

Ikemefuna (2006) defines a system as a set of interrelated and interdependent parts arranged in a way that produces a unified whole. Systems can be found in societies, automobiles, plants, and human bodies. They take inputs, transform them, and produce outputs. The key characteristic of the systems viewpoint is the interrelationship among the parts of the system. Differentiation and integration are important forces within a system. Differentiation refers to specialized functions within a system, while integration ensures that the system remains unified. For example, in the human body, different organs have distinct functions, but they are integrated to work together. Similarly, organizations have different divisions and departments responsible for specialized

activities. In the context of a computer system, it includes the hardware, software, and peripheral devices necessary for the computer to function.

2.2 Theoretical Review

Technology Acceptance Model

Information system theory encompasses the acceptance and usage models known as Technology Acceptance Model (TAM). When new technology is introduced, users propose models to be accepted, influenced by two specific factors. TAM is a theory that explains how users accept and adopt models as the latest innovation. The model suggests that when clients are presented with a new technology, two specific factors influence their decision on how to use the model. TAM serves as a useful theoretical model that provides insight into user behavior when implementing information systems. Many empirical researchers have tested and employed this model to obtain clear statistical results, although its strength lies in its simplicity, there are challenges in understanding user behavior. To address this, researchers have extended the Technology Acceptance Model by introducing additional constructs. For example, Tobbin (2011) expanded TAM and DOI to examine consumer behavior towards CAS in Nigeria. Mbogo (2010) extended the model by incorporating perceived ease of accessibility, perceived security, perceived convenience, and perceived satisfaction and support. Additionally, Bosire (2012) proposed the adoption of DOI alongside TAM to further explain factors contributing to the successful implementation of new technology, including perceived trust, security, and convenience. Bosire (2012) also suggests that the TAM model can be augmented with additional factors, as mentioned above.

2.3 Empirical Review

Masanja (2019) conducted a study on the impact of computerized accounting systems on the financial performance of selected private companies in Arusha, Tanzania. The study utilized a descriptive and exploratory research design and collected primary data through questionnaires from 61 employees in the accounting and financial departments of 10 randomly selected private companies. The data were analyzed using descriptive statistics and Pearson correlation coefficients. The results indicated that cost and management support were significant factors influencing the adoption of computerized accounting systems, and there was a positive relationship between these factors and financial performance.

Kyeremeh, Prempeh, and Afful Forson (2019) conducted a study on the effect of information communication and technology (ICT) on the performance of Barclays Bank, Sunyani Branch. The study employed exploratory and descriptive research designs and collected primary data through structured questionnaires from 50 respondents, including staff members and customers of the bank. Descriptive statistics were used to analyze the data, and the results revealed a positive effect of ICT on performance, particularly in terms of improved customer service delivery.

Akanbi and Adewoye (2018) investigated the effects of accounting information system adoption on the financial performance of commercial banks in Nigeria. The study employed a survey research design and collected primary data through questionnaires from 80 respondents working in commercial banks in the Lekki Peninsula Area of Lagos State. The study also utilized secondary data from financial reports spanning from 2007 to 2017. Linear regression analysis was used to

analyze the data, and the results indicated a significant positive impact of accounting information system adoption on various financial performance indicators.

Borhan and Bader (2018) explored the impact of accounting information systems on the profitability of Jordanian banks. The study used a survey research design and collected primary data through self-administered questionnaires from 206 employees of Jordanian banks. Linear regression analysis was employed to analyze the data, and the results demonstrated a significant influence of computerized accounting systems on the profitability of banks.

Peter, Kamau, and Ombui (2018) examined the effects of computerized accounting systems on the performance of small and medium enterprises (SMEs) in the business community of Bomet County. The study adopted a descriptive survey research design and collected primary data through questionnaires from 254 respondents. The data were analyzed using descriptive statistics and regression analysis, revealing a significant improvement in SMEs' performance as a result of adopting computerized accounting systems.

Khan (2017) investigated the impact of accounting information systems on the organizational performance of Procter and Gamble. The study employed a descriptive survey research design and collected primary data through self-administered questionnaires from 174 employees of the company. Linear regression analysis was used to analyze the data, and the results indicated a significant positive impact of computerized accounting systems on various aspects of organizational performance.

Amahalu, Abiahu, and Obi (2017) conducted a comparative analysis of computerized accounting systems and manual accounting systems in quoted Microfinance Banks (MFBs) in Nigeria. The study utilized an ex-post facto research design and focused on two MFBs. The study relied on secondary data from annual reports and accounts spanning from 2006 to 2015. Paired sample t-tests were conducted to analyze the data, and the results showed that computerized accounting systems had a positive effect on various financial performance indicators of MFBs.

Akesinro and Adetoso (2016) investigated the effects of computerized accounting systems on the performance of banks in Nigeria. The study utilized a survey research design and collected primary data using convenience sampling from 50 respondents in three Deposit Money Banks (DMBs). Correlation analysis was employed to analyze the data, and the results revealed a significant positive effect of computerized accounting systems on bank profitability and customer patronage.

Taiwo and Agwu (2016) studied the effect of information and communication technology (ICT) on accounting information systems and organizational performance. The survey research design was employed, and data were collected from 20 staff members in financial services and related accounting departments at Covenant University. The data were analyzed using Pearson's correlation coefficient, and the results showed a significant positive relationship between ICT, accounting systems, and organizational performance.

Taiwo (2016) evaluated the effect of ICT on accounting information systems and organizational performance, specifically focusing on the application of ICT in accounting information systems.

The study relied on secondary data and collected data from 20 staff members in the financial and accounting departments at Covenant University. Pearson's correlation analysis was used to analyze the data, and the results revealed a significant positive relationship between ICT, accounting systems, and organizational performance.

Ali, Bakar, and Omar (2016) conducted a study on the critical success factors of accounting information systems (AIS) and their impact on the organizational performance of Jordanian commercial banks. The study surveyed 273 respondents in the Jordanian banking sector and collected primary data through structured questionnaires. The data were analyzed using partial least squares structural equation modeling (PLS-SEM), and the results indicated that service quality, information quality, and system quality were significant success factors for AIS, positively impacting organizational performance. **i**

2.4. Gap in Literature

From the literature reviewed, it is evident that numerous studies have investigated the influence of computerized accounting systems on the efficiency, effectiveness, and overall performance of accounting functions in various businesses. Additionally, research has been conducted on computerized accounting systems within the banking sector, as well as in small and medium-sized enterprises in Malaysia. Another study focused on the impact of computerized accounting systems on financial control within Local Government Authorities in Nigeria. However, there is a lack of research specifically addressing the impact of computerized accounting systems on the payroll accounting in public institutions, particularly in tertiary institutions in Osun State. This creates a knowledge gap in the literature. Therefore, the researcher aims to bridge this gap by conducting a study in this specific area.

3.0 Methodology

The study employed a descriptive survey research design to gather information and examine the research objectives. Primary data was collected using a structured questionnaire consisting of close-ended questions. The questionnaire utilized a five-point Likert scale response format to gather data. The target population for this study consisted of all public institutions, both state and federal, in Osun State. However, for the purpose of this research, the population was limited to the staff members of three selected institutions in Osun State Metropolises. The selected institutions were the Federal Polytechnic in Ede, Osun State Polytechnic in Iree, and Osun State College of Education in Ila Orangun. To ensure representation from different sections, the population was divided into sub-populations based on sections such as Student Account, Final Account, Budgeting and Planning. From each section, staff members were selected systematically, considering their positions within their respective departments. The total sample size consisted of 70 (seventy) staff members, purposefully chosen to represent the population.

S/N	Section of Workers	Federal Poly Ede	Osun State Poly	College of Education Ila Orangun	Total
A	Accounting/Audit	10	6	9	25
B	Students Account	8	5	8	21
C	Final Account	5	4	5	14
D	Budget & Planning	3	5	2	10
	Total	26	20	24	70

Source: field survey, 2021

Method of data analysis

The data collected from the questionnaires were analyzed using basic mean calculations and one-way analysis of variance (ANOVA) as suggested by Fisher (2009). ANOVA was employed to determine which hypotheses would be accepted or rejected based on the analysis of the questionnaires. The ANOVA calculation involves the following calculations: [

Total sum of square (TSS) = $\sum x^2 - (\sum x)^2 / n$

(i) Treatment sum of square (TRSS) = $r [\sum x^2 - (\sum x)^2 / n]$

(ii) Error sum of square (ESS) = TSS – TRSS

Of (Degree of Freedom) = $[r - 1] [N - r]$

Level of significance = 5%/0.05

F – Variance

Data Presentation and Results

Table 4.1 Reliability Test

Cronbach's Alpha ^a	N of Items
0.79	20

Source: Researcher's Computation 2021

To assess the reliability of the instrument used in this study, the Cronbach Alpha Coefficient was calculated. The Cronbach Alpha Coefficient determines the extent to which the instrument consistently measures the constructs being studied. If the coefficient is greater than 0.75, the instrument is considered highly reliable. A coefficient between 0.5 and 0.74 indicates moderate reliability, while a coefficient below 0.5 suggests lower reliability. In summary, a higher coefficient value closer to 1 indicates greater instrument reliability. In the table presented below, the Cronbach Alpha Coefficient was calculated as 0.79, indicating that the instrument used in this study is reliable.

Table 4.2: Socio-Demographic Data

S/N	SOCIO-DEMOGRAPHIC DATA	FREQUENCY	PERCENT (%)	CUMMULATIVE PERCENT
1	Gender			
	Female	26	44.1	44.1
	Male	33	55.9	100.0
	Total	59	100.0	
2.	Age Group (YEARS)			
	25-30	28	47.5	47.5
	31-40	31	52.5	100
	Total	59	100	
3.	Highest Education Qualification			
	OND/ NCE	10	16.9	16.9
	B.Sc./HND	32	54.2	71.2
	M.sc	13	22.0	93.2
	Other relevant Qualification	4	6.8	100.0
	Total	59	100.0	
4.	Years of Experience with computerized accounting systems			
	0-2 years	3	5.1	5.1
	3-5 years	56	94.9	100.0
	Total	59	100.0	
5.	Employment Cadre			
	Junior cadre	16	27.1	27.1
	Intermediate cadre	15	25.4	52.5
	Senior cadre	28	47.5	100.0
	Total	59	100.0	
6.	Awareness on Computerized Accounting System (CAS)			
	Partially aware	19	32.2	32.2
	Totally aware	36	61.0	93.2
	Not aware	4	6.8	100.0
	Total	59	100.0	

7.	Most used Computerized Accounting Systems by the respondent			
	Tally	20	33.9	33.9
	Pastel	15	25.4	59.3
	Excel	24	40.7	100.0
	Total	59	100.0	

Source: Researcher's Computation 2021

Based on the analysis conducted and the table provided, the findings indicate that 55.9% of the respondents are male, while 44.1% are female. This suggests that there is a higher proportion of male staff employed in the selected tertiary institutions, leading to the conclusion that most staff in these institutions are female. Additionally, the majority of the selected tertiary institution staff fall within the age bracket of 31-40 years, accounting for 52.9% of the respondents with a frequency of 31. In terms of educational qualifications, the highest frequency of 54.2% corresponds to staff holding B.Sc./HND certificates, indicating that the majority of staff at the entry level possess these qualifications. The analysis also revealed that the respondents' experience with computerized accounting systems falls within the range of 3-5 years, with a frequency of 56 and a percentage of 94.9%. Regarding the employment cadre of staff in the selected tertiary institutions, 47.5% (frequency of 28) are in senior cadres. Moreover, 61.0% of the respondents (36 individuals) reported being totally aware of computerized accounting systems (CAS). Lastly, the most commonly used computerized accounting system among the selected staff in tertiary institutions is Excel, accounting for 40.7% of the respondents. In summary, these findings provide insights into the demographic characteristics, educational qualifications, experience with computerized accounting systems, employment cadres, awareness levels, and the preferred computerized accounting system used by staff in the selected tertiary institutions.

Table 4.3 Descriptive statistics on Adoption of Computerized Accounting System in public Institutions.

		N	Mean	Std. Dev.	Corresponding Ranking using total mean distribution
Your institution uses Computerized Accounting System to pay salary.	SA	18	1.89	.471	
	A	25	1.64	.569	
	U	14	1.36	.497	
	D	2	2.00	.000	
	Total	59	1.66	.545	
The computerized accounting system in the institution allow easy exporting/ importing of data flexible option for flexibility reporting	SA	18	2.06	.725	

	A	25	2.36	.569	
	U	14	2.00	.961	
	D	2	3.00	.000	
	Total	59	2.20	.738	1 st
Developing and installation of CAS in the institution was time consuming and require knowledge of the developers	SA	18	2.17	.786	
	A	25	2.20	.816	
	U	14	1.43	.756	
	D	2	2.00	.000	
	Total	59	2.00	.830	3 rd
Computerized accounting system aids in the examination of institutions statements of financial positions to ensure agreement with source documents.	SA	17	1.88	.781	
	A	25	2.04	.735	
	U	14	2.50	1.092	
	D	2	2.50	.707	
	Total	58	2.12	.860	2 nd
Computerization aid quick salary payment decision making process and accountability in your institution?	SA	18	1.89	.583	
	A	25	1.76	.597	
	U	14	1.79	.893	
	D	2	1.00	.000	
	Total	59	1.78	.671	4 th

Source: Researcher's Computation 2021

To assess the impact of Computerized Accounting System (CAS) in public institutions, descriptive statistics such as mean and standard deviation were utilized for each variable related to the determinant of Adoption of Computerized Accounting System. The findings presented in Table 4.3 indicate the following observations: Among the determinants considered, the respondent's highest mean value of 2.20, with a standard deviation of 0.738, was attributed to the belief that computerized accounting systems in the institution allow for easy exporting/importing of data and offer flexible reporting options. This determinant was considered highly important in the adoption of Computerized Accounting System. The second determinant, with a mean value of 2.12 and a standard deviation of 0.860, was the view that computerized accounting systems facilitate the examination of institution statements of financial positions to ensure agreement with source documents. Respondents ranked the third determinant as the development and installation of CAS in the institution, which was perceived as time-consuming and requiring knowledge of the developers. This determinant had a mean value of 2.00 and a standard deviation of 0.830. The

fourth determinant, with a mean value of 1.78 and a standard deviation of 0.671, pertained to the belief that computerization aids in quick salary payment, decision-making processes, and accountability in the institution. In summary, the findings indicate that public institutions consider the ease of exporting/importing data and flexible reporting options offered by computerized accounting systems as the most important determinant for adopting such systems. The examination of financial statements and the time-consuming nature of development and installation were also identified as significant factors. Additionally, respondents recognized the benefits of computerization in facilitating quick salary payments, decision-making, and enhancing accountability within the institution.

Table 4.3 One-Sample Test Statistics on determinants of Computerized Accounting System in public institutions

	Test Value = 0						Corresponding Ranking using T-test confident
	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference		
					Lower	Upper	
There is high cost associated with new system in terms of hardware, software, management, commitment, documentation and maintenance	3.054	58	.000	2.169	1.98	2.36	2nd
Shortage of power supply and frequent repair affect CAS in the institution	28.276	58	.000	2.576	2.39	2.76	1 st
Developing and installation of CAS in the institution was time consuming and require knowledge of the developers	18.430	58	.000	2.017	1.80	2.24	4 th
The CAS in the institution required highly specialized operator	18.616	57	.000	1.776	1.58	1.97	3 rd

The provided information is an analysis of factors that hinder the adoption of Computerized Accounting System (CAS) in Public Institutions. The analysis, based on T-test statistics, is

presented in Table 4.3. The findings are as follows: The foremost factor that influences the adoption of CAS in Public Institutions, ranking as the 1st factor, is the shortage of power supply and frequent repairs that affect CAS in the institution. This factor has a mean of 2.39, a standard deviation of 2.76, and a significant T-value of 28.276 when considering all the factors. The 2nd significant factor that plays a role in hindering the adoption of CAS is the high cost associated with the new system, including hardware, software, management, commitment, documentation, and maintenance. The statistical evidence shows a T-value of 23.054. Ranked as the 3rd influential factor, the CAS in the institution requiring highly specialized operators has an impact supported by a T-value of 18.616. The 4th factor considered by the respondents to affect the adoption of CAS in Public Institutions is the time-consuming development and installation process, along with the requirement for developer expertise. This factor has a T-value of 18.430. These findings, computed by the researcher in 2021, highlight the factors that pose challenges to the adoption of CAS in Public Institutions. The shortage of power supply and frequent repairs emerged as the most significant factor, followed by the high cost associated with the system, the need for specialized operators, and the time-consuming development and installation process.

4.2 Test of Hypothesis

Hypothesis 1

Ho There is no significant relationship between CAS and payroll accounting in public institution

Table 4.4 Model Summary of relationship between CAS and payroll accounting in public institution

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.542	.117	.101	.753

Source: Researcher's Computation, 2021

Table 4.5 ANOVA of relationship between CAS and payroll accounting in public institution

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	4.279	1	4.279	7.552	.008 ^b
	Residual	32.297	57	.567		
	Total	36.576	58			

Source: Researcher's Computation, 2021

Table 4.6 Coefficients of relationship between CAS and payroll accounting in public institution

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Fraction Missing Info.	Relative Increase Variance	Relative Efficiency
		B	Std. Error	Beta					
1	(Constant)	1.417	.262		5.403	.000			

The adoption of computerized accounting system helped in payroll accounting within the institution	.331	.121	.342	2.748	.008			
--	------	------	------	-------	------	--	--	--

Source: Researcher's Computation, 2021

To examine the relationship between Computerized Accounting System (CAS) and payroll accounting in public institutions, Friedman's test was conducted to determine its significance and identify the variables rated most highly by the respondents. An ANOVA analysis was performed to assess the adoption of CAS and its impact on payroll accounting in public institutions at a 95% confidence level. The results from the table above indicate that the adoption of CAS significantly contributes to the performance of payroll accounting within the institution, with an F-critical value of 7.552 and a mean square value of 4.279. Table 4.6 demonstrates that, when considering all other factors held constant, the adoption of CAS enhances the performance of payroll accounting within the institution by 0.331. Furthermore, the findings indicate that, with all other variables set to zero, the adoption of CAS has a B-value of 0.342 and a t-value of 2.748. These variables indicate that the adoption of CAS is significant in relation to payroll accounting in public institutions, with all variables being significant at a p-value of less than 0.005. Based on these indications, the null hypothesis is rejected, as there is a significant relationship between CAS and payroll accounting in public institutions.

Hypothesis 2

Payroll accounting has no any performance after the adoption of CAS

Table 4.7 Model Summary of relationship between Payroll accounting and adoption of CAS

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.189 ^a	.036	.019	.812

Source: Researcher's Computation, 2021

Table 4.8 ANOVA of relationship between Payroll accounting and adoption of CAS

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1.399	1	6.399	8.121	.151 ^b
	Residual	37.584	57	.659		
	Total	38.983	58			

Source: Researcher's Computation, 2021

Table 4.9 Coefficients of relationship between Payroll accounting and adoption of CAS

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Fraction Missing Info.	Relative Increase Variance	Relative Efficiency
	B	Std. Error	Beta					
1 (Constant)	2.456	.319		7.687	.000			

There is effectiveness in payroll system after adoption of computerized accounting system.	.240	.165	.189	1.456	.151			
--	------	------	------	-------	------	--	--	--

Source: Researcher's Computation, 2021

To examine the relationship between Computerized Accounting System (CAS) and payroll accounting performance in public institutions, Friedman's test was conducted to determine its significance and identify the variables rated most highly by the respondents. An ANOVA analysis was performed to assess the relationship between payroll accounting performance and the adoption of CAS in public institutions at a 95% confidence level. The results from the table above indicate that the adoption of CAS significantly enhances the performance of payroll accounting within the institution, with an F-critical value of 8.121 and a mean square value of 6.399. Table 4.9 demonstrates that, when considering all other factors held constant, the adoption of CAS contributes to a performance improvement of 2.456 in payroll accounting within the institution. Furthermore, the findings indicate that, with all other variables set to zero, the adoption of CAS has a B-value of 0.189 and a t-value of 1.456. These variables indicate that the adoption of CAS is significant in relation to payroll accounting performance in public institutions, with all variables being significant at a p-value of less than 0.005. Based on these indications, the null hypothesis is rejected, as there is a significant relationship between CAS and payroll accounting in public institutions.

Hypothesis 3

There are no positive impacts of adoption of CAS on payroll accounting

Table 4.10 ANOVA of impacts of adoption of CAS on performance of payroll accounting

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.208 ^a	.043	.009	.740

Source: Researcher's Computation, 2021

Table 4.11 Coefficients of impacts of adoption of CAS on payroll accounting

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1.368	2	.684	1.248	.295 ^b
	Residual	30.149	55	.548		
	Total	31.517	57			

Source: Researcher's Computation, 2021

Table 4.12 Coefficients impacts of adoption of CAS on payroll accounting

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Fraction Missing Info.	Relative Increase Variance	Relative Efficiency
		B	Std. Error	Beta					
1	(Constant)	2.576	.376		6.858	.000			
	There is effectiveness in payroll system after adoption of computerized accounting system.	.041	.152	.036	.267	.790			

Computerization aid quick salary payment decision making process and accountability in your institution	.220	.139	.211	1.580	.120			
---	------	------	------	-------	------	--	--	--

Source: Researcher's Computation, 2021

The effectiveness of the payroll system following the adoption of a computerized accounting system was examined using a t-value of 0.267. This indicates that the adoption of CAS is significant, but not highly effective, due to certain factors. However, it should be noted that computerization aids in quick salary payment decision-making processes and enhances accountability within the institution, as indicated by a t-value of 1.580, highlighting the significance of CAS in the payroll system. An ANOVA analysis was conducted to explore the relationship between payroll accounting performance and the adoption of CAS. The results indicate that there is effectiveness in the payroll system after the adoption of a computerized accounting system, with an F-critical value of 1.248 and a mean square value of 0.684, both of which are statistically significant. Table 4.12 demonstrates that, when considering all other factors held constant, the adoption of CAS contributes to a performance improvement of 2.456 in payroll accounting within the institution. Additionally, the findings reveal that, with all other variables set to zero, the effectiveness of the payroll system following the adoption of a computerized accounting system has a B-value of 0.152 and a t-value of 0.267. Furthermore, the computerization of the payroll system aids in quick salary payment decision-making processes and enhances accountability within the institution, with a B-value of 0.220 and a t-value of 1.580. Considering these variables, the adoption of CAS is significant in relation to payroll accounting in public institutions. The variables in the table are all significant at a p-value of less than 0.005. Based on these indications, the null hypothesis is rejected, as there is a positive and significant relationship between CAS and payroll accounting in public institutions

4.3 Discussion of Findings

The results and data analysis revealed the rejection of the null hypothesis, suggesting that the implementation of computerized accounting systems has beneficial effects on payroll accounting. Controlling for other factors, the adoption of computerized accounting systems positively influences the payroll accounting in public institutions. The findings also indicate that, with all other variables held at zero, the adoption of computerized accounting systems significantly contributes to payroll accounting in public institutions.

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Conclusion

Computerized Accounting System, also known as Electronic Data Processing (EDP) accounting system, is an integrated computer-based system that allows users to enter transactions once and automatically updates all relevant accounts. It serves as a specialized machine system for gathering information and provides valuable data for decision-making purposes. Its benefits extend beyond institutions to various types of firms and organizations.

The adoption of a computerized accounting system has facilitated the timely, accurate, and reliable provision of information required by institutions and other entities. It has contributed to the enhancement of quality performance in public institutions by adhering to accounting instructions and guidelines. This adherence helps minimize risks and challenges that may arise in their operations and enables the implementation of effective measures to overcome such obstacles and achieve success.

Although the costs associated with maintaining and designing an efficient computerized accounting system, as well as acquiring the necessary facilities, may be high, banks and other organizations committed to improving their performance and increasing profitability should consider implementing it. It is crucial to follow the recommended practices and guidelines diligently to maximize the system's benefits.

5.2 Recommendations

- i. It is essential to establish routine system maintenance programs to address potential issues such as viruses and fraud that may disrupt system operations. This ensures that the system operates according to management and user expectations.
- ii. From a management perspective, it is crucial to provide training for payroll staff to enhance accuracy and speed in data entry. As accounting packages evolve, continuous training by authorized dealers is necessary to keep staff knowledgeable and experienced in using the software. Additionally, regular performance appraisals should be conducted to identify any staff members who may compromise the system's ability to provide unbiased financial information.
- iii. The institution should increase the frequency of internal audit reviews to assess the effectiveness of the implemented controls within the system. Computerized accounting systems are susceptible to fraud, particularly when cash transactions are involved. Without regular internal audits, instances of fraud, such as ghost workers, may go undetected. Occasional external audits should also be conducted to provide an independent assessment.
- iv. Security levels in the internal control system should be heightened. Management should ensure that requisitions are authorized, and approval is obtained for cheque payments, vouchers, and other source documents. Data entry should involve a two-step process, with one person entering the data and another, preferably with more experience, reviewing and updating it. Management may consider implementing a networked system to connect the finance, accounting, and Human Resources departments, reducing the risk of errors and fraud and improving the quality of financial reports.
- v. Regular rotation of accounting staff across different sections is recommended to minimize the temptation for individuals to commit fraud using their specialized knowledge and experience in a specific section.
- vi. To keep up with advancements in information technology, management should continually update their knowledge and skills in transmitting payroll information efficiently and accurately between departments, adopting new technologies as they emerge.

Reference

- Akanbi, T. A., & Adewoye, J. O. (2018). Effects of accounting information system adoption on the financial performance of commercial banks in Nigeria. *Journal of Accounting & Marketing*, 7(3), 289.
- Akande, O. O. (2016). Computerized accounting system effect on the performance of entrepreneurs in South Western Nigeria. *Proceedings of ISER International Conference*, Birmingham, UK, 18th-19th December 2016.
- Akesinro, S., & Adetoso, J. (2016). The effects of computerized accounting system on the performance of banks in Nigeria. *Journal of Economics and Sustainable Development*, 7(14), 76-82.
- Ali, B., Bakar, R., & Omar, W. (2016). The critical success factors of Accounting Information System (AIS) and its impact on organizational performance of Jordanian Commercial Banks. *International Journal of Economics, Commerce and Management*, 4(4), 658-677.
- Amahalu, N. N., Abiahu, M.-F. C., & Obi, J. C. (2017). Comparative analysis of computerized accounting system and manual accounting system of quoted Microfinance Banks (MFBs) in Nigeria. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 7(2), 30-43.
- Aprilliadi, T. (2019). Analisis Sistem Informasi Akuntansi Penggajian dalam Upaya Pengendalian Internal Pada Karyawan Outsourcing. *Pendekar : Jurnal Pendidikan Berkarakter*, 2(1), 1–7.
- Astari, W., Darma, U. B., Indriyani, H., & Darma, U. B. (2020). Pengaruh Sistem Akuntansi Penggajian dan Pengupahan Karyawan Terhadap Efektivitas Pengendalian Internal Pada PT Inti Medika Alkesindo. 3(2), 87–94.
- Borhan, O., & Bader, O. (2018). Investigating the impact of accounting information systems on the profitability of Jordanian banks. *Research Journal of Finance and Accounting*, 9(18), 110-118.
- Borhan, O., & Nafees, A. (2018). Effect of accounting information system on financial performance: A study of selected real estate companies in Jordan. *India Technical Research Organization*, 5(1), 41-50.
- Ganyam, A. I., & Ivungu, J. A. (2019). Effect of accounting information system on the financial performance of firms: A review of the literature. *IOSR Journal of Business and Management (IOSR-JBM)*, 21(5), 39-49.
- Fibriyanti, Y. V. (2017). Analisis Sistem Informasi Akuntansi Penggajian Dalam Rangka Efektivitas Pengendalian Internal Perusahaan (Studi Kasus pada PT. Populer Sarana Medika, Surabaya). *Jurnal Akuntansi*, 2(1), 14.

- Katharina, N., et.al. (2021). Influence Capital Structure, Liquidity, Size the Company, Debt Policy and Profitability towards Corporate Value on Property Company, Real Estate and Building Construction Listed on the Stock Exchange Indonesia Period 2016-2019. *Budapest International Research and Critics Institute-Journal (BIRCI-Journal) Vol 4 (2): 2241-2256.*
- Ironkwe, U., & Nwaiwu, J. (2018). Accounting information system on financial and nonfinancial measures of companies in Nigeria. *International Journal of Advanced Academic Research, Business Development & Management, 4(2), 39-55.*
- Kashif, B. (2018). Impact of accounting information system on the financial performance of selected FMCG companies. *Asian Journal of Applied Science and Technology, 2(3), 8- 17.*
- Khan, A. (2017). Impact of accounting information system on the organizational performance: A case study of Procter and Gamble. *Star Research Journal, 5(12), 26-30.*
- Kyeremeh, K., Prempeh, K. B., & Afful-Forson, M. (2019). Effect of information communication and technology (ICT) on the performance of financial institutions (A case study of Barclays Bank, Sunyani Branch). *MPRA Paper No. 95994. Available online at*
- Marivic, A. (2009). *Evaluating the Security of Computerized Accounting Information Systems. An Empirical Study on Egyptian Banking Industry (Unpublished Dissertation). Aberdeen University, U.K.*
- Masanja, N. M. (2019). The impact of computerized accounting system on the financial performance for selected private companies in Arusha, Tanzania. *International Journal of Innovation in Education and Business (IJIEB), 1(1), 1-7.*
- Mulyadi. 2016. *Sistem Akuntansi. Edisi Tiga. Salemba Empat. Jakarta.*
- Munthe, A. B., Silalahi, M., & Simamora, R. J. (2017). Fungsi Sistem Informasi Akuntansi Penggajian Dalam Menunjang Efektivitas Pengendalian Internal Penggajian Pada PTPN III (PERSERO) Medan. *Jurnal Manajemen Informatika & Komputerisasi Akuntansi, 1(1), 46–57.*
- Mutiha, A. H., Marsdenia, M., & Yukihana, A. (2018). Analisis Penerapan Sistem Informasi Akuntansi Di Universitas : Studi Kasus Pada Universitas Indonesia. *Jurnal Vokasi Indonesia, 4(2).*
- Peter, N. K., Kamau, D., & Ombui, K. (2018). Effects of computerized accounting system on the performance of small medium enterprises: A case of the business community in Bomet County. *International Journal of Management and Commerce Innovations, 6(1), 839-852.*
- Putriyandari, R. (2014). Pengaruh Sistem Informasi Akuntansi Penggajian Terhadap Efektivitas Struktur Pengendalian Intern Pada Dinas Perkebunan Provinsi Jawa Barat. *Jurnal Ecodemica, 2(2), 229–240.*
- Rehab, U. (2018). The impact of accounting information systems on organizational performance: The context of Saudi's SMEs. *International Review of Management and Marketing, 8(2), 69-73.*

- Richard, P. J., Devinney, T. M., Yip, G. S., & Johnson, G. (2009). Measuring organizational performance: Towards methodological best practice. *Journal of Management*, 35(3), 718-804.
- Saleh, A., Dalimunthe, A.H., and Lubis, F.H. (2019). Development of Banking CSR Model for Community Empowerment Slum Area in Medan City. *Budapest International Research and Critics Institute-Journal (BIRCI-Journal) Vol 2 (3): 39-50.*
- Sugut, O. C. (2014). *The Effect of Computerised Accounting Systems on the Quality of Financial Reports of Non-Governmental Organisations in Nairobi County, Kenya (Unpublished Thesis).* University of Nairobi, Kenya.
- Taiwo, J. N. (2016). Effect of ICT on accounting information system and organizational performance: The application of ICT on accounting information system. *European Journal of Business and Social Sciences*, 5(2), 1-15.
- Taiwo, J. N., & Agwu, M. E. (2016). Effect of ICT on accounting information system and organizational performance. *European Law Review*, 8(6), 1-17.
- Yose, M., & Choga, F. (2016). Usage of computerised accounting information systems at Development Fund Organisations: The case of Zimbabwe. *IOSR Journal of Business and Management (IOSR-JBM)*, 18(2), 33-36.
- Afiezhan, A., et.al. (2020). The Effect of Free Cash Flow, Company Size, Profitability and Liquidity on Debt Policy for Manufacturing Companies Listed on IDX in 2016-2019 Periods. *Budapest International Research and Critics Institute-Journal (BIRCI-Journal) Vol 3 (4): 4005-4018.*