UNIVERSITY OF CAPE COAST

ELECTRONIC SALARY PAYMENT VOUCHER SYSTEM AND THE PREVENTION OF PAYROLL FRAUD IN THE GOVERNMENT OF GHANA PAYROLL: A STUDY OF THE CONTROLLER AND ACCOUNTANT GENERAL'S DEPARTMENT

JOSHUA YAW MORTEY

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BY

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DECEMBER,2021

DECLARATION

Candidate's Declaration

I hereby declare that this dissertation is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature……..… Date……...…….

Name: Joshua Yaw Mortey

Supervisor's Declaration

I hereby declare that the preparation and presentation of the dissertation were supervised in accordance with the guidelines on supervision of dissertation laid down by the University of Cape Coast.

Supervisor's Signature ……..... Date……

Name: Mr. Francis Kwesi Otoo

ABSTRACT

A plethora of payroll fraud activities have bedeviled Ghana's public sector over the years. This led to the introduction of innovative and technology driven mechanisms to curb the incidence of payroll fraud in the public sector by the Controller and Accountant General Department (CAGD). This study thus examined the effect of electronic salary payment voucher system on the prevention of payroll fraud in the Ghanaian public sector. The study specifically sought to evaluate the effect of biometric identification number, bank verification number and electronic transfer system on the prevention of payroll fraud. The study adopted a quantitative method and a survey design to carry out the study. A sample of two hundred and seventy (270) respondents using a quota sampling technique were used in the study by administering questionnaires. The study found that electronic systems of payment – biometric identification and bank verification numbers and electronic transfer system – are not statistically significant to the prevention of payroll fraud in Ghana. The study recommends that government agencies and bodies expedite action on the adoption of electronic payment voucher systems in the remuneration of workforce.

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DEDICATION

To my wife, siblings and mother.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER ONE

INTRODUCTION

In a country where a large part of government revenue goes into paying a small part of the population in the form of public sector workers compensation, the incidence of payroll fraud that has bedeviled the nation for decades is of concern both for state officials and academics. Efforts have however, been put in place to eliminate this canker that takes a toll on the public purse, mainly by the adoption of technology. Though many previous studies have focused on the effect of having ghost names on the national kitty, none known has explored the influence of the electronic salary payment platform adopted by the Controller and Accountant General Department (CAGD) in eliminating payroll fraud. This study seeks to fill that gap.

Background of the Study

Payroll theft involving the creation of fake names is common in the public sector in most developing countries (Hossain, 2013). "Ghost workers" are people who receive paid from an organization without showing up for work or who may not exist but whose salary are taken by someone else (Tanzi, 2013). Despite the fact that the origin of the term "ghost worker" is uncertain, many people believed that ghost employees show up for limited periods of time at work and then vanish for the most part, or in other situations do not exist but their identities are preserved on the payroll (Tanzi, 2013). Poor record-keeping in the public sector of developing countries contributes to the emergence of "ghost" names on government payrolls (Thurston, 2009).

With the introduction of computers, modern technology has changed businesses throughout the world, changing the payment system into an operational network governed by rules, regulations, and standards that connects bank accounts and allows for monetary exchange via bank deposits (Summers, 2012). A wave of new electronic payment methods arose as a result of the emergence of computers and electronic communications. Payment systems are a vital service provided by banks and other financial institutions that are used in place of cash in both domestic and international transactions.

It is a "system" since it uses currency replacements in its operations, such as electronic money and other ICT-related technology. The payment system is a collection of institutions, instruments, regulations, processes, standards, and technical methods for transferring monetary values between parties who have mutual obligations to fulfill. Its technological efficacy has an impact on both the efficiency with which money transactions are conducted in the economy and the risk associated with their use (Bossone & Cirasino, 2001). Electronic Payment Systems (EPS) provide a range of economic benefits in addition to ease and security, such as mobilizing savings and ensuring that banks hold the majority of the country's currency.

Physical or electronic payment systems exist, each with its own set of procedures and standards. Some of these systems and networks have been able to expand on a worldwide basis as a result of standardization, but there are still numerous nations and product-specific systems. Credit card and automated teller machine networks are two examples of payment methods that have become internationally available. Clearing and real-time gross settlement (RTGS) systems, as well as the SWIFT network, are used to settle financial

transactions for products in the equity, bond, currency, futures, derivatives, and option markets, as well as to transfer funds between financial institutions both domestically and internationally.

According to Zandi, Singh and Irving (2013), real world GDP increased by 0.2 percent per year on average compared to what it would have been if cards had not been used. Simply said, every year, using a credit card increases a country's GDP by 0.2 percent. Going from a culture where 90% of currency is kept outside of banks to a cashless society is a big jump. As a result, the government, financial institutions, individuals, and other parties charged with ensuring that this system achieves its economic benefits face a monumental undertaking. There will almost probably be operational, financial, economic, and marketing changes that must be properly managed to succeed in the electronic payment systems environment (Kumaga, 2011).

Similarly, it is difficult to put in place adequate remedies to reduce losses unless you first grasp the true nature and scale of the fraud," according to Gee, Button, and Brooks (2010, p. 10). When a corporation has sufficient fraud expertise, it may more effectively manage and reduce fraud losses (Gee et al., 2010). Ghanaian policymakers have learned about ghost workers and have applied their knowledge and expertise to develop strategies to minimize ghost workers in the Ghanaian public sector. The GoGSPV is one of the solutions used to avoid the prevalence of ghost names in the system. The Government of Ghana Electronic Salary Payment Voucher (GoGSPV) stands for Government of Ghana Electronic Salary Payment Voucher (E-SPV). It is intended solely for all ministries, departments, and agencies' SPV Return Officers (MDAs). In a nutshell, the GoGSPV is the Ghana Salary Payment Voucher for Returning

Officers who hold ministerial positions. The Controller and Accountant General's Department introduced and manages a sophisticated E-SPV Return System (CAGD).

The GoGSPV, which was established on November 20, 2013, with the goal of improving payroll service delivery, is a companion to the GoGPayslip, which is used by government employees to obtain their paycheck information. Similarly, to how the E-Payslip replaced paper pay slips for government employees, the E-SPV replaced the manual voucher system used by payment officers. The Accountant General's Department (CAGD) created the ESPV to replace the time-consuming and logistically problematic manual system of managing, certifying, and authorizing government of Ghana wage payment vouchers consequent to the ineffectiveness of the manual approach.

The Ghanaian government has been concerned about the issue of ghost workers. In 2017, the country's Ministry of Finance, for example, stopped the wages of over 26,000 public sector workers suspected of being ghost workers. The suspension was implemented as part of the administration's effort to clean up government payrolls and combat corruption. However, with the advent of the E-SPV, there is more room for efficient payroll cross-examination, validation, and certification before salaries are delivered, ensuring the payment voucher's integrity. Prior to the implementation of the E-payment system, the Controller and Accountant General's Department struggled to distribute salary vouchers to employees on time, which made it impossible for employees with wage anomalies or irregularities to seek redress on time.

Despite the numerous advantages that come along with the advent of this system, the policy has been chastised by all for its lack of planning, inefficiency,

and inability to pay for goods and services on time (Asaolu et al., 2011; Ogedebe & Jacob, 2012). Electronic payment systems, according to Omotubora & Basu (2018), have their own set of concerns, including high installation costs, training expenses, system failure, time consuming, security breaches, health risks, and the possibility of data theft by hackers. However, none of the studies have looked into the impact of electronic payment methods on payroll fraud prevention. As a result, the purpose of this study is to evaluate how electronic payment systems affect the prevention of payroll fraud in a few Ghanaian ministries.

Statement of the Problem

The Ghanaian government has attempted to eradicate ghost workers from the public sector through different reforms over the years, yet the problem still exists. The government launched a new system called the Ghana Electronic Salary Payment Voucher (E-SPV) in 2013 through the Controller and Accountant General with the goal of enhancing service delivery on the payroll and complementing the GoGpayslip for public sector personnel. To avoid paying ghost workers, the system guarantees that all government employees are authenticated before their salaries are paid. The problem of ghost workers on government payrolls costs the government a lot of money. Payroll fraud research in Ghana, on the other hand, are insufficient.

Every year, according to Amoako-Tuffour (2002), 5.8% of the salary paid by the Ghanaian government go to ghost workers. In a budget speech to Ghana's Parliament in 2002, the Minister of Finance also stated that ghost workers get 10% of Ghana's yearly public pay spending (Ministry of Finance, 2012). The basis of these estimates, however, are known. Previous studies researched about

effects of Ghost Names on the Government Wage Bill in Ghana (Nyaledzigbor, 2015). However, there is inadequate research on the impact of the new payroll system in the prevention of ghost workers in the public payroll. This study was conducted to bridge the gap in the literature of the E-SPV and its impact on the prevention of payroll fraud from the government of Ghana payroll.

Purpose of the Study

The purpose of this study was to ascertain the impacts of E-SPV systems on payroll fraud prevention in the government of Ghana payroll.

Research Objectives

This study specifically sought to:

1. Determine the effect of biometric identification number on payroll fraud prevention;
2. Determine the effect of bank verification number on payroll fraud prevention; and
3. Determine the effect of electronic transfer system on payroll fraud prevention.

Research Hypotheses

1. There is no statistically significant effect of biometric identification number on payroll fraud prevention.
2. There is no statistically significant effect of bank verification number on payroll fraud prevention.
3. There is no statistically significant effect of electronic transfer system on payroll fraud prevention.

Significance of the Study

The findings of this study instruct public sector practitioners and policymakers about the importance of restricting ghost worker opportunities and the number of ghost employees in order to save state funds for national development. Furthermore, this research could lead to government payroll modifications in the public sector, with the goal of improving payroll management efficiency and lowering public salary costs (Thurston, 2012).

The findings of this study will also assist the Ghanaian government in identifying the need to strengthen the electronic salary payment voucher in order to eliminate any form of fraudulent diversion of public funds, looting of public funds, fake certificates and underage workers, double timing in payrolls, the ghost workers syndrome, financial leakages, and to curb payroll fraud and fraudulent activities in our society, thereby increasing the state's revenue. Finally, the research will be useful to academics, students, and politicians interested in ghost workers in developing countries' public services.

Delimitation

The influence of government periodic compensation increases, staff promotions, new staff intake, and payroll mistakes on the government's wage cost were not included in this study. Furthermore, the research was limited to CAGD employees on the automated payroll. The research does not include other government departments that administer their own payrolls.

Limitations

The major limitation of this study has to do with data collection. Since the study aims at finding out the impacts of electronic salary payment voucher on the prevention of payroll fraud, respondents will have reservations to share

information with since they might mistake the researcher to be on a fault-finding mission.

Definition of Terms

1. **Payroll**: A payroll is a list of workers of a firm who are entitled to salary and other work perks, as well as the amounts they should receive. Payroll refers to a company's records of payments made to workers in the past, such as salaries and wages, bonuses, and withholding taxes, as well as the company's compensation department.
2. **Fraud**: Fraud is deception with the intent of acquiring an illegal advantage for the perpetrator or depriving a victim of a right. Fraud can take many forms, including tax fraud, credit card fraud, wire fraud, securities fraud, and bankruptcy fraud. A single person, a group of people, or an entire corporation can engage in fraudulent activities.

Organization of the Study

The research is divided into five sections. The study's background, explanation of the problem, goal of the study, objectives of the study, research questions, constraints of the study, delimitations of the study, and lastly the significant terms in their study were defined in the first chapter. Chapter two will review all the literature related to our study. The review will be done based on the theoretical, empirical and conceptual reviews. The third chapter will cover the research methodology to be employed. The research design, data collection procedure, data processing and analysis, and summary are all included. The study's results and discussion will be revealed in Chapter 4 of the study. Finally, in chapter five, the study's summary, results, and suggestions will be presented.

CHAPTER TWO

LITERATURE REVIEW

Introduction

This chapter includes an existing literature study, publication, and information on the issue relating to the research challenge from reputable academics and experts. The chapter reviews what many writers and researchers have said about the impact of electronic salary payment voucher on the prevention of payroll fraud in the government of Ghana payroll, with a focus on the theoretical review, empirical review and research problem conceptualization.

Theoretical Review

Theories serve as a framework for understanding the nature of a phenomenon as well as a foundation for generating future predictions about that phenomenon. Similarly, fraud theories provide information on elements that contribute to the occurrence of fraud and aid fraud researchers in predicting the level of fraud and recommending strategies to decrease it (Vian, 2009). Several ideas on electronic payment system fraud and corruption have provided a framework for comprehending fraud (Vian, 2008). However, the fraud triangle theory proposed by Cressey (1950) and the graft estimation model proposed by Reinikka and Svennson (2006) were employed in this study to better understand the influence of electronic salary payment vouchers on the reduction of payroll fraud in the Ghanaian government payroll.

Fraud triangle theory

The fraud triangle has been used in several research on fraud to explain why people cheat (Gilmore & Johnson, 2011). Furthermore, the cheating

triangle has been employed in most fraud research to explain why people cheat" (Fitzsimons, 2009). As a result, the fraud triangle theory was employed to describe the nature and motivations of wage fraud in this study. Cressey (1950) invented the fraud triangle, which has been utilized in a variety of fraud studies, including those involving the public sector. Although the fraud triangle was created with the private sector in mind, researchers discovered that similar notions were valuable for public management. As a result, numerous researchers have used this concept in various studies on public sector corruption and fraud (Fitzsimons, 2009).

The fraud triangle theory has been utilized in various research on fraud and corruption. Vian (2008), for example, suggested using the fraud triangle theory in research to better understand the difficulties in the health-care sector so that policymakers may build successful programs to remove fraud possibilities and strengthen internal control mechanisms in health-care facilities Vian (2008). As a result, it is critical to eliminate the incentives that encourage people to commit fraud in order to prevent fraud. Opportunities, pressures, and rationalizations have all been recognized as fraud triggers by the fraud triangle. Policymakers can take actions to decrease fraud in companies by removing fraud triggers. The fraud triangle has been utilized in a number of studies of public-sector fraud.

Ibietan (2013) used the fraud triangle theory in a study on why corruption exists in the Nigerian public service and concluded that fraud exists in the Nigerian civil service because the government continues to provide inadequate salaries to civil officials. Corruption would continue to exist in the Nigerian public sector due to a weak internal control mechanism and the

government's incapacity to sanction corrupt employees (Ibietan, 2013). Stemming from Vian (2008) and (Ibietan), three key elements inspire corruption in the public sector: unreasonable pressure, opportunities originating from gaps in internal control, and the ability to organize and rationalize fraudsters' fraudulent actions. Corruption and fraud in the public sector can be eliminated if the circumstances that lead to fraud are likewise reduced. Financial pressure on officials, insufficient internal control systems within public agencies, and the inability to prosecute corrupt officials are all factors that contribute to fraud. It is necessary to review the cheating triangle's theoretical underpinnings in order to comprehend the fraudulent triangle theory.

The fraud triangle theory is based on the traditional understanding of fraud, which holds that people are more inclined to commit fraud under duress or for personal benefit (Bucy et al., 2008). The classical perspective of fraud evolved into a positivist view of fraud, in which social, psychological, and cultural elements are seen to influence crime (Bucy et al., 2008).

The fraudulent triangle theory can be broken down into four essential concepts. The first concept is people's ability to betray the trust that their superiors have in them (Brody, Melendy & Perri, 2012). Second, there are forces that drive people to defraud others and break their trust (Brody, Melendy & Perri, 2012). Third, anyone in an organization, regardless of their position or status, can perpetrate fraud (Trompeter, Carpenter, Desai, Jones & Riley, 2012). Finally, fraud can be decreased by reducing the circumstances that lead to fraud (Gbegi, 2013). Policymakers in Ghana might use the fraud triangles concepts and principles in study to better understand the motivations driving the creation

of concealed names on government payrolls. This is intended as a guide in developing policies to reduce fraud.

Graft estimation model

Dehn, Reinikka and Svennson (2004) created the graft estimating model to detect leakage or theft of public monies in government institutions. "Individuals should compare budget allocations at the central level with actual expenditures on service delivery points or frontline establishments by different levels of government agencies to identify the extent of leakage or theft of public monies (Reinikka, 2001). The quantum of public monies leaked is determined by the gap between the central budget allocation and the actual amount received in organizations (Dehn et al., 2004). The Public Expenditure Transfer System (PETS) technology is used to estimate government spending.

PETS is a survey tool used to trace the transfer of public monies from the federal government to cost centers or local government levels (Sundet, 2007). "The amount of block assistance for special education given by the central government in Uganda is compared with the amount received by schools to obtain a leak rate of 87 percent," according to a compound estimate model used in Uganda (Olken & Pande, 2012, p. 3). Scholars and organizations such as the World Bank have continued to utilize the transplant estimation model in other studies to measure the level of public funds leaking into government agencies after a successful application in Uganda (Olken & Pande, 2012). Fraud triangles and compound estimation models have become tools to measure the extent of fraud in public institutions.

Conceptual Review

Government payroll

The payment system of every company or institution is important to its overall performance. In the local government system, there are two types of payment expenses: capital expenditures and recurring expenditures. Expenses for personnel and overhead are included in recurrent expenditures. In this study, personnel costs, often known as employee pay or wages, are investigated in depth. When it comes to salaries and compensation, local government personnel must be compensated under a system that assures justice and accountability" (Ogedebe & Jacob, 2012). A payroll is a list of employees or employees who are paid wages or salaries, as well as the amount owing to them. The payroll is divided into two parts:

(a) payroll payment; and

(b) payroll deductions.

Payroll payments include each employee's annual basic income, monthly basic wage, grade level, and allowances. Payroll deductions, on the other hand, are deductions from an employee's total remuneration, such as tax and other deductions (Financial System Consultants, 1993). Since independence, the conventional or operational payroll mechanism in Ghana's local government system has been manual, referred to as the return mechanised voucher system.

Payroll processes and controls

Staff emoluments payments are processed by Ghana's Controller and Accountant General's Department (CAGD). The Controller's departmental accounting rules explain the procedures to be followed. Throughout the civil

service, payroll changes are processed through a network of payroll processing sections (PPS). PPSs for Education, Health, Foreign Affairs, Food and Agriculture, Local Government, Lands, and Audit Services each provide data into IPPD for all of the ministries' cost centers. Data entry for smaller MDAs is handled by the IPPD branch of the office of the head of the civil service (OHCS). CAGD oversees its own PPS while also assisting subcontracted institutions including Immigration, Fire, Prisons, and the Judicial Service (The Financial Administration Act, 2003, Act 654). CAGD houses the Payroll Processing Division (PPD), which validates the data and operations initiated in the PPSs, as well as the Computer Services Division (CSD), which processes the payroll. MDAs provide all material to the appropriate PPS (input forms with accompanying papers for new entries, promotions, grade changes, and so on).

The IPPD section of the OHCS lays out the steps for a new entrant. The employing MDA sends the Section three copies of the standard form and supporting documentation, which contain all of the information needed to create a new record in IPPD (Ovaga Okey & Eme, 2013). Name, address, appointment date, social security number, date of birth, bank account information, grade, work location, family information, previous employment history and reason for leaving, education, and credentials are examples of data that may be entered.

Obviously, a lot of this information is not used in HR planning. After data entering and confirmation, the system generates a unique staff number, which is written on the input form. The CAGD receives the initial (pink) copy of the input form, along with supporting documents, for validation. The second (white) copy is kept in the OHCS as a record, but it is no longer tied to the employee's personnel file. The third (blue) copy is sent to the MDA who started

everything. Before submitting the input forms to PRAAD's Government Records Centre, MDA organizes them at OHCS and maintains them on wooden shelves for six months to a year (depending on volume). After entering data in IPPD, the payroll processing department sends the paperwork to the appropriate division within CAGD's Payroll Processing Division (PPD). Each PPD section, which covers a region regardless of MDA, is overseen by a senior supervisor. Within the PPD sections, a schedule officer is in charge of a district (referred to as a PPD unit). Each schedule officer in Accra, on the other hand, is in charge of a management unit, such as all inputs from a given ministry. The form and/or documentation were returned to the appropriate MDA if any document was missing or incomplete.

PPD validates all documents, compares authorization signatures to specimen signatures on file, and performs other checks. If the input data and documents are correct, the validator sends them to the scheduling officer, who enters a final validation in the IPPD system. The payroll modification is then activated, and the salary of each individual employee is modified accordingly. Verification and validation are usually accomplished using printouts of "mechanized" payment vouchers. Each report is printed four times and encased in a cover by PPD. To complete the certification process, three copies are submitted to the relevant MDA, while one copy is kept in PPD. MDAs must evaluate the automated payment vouchers on a regular basis, make any necessary changes, and send a copy to PPD.

CAGD has possibilities, according to this report, for enforcing compliance with this requirement by a certain deadline. Salaries may be withheld or the department head's income may be halted if the return is not made

or changes in staff are not properly documented or reported by the deadline. Similarly, the department head is held accountable for failing to swiftly remove a former employee off the payroll. It's unclear if these penalties were actually imposed. MDAs assessed and delivered mechanised payment vouchers to their CAGD PPD unit, which retrieved pertinent facts (for example, a deceased staff member, study leave) in order to make the payroll adjustment. However, MDAs must still submit the appropriate input form and supporting documents. Validation is usually handled by the schedule officer Financial System Consultants (1993). Salaries are often paid on the 24th of the month, with checks deposited into employees' accounts. Wage cheques (credit vouchers) are physically delivered to banks; however, some institutions are now offering electronic salary transfers. On the other hand, rural banks continue to rely on manual processes (Thurston, 2008).

Credit vouchers are accompanied with a payroll report (IPPD Report 11), copies of which are held by CAGD and given to the Bank of Ghana. The reports must be reviewed by the banks for any problems or issues, which must then be reported to CAGD for resolution. Of course, each bank's report is unique, and each one is hologrammed to confirm its authenticity. The banks must sign the reports and return them to CAGD. When an employee resigns, the employing MDA must notify the CAGD and request that the employee be removed from the payroll. Many MDAs fail to promptly disclose resignations, and it is common for employees to be removed from the payroll for up to a year or more. This appears to be the result of procedural illiteracy rather than deliberate dishonesty. The MDA must then write to the individual's bank,

requesting that any salary or allowances placed into the individual's account after a certain date be returned to the Government's suspense account.

Payroll fraud in the public sector

Payroll fraud is a problem in a lot of countries, especially in underdeveloped ones. Salary leakages in the public sector are a major concern in most developing countries (Hossain, 2013). Statistics on the prevalence of ghost workers in the public sector can be found in Uganda, Honduras, and Papua New Guinea" (Lewis & Pettersson, 2009). According to research undertaken by the World Bank to quantify the share of ghost names on country payrolls, teachers and health professionals in the countries where the surveys were conducted continued to get payments even though they were no longer engaged in the public sector (Reinikka & Svensson, 2006).

According to the World Bank (2001), 5 percent and 8.3 percent of teachers and health staff on the government payroll in Honduras were ghosts in 2000. In Papua New Guinea, 15% of teachers were unemployed in 2002" (World Bank, 2004). In Honduras, the number of ghost teachers reached 23% of total remuneration in 2010, totaling 1,347,403,178 Lempiras ($70,915,957 USD) every year (World Bank. 2010). The issue with ghost workers in Africa was similar to that in the other countries. For example, in Uganda, ghost employees made up 20% of instructors in 1993 and 4.6 percent of primary school teachers in 2006. (Lewis & Pettersson, 2009; Reinikka & Svensson, 2006).

Types of payroll fraud

The three basic areas in which this occurs are asset misappropriation, corruption, and false assertions (Saksena, 2012). Payroll fraud, often known as

asset misappropriation, includes the falsification of wages, the filing of false insurance claims, and the creation of ghost names on the payroll (Izedonmi & Ibadin, 2012). Payroll fraud in the public sector comprises falsification of earnings, which includes misrepresenting overtime and other allowances (Gbegi & Okoye, 2013), fictional persons on the payroll (ghost names), and delayed removal of separated personnel from the payroll (Lekubu, 2013). The number of ghost workers on government payrolls is an important indicator of civil service payroll fraud (Hendricks, 2012).

Ghost workers

"Ghost workers" in the public sector are people who are paid by the government but do not work or may not exist, but whose salaries are paid by someone else (Tanzi, 2013). According to the World Bank (1995), ghost workers in the public service are names on the payroll who get compensation but cannot be proved to exist physically. They are former government employees who died, retired, or left the service without being officially acknowledged. They are imposters who have been paid by others. It's a name variation in which one person has two or more sources of income. As a result, ghost workers are non-existent employees whose identities are recorded on the payroll and who get paid. Ghost workers may stay on the payroll if payroll managers take too long to delete names from the payroll (Lekubu, 2013).

Payroll clerks have been known to place the names of fictional or separated employees on the payroll, forge their signatures, and collect their wages on their behalf (Izedonmi & Ibadin, 2012). Separated employees have terminated their relationships with their employers through resignations, leaves of absence, or death, yet they are still compensated. "Ghost workers" arrive for

a brief period of time and then vanish for the most part in order to pursue personal interests while working for the government (Tanzi, 2013). Collusion is a major roadblock in the fight against payroll fraud (Stanciu, 2012).

Payroll officers in charge of authorizing names on the payroll sometimes collaborate with other employees to create fictitious names. Phantom workers established by collaboration may be difficult to detect because those responsible for halting the ghost names are also involved in the crime. Internal control flaws in government bodies allow for the creation of false names in the public sector as well (Wells, 2002). Ghost workers may emerge in an organization if a single person is responsible for all personnel and payroll transactions from start to finish. Such persons can create or keep ghost workers on the payroll without their identities being revealed. Governments often conduct headcount exercises to find ghost workers and remove them off the payroll due to the enormous number of employees in the public sector (Tanzi, 2013).

Delayed termination of names from the payroll

Delaying the removal of the identities of separated employees from the payroll is another way of illegally keeping ghost workers on the government payroll (Lekubu, 2013). Delays may be more likely in locations with restricted communication capabilities, such as distant offices. For example, an office manager at a satellite office might defer reporting the termination of an employee who may be dead, quit, or left employment and pocket that person's check (Webster, 2009). Delay termination may be common on government payrolls due to the large number of employees who work in public institutions across the country (Webster, 2009). This problem could be pervasive in

countries that use centralized payroll systems that need physical transmission of payroll data to a central location for processing (Webster, 2009).

Electronic payment systems

Various firms have used information and communication technology (ICT) to establish innovative business models over the years. Many countries have been obliged to move to ICT-based payroll systems in order to solve the problem of mechanized return voucher systems (Ovaga and Eme, 2013). Funds utilized in departments and institutions will now be delivered directly to banks from government accounts and other sources, thanks to new payment technology (Nnanta and Eme 2013). Employees must engage directly with the bank in order to obtain pay and other remuneration. In the old system, civil workers had a bank account with a specific bank, and their CAGD teller would credit their accounts in their separate banks at the end of each month. Electronic payment systems are divided into four categories: electronic funds transfer (EFT), electronic cash, electronic invoicing, ATMs, and credit and debit cards. The accounting concept has evolved in lockstep with the evolution of its activities, and it has seen the transition from a manual to a computerized accounting system.

However, the decision to choose a manual or automated accounting system is based on the structure of the organization and the complexity (or lack thereof) of the transaction items to be recorded (Sanni et al., 2006). Due to its uniqueness and concerns surrounding wage and salary administration, the monthly employee accounting icon employing a computerized accounting system has sparked a lot of criticism. Some people believe that utilizing a computerized accounting system is better and more dependable than using

traditional accounting, while others believe the reverse. The evaluation of any payroll / payroll administration system depends on the effectiveness of the fund settlement and transfer technique. Payroll and employee payments can be processed more quickly and accurately with a computerized accounting system that follows speed and accuracy. Many public and private organizations have made it a goal to use information technology (including computerized accounting systems), which has encouraged competition and technological advancement in information systems with the latest IT technology, where the system helps to plan, organize, control, and monitor (Sanni et al., 2006). As a result, it is vital to keep up with the advancements in government systems, e-commerce, and electronic payment, all of which are linked to the computer system.

Most employers, particularly those in very large enterprises, now choose to use a computerized internal payroll system. All the employer has to do is purchase payroll software and hire someone to process the paycheck. Electronic payment (e-Payment) of employee salaries has recently become a standard component of most government bodies and businesses that administer employee salaries and wages. Ghost worker syndrome, late pay, errors caused by manual employee payroll, and other wage misbehavior were all addressed with electronic payroll payments. The use of electronic means and platforms to make payments is known as electronic payment. However, there are benefits and drawbacks to using a computerized accounting system for payroll management" (Thurston, 2008). Given the characteristics of the local government system and the perceived need to maximize the use of labor resources, particularly scarce highly qualified resources, strengthen local authorities' capacity to attract,

retain, and maintain credible career structures for people capable of serving and preserving the remarkable achievements in building local government systems, the need for Adequate pay for workers in local government, as well as at other levels of government. The payment of salary to local government officials, like that of other public institutions, is not negotiable because it is a legal requirement. The payroll department of the Accounting and Auditing Department has been allowed by law to be solely responsible for preparing monthly wages for employees in order to assure regular, correct, and timely payment at the end of each month. It is on this basis that this study focuses on assessing the challenges of mechanized voucher systems, in order to propose practical solutions to these problems (Quist et al., 2009; Thurston, 2008).

Conceptualization of payrolling and computerized accounting

Payrolling is the process of listing the names of a company's employees as well as the amount of money that will be paid to each of them (Okagu, Obeta & Thomas, 2020). Payrolling is a process that is carried out in any business that employs people who are, for all intents and purposes, paid by their employers. In this light, payroll becomes a responsibility that is undertaken in both private and public enterprises. In the context of the local government system, payroll can be defined as a list of all the people employed by the local government council, along with the exact amount to be paid to each employee at the end of the month. To put it another way, a person must be a true council employee before being paid by the local government. Payroll software systems are becoming increasingly popular every day. An increasing number of firms, both large and small, are using computer accounting systems to automate the process of paying salaries and wages.

Controller and Accountant General's Department

The Controller and Accountant General's Department, often known as the accounting Class, was founded by the Civil Service Act of 1960 Act 654. The Financial Administration Act of 2003, provides the legal framework for the department's operations. The Department's objective is to ensure that all government financial transactions are accurately documented and tallied, and it serves as the government's Chief Accounting Office. It is the department in charge of calculating the salaries and allowances of government personnel. As a result, it determines the amount of taxes, social security contributions, and other deductions that must be deducted from each government employee's pay. These are either legal or voluntary promises made by the concerned public official. The public sector in Ghana and other countries has grown in size, making the work of the Accountant General's Department more complex.

This can lead to human and technical errors, resulting in irregular and often unexpected salary deductions from government personnel. It can take the shape of non-payment or delays in monthly wages, or it can take the form of payment vouchers to validate these transactional difficulties. Over the years, these deductions have become increasingly widespread, resulting in a continual stream of complaints from government employees. Since a result, they may get demotivated, and their performance may suffer, as they are hesitant to offer their all for a small salary with deductions they do not understand. In a financial sense, this is robbery since when payments are made, the time value of money is neglected. The purpose of this research is to investigate the link between the uneven distribution of mechanized coupons and wage calculation. The outcomes of the study are hoped to be useful in addressing the situation.

Using electronic payment systems to eliminate payroll fraud in the public sector

Governments have implemented bank verification numbers (BVNs) and biometric identity numbers to curb wage theft (BIN). End-user solutions are specifically developed to be user-friendly in order to let the public service provide convenience. End user solutions are deliberately designed to be user friendly in order to assist offer convenience to the public service. Biometric identification is accurate and secure, and end user solutions are specifically designed to be user friendly in order to help bring convenience to the public service. The biometric identity number (BIN) and bank verification number (BVN) have been utilized by various levels of Ghana's government to help eliminate phantom personnel from their payrolls. The Ghanaian government claimed to have organized various committees to check for ghost workers and identify duplicate and other illegal payroll entries using workers' BIN and BVN numbers.

Empirical Review

Payroll fraud has been a major source of concern in Ghana's public sector for many years. Various countries have implemented reforms to combat benefit fraud in the public sector, but the issue will persist. The Ghanaian government's ability to provide effective public services is owing to a lack of understanding of the phenomena, which has resulted from insufficient research on Ghana's benefits fraud.

The first step in tackling the problem is determining what it is, Gee et al., (2010). It will be impossible to lessen the loss until the exact solution is applied to the same fraud and the full nature and scale of the problem is revealed

to more effectively tackle public sector fraud around the world. A statistically available strategy for managing fraud was a traditional method that covers fraud, a new approach to fraud, a new approach to fraud assesses fraudulent and effective losses. In the United Kingdom, this principle was used to determine the degree of loss. Measuring the national health service and taking necessary changes demonstrated that the loss of 60 percent in 1998 might be reduced (Gee and al., 2010). By using the lessons learned from Ghana's national health system to eliminate public-sector beneficiaries. There was an example of accurate information measured and related to the loss, and this loss was significantly minimized, Gee et al. (2010).

A policy proposing a room that provides a vision of the degree of benefit of the Ghana public service and cannot be used for an effective strategy to reduce losses is based on limited research on benefit fraud in Ghana. Ghost workers believed they were responsible for 5.8% of all government spending each year (Amoako, 2002). 10 percent of 48 people took a ghost name for the workers lost each month, the Minister of Finance (2002) said in the Parliament's Budget Declaration of the same year. Country -rolls (p. 494), “says the author. These quotations were not substituted because they are not based on scientific study and so cannot be used to develop effective measures to address the threat of ghost names in the Ghana Public Service.”

This study filled in the gaps by employing a statistically accurate method for calculating the efficiency of benefits fraud in a Ghana wage government, allowing policymakers to design suitable policies to reduce payroll fraud. Fraud loss has been measured multiple times around the world, and several governments have been able to successfully handle fraud. For example, after the

adoption of an improper payment information law (IPIA) in 2002, the legal requirements of government agencies will be used to measure the effectiveness of a strategy to reduce fraudulent losses in the United States. IPIA, "I have a need to estimate the number of years of payments with public institutions and US mistakes, and to present Jindo Report and Congress estimates for steps to minimize them" (Gee et al., 2010, p.7).

Members of the audit committee in Ghana were required by law to produce reports on the public accounts of the public accounts. However, the report is an annual estimate of fraudulent losses for the year 2000, and it only includes actual losses that have been substantiated. To calculate the range of induction if the loss is minimized and lost, estimate the cost of fraud. By surpassing 49 guidelines providers, knowledge of fraudulent loss can influence the quantity of investment (Gee et al., 2010). This strategy to fraud prevention is used in Ghana to effectively manage and limit public fund leaks due to public service fraud. The extent to which the management unit and the opportunity of the benefit recipient are linked to the level of public service benefits was also explored in this study. This research is a first step toward a new strategy for combating a benefit connected with the impact of computerized pay payment checks in the Ghanaian public sector.

Conceptual Framework

This study sought to examine the impact of electronic salary payment voucher on the prevention of payroll fraud in the government of Ghana payroll. The framework below illustrates the relationship between the various concepts within this study and depicts how the study was organized.

Figure 1: Conceptual Framework

Source: Author's construct (2021)

Chapter Summary

This chapter has successfully explored and analyzed the relevant literature to the study. It begins by instigating the theories underpinning the study, and then goes further along to support the study with other relevant studies already conducted on the topic. The various concepts relevant to the study were also explained and a conceptual framework was developed to show the relationship between the study variables.

CHAPTER THREE

RESEARCH METHODS

Introduction

This section of the study describes the data collection methodologies and procedures. The goal of this study was to fill a gap in the literature about how the Ghanaian government's electronic voucher system affects the prevention of payroll fraud. In order to devise ways to reduce payroll fraud losses, officials must first identify the scale of the losses. The researcher outlines the nature of the investigation, the data collection methods, instrumentation, and data analysis tools in this part of the study.

Research Design

The researcher employed quantitative methodologies to investigate the impact of an electronic payment voucher system on the prevention of payroll fraud in the Ghanaian government. The study also looked into the relationship between the amount of payroll fraud opportunities, management unit size, and the number of ghost workers in government management units. The quantitative method was chosen since it is an excellent tool for establishing the correlation between variables in a study (Christopher, Schertzer & Schertzer, 2013). Quantitative techniques analyze the relationship between variables using sampling data (Ahram, 2013). Furthermore, quantitative statistical analysis enables for estimations to be based on observable data, ensuring that the assessment is accurate (McKay, 2012).

The quantitative method has been used 52 in studies aimed at reducing the size and expenditure of the public sector over the years (Olowu, 2010). In this study, the researcher employed a quasi-experimental approach to select the CAGD for a survey. Researchers can choose study participants without having to assign cases to comparison groups thanks to the quasi-experimental approach. This cross-sectional quasi-experimental study used a sample survey to collect data from CAGD at a certain point in time and looked at the relationships between the variables (Lavrakas, 2008). PETS technologies were also used by the researcher to collect data on phantom workers in Ghanaian government agencies. The PETS is a standardized survey instrument for tracking government spending that has been used to uncover government spending leaks and inefficiencies (Astorga et al., 2012). As a result, the PETS is used to estimate the number of public funds leaks and inefficiencies during budget implementation.

Population

The study conducted a survey of the CAGD's management unit. A management unit is the lowest component or cost center of a government agency where payroll costs are charged (Financial Administration Regulation, 2004). To make budget implementation and monitoring easier in Ghana, the government's salary budget is distributed to cost centers inside government institutions (Canagarajah, 2002). The population size for the study was employees of management units in the public sector. The sampling technique is covered in detail in the next section of this chapter.

Sampling Procedure

The researcher utilized a non-probability quota sampling strategy to select survey participants from the management unit. Non-probability sampling is a method of selecting study participants based on the researcher's discretion and convenience (Tansey, 2009). Non-probability sampling was utilized for this inquiry due to a lack of access to the management unit's sample frame in the public service CAGD. Non-probability sampling does not require that the number of participants match the proportions in the population. Non-probability sampling, on the other hand, comprises only enough cases for analysis, even with small groups (Trochim et al., 2006).

To select respondents for the study, the researcher used purposive sampling, a non-probability sampling method, in addition to quota sampling (Tongco, 2007). This is because it allowed key agencies to be included in the sample for an in-depth study (Jupp, 2006). Purposive sampling also ensured that the poll included key government bodies (Patton, 2002). The findings of the study could not be extended to the complete population of management units in Ghana's public sector because non-probability sampling was used (Taherdoost, 2016). In total, two hundred and seventy (270) respondents were selected from the management units in the public sector.

This study was only open to government employees whose payrolls were generated by the CAGD. CAGD's computerized payroll employed 480,139 persons at the end of 2016, accounting for 80% of the total number of public sector employees in Ghana (Controller and Accountant General's Department, 2012). Public institutions whose salaries are not processed through CAGD's payroll were not included in the sample.

Data Collection Instruments

Public Expenditure Tracking Survey (PETS) was used by the researcher as a data collection instrument which was administered by way of a questionnaire. The questionnaire was thus informed by way of the PETS. The PETS is a standardized survey technique used by government entities to track the flow of public funds (Reinikka & Svennson, 2004). The PETS is a mechanism for tracking federal funds to state and local government facilities and entities (Sundet, 2007). The World Bank used the PETS in several research to track countries' public spending (Olken & Pande, 2012). Since its successful deployment in Uganda in 1999, PETS has become a standard instrument used by several scholars and organizations in a variety of studies related to fraud and corruption in the public sector. The PETS has been used by policymakers and academics to track wages and salaries from the central budget to cost centers or government bodies. The PETS also assists policymakers in keeping track of approved wages and developing leak-prevention procedures (World Bank, 2001).

The Staff Tracking Survey compares actual staff wages to budgeted compensation at the facility level. Keeping track of paychecks and salaries can be tough. More importantly, it is difficult for federal policymakers to identify whether all public-sector employees exist, are working where they are supposed to work, and are fulfilling their responsibilities according to their job descriptions (World Bank, 2001). The PETS is used to identify inefficiencies, poor service quality, and resource leakage in the public sector, including shirking and ghost workers in the public sector (Astorga et al., 2012). PETS demand meticulous planning and execution (Reinikka & Smith, 2004).

Data Collection Procedures

The study utilized primary data by way of a questionnaire that was informed by the PETS. The questionnaires were administered by the research with the aid of an assistant to the respondents at their various work places. The researcher did not require permission or authorization before conducting the survey due to association with the leadership of the units. The researcher explained the structure and format of the instrument to the respondents. The data was collected from the respondents between the August and September, 2021.

Validity and Reliability

In quantitative research, measurement is intrinsically tied to validity and reliability (Frankfort-Nachmias & Leon-Guerrero, 2008). Important indicators for quality measuring tools in research are the measurement's reliability and validity (Kimberlin & Winetrstein, 2008).

An instrument's validity is verified by determining whether researchers are measuring what they are intended to be measuring (Frankfort-Nachmias & Leon-Guerrero, 2008). The content validity of the Public Expenditure Tracking Survey, on the other hand, is a concern. Content validity refers to the extent to which the measurement used in the study incorporates all of the characteristics of the phenomenon under examination. There are two parts to content validity. The two types of validity are face validity and sampling validity. Face validity assesses the suitability of the instrument used to measure the phenomenon in question. Sampling validity, on the other hand, assesses whether the study's population was appropriately sampled (Frankfort-Nachmias & Leon-Guerrero, 2008).

In order to ensure the content validity of PETS, the study used a data triangulation approach to examine the information provided by respondents. Data triangulation, in which questions were placed into the instruments to gather vital information and assess the quality of the answers at the regional, district, and facility levels, is a key component of the PETS, according to Gauthier and Wane (2009). Once the central, regional, and administrative data have been triangulated to ensure that the data are accurate, the 58 questionnaires sent to the regions can be certain that they have captured all of the resources allocated to the areas (Amin & Chaudhury, 2008). In the public sector, the PETS has been used to calculate the percentage of ghost workers and employee absenteeism (Reinikka & Svensson, 2006).

Reliability refers to the degree to which a measuring instrument contains errors that appear to be consistent throughout observations, whether during a single measurement, procedure, or each time a certain variable is measured by the same instrument (Frankfort, & Nachmias, 2008). The ability of an instrument to give consistent results over time or across trials is referred to as "reliability." The "much greater data dependability" was attributable to "consistent study outcomes across metrics (Reinikka, & Svensson, 2006). The PETS has been recognized as a valid tool for measuring leakages and corruption in the public sector, hence the concepts of the PETS were applied to create questions for this study (Reinikka, & Svensson, 2006).

Furthermore, after the PETS was successfully implemented in Uganda in 1999, it was consistently used to assess the level of fraud in the public sector in many countries, including Honduras, Papua New Guinea, and Uganda (Reinikka & Svensson, 2006), Mozambique (Lindelow, 2008), and Tanzania

(Lindelow, 2008). (Sundet, 2004). In recent years, the widespread adoption of tracking surveys has been inspired by the benefits of PETS" Roubaud, Razafindrakoto (2010).

Data Processing and Analysis

For data analysis, the primary data was initially imported into the Statistical Packages for Social Sciences (SPSS). Following data entry, data assessment and cleaning were performed to guarantee that the data was error-free (Reinikka & Smith, 2004). Following that, the researchers used descriptive statistics, correlational analysis, and regression analysis to look into the relationship between the variables of ghost worker opportunities, management unit staff strength, and the impact of the electronic wage voucher system on payroll fraud removal.

The correlation coefficient determines the strength and direction of the relationship between the variables (Frankfort-Nachmias & Leon-Guerrero, 2008, 2008). The correlation coefficient ranges from -1.0 to +1.0, indicating significant negative or positive connections. A correlation value of 0.0, on the other hand, implies that the variables have no or just a weak relationship. The significance of p in the correlation coefficient determines the confidence level at which the null hypothesis can be rejected. If the p value is less than .05, the null hypothesis should be rejected, indicating that there is a high degree of confidence that genuine relationships exist between the variables. According to Bell, DiStefano, and Morgan (2010), the significance value of p shows that the study's findings, given the relevant degrees of freedom and statistical tests, are unlikely to be due to chance alone.

Chapter Summary

This part of the study elaborated the research methods employed including the research design and approach, the study area, population, sample and sampling procedure, as well as the data collection procedures, instruments and analysis technique used. The reliability and validity of the study were stressed as well.

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

The analysis of the data acquired using the methods suggested in the third chapter was presented in this chapter. The study's research questions and hypothesis were analyzed using descriptive statistics and regression analysis. In this chapter, the results of the data analysis are presented, and a discussion is conducted in accordance with the objectives and associated literature.

Descriptive Statistics

Descriptive statistics were used to describe and summarize the variable data without making any judgments or generalizations about the population. Two hundred and seventy (270) questionnaires were distributed to respondents, and two hundred and sixty-three were returned, yielding a response rate of 97.41 percent. In descriptive statistics, the study used frequency distributions and percentages to explain the research findings. Table 1 shows the results of descriptive statistics.

Table 1: Frequency Distribution of Opportunities for Payroll Fraud

Opportunities for payroll fraud	Frequency	Percentage
Retirement	112	43%
Vacation of Post	50	19%
Deceased	36	14%
Temporary Salary suspension	30	11%
End of Training (Trainees)	19	7%
Unknown Staff	4	2%
Resignation	3	1%
Employees taking multiple salaries	3	1%
End of Contracts	3	1%
Study Leave without Pay	2	1%
Employee On Transfer	1	0.38%
Total	263	100%

Source: Field Survey (2021)

Table 1 shows the frequency distribution of separated employees recorded under each type of payroll fraud potential. The retirements, vacations, or death of employees accounted for 198 (76%) of the 263 personnel that were separated. For the separated staff, there were 112 retirements (43%), 50 vacations (19%), and 36 deceased workers as potential sources of payroll fraud (14 percent). The least number of separated individuals were those on the end of contracts (three or one percent), study leave without pay (two or one percent), and employees on transfer (one or 0.38 percent). The government's separated employees who had the fewest chances of becoming ghost workers made up about 3% of the total. Out of the 263 separated workers discovered, the Ghana Education Service had 190 (72%) separated staff, the Ghana Health Service had 47 (18%) split staff, and the Local Government Service had (8) (3%) separated staff.

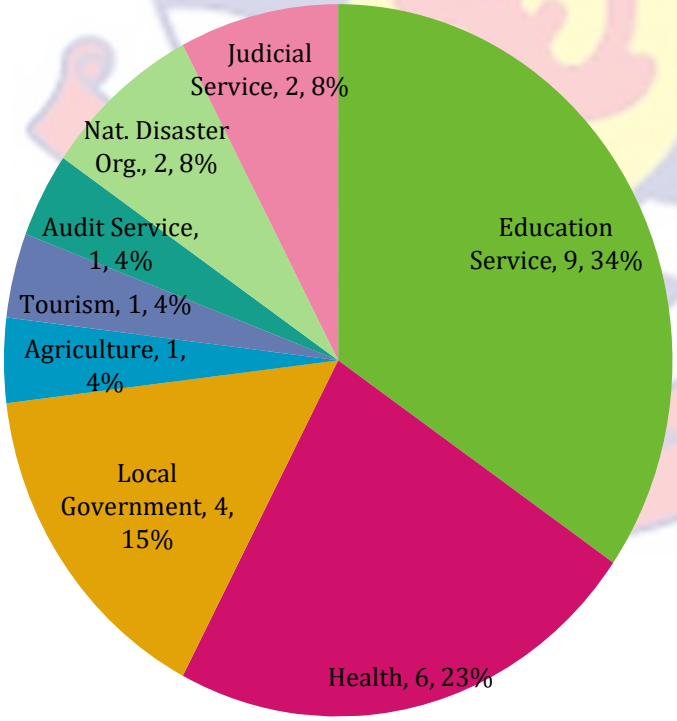

Figure 2: Number of Opportunities per Sector

Source: Field Survey (2021)

The number (and percentage) of payroll fraud chances by government sector is depicted in Figure 2. There were nine (34%) opportunities in the Ghana Education Service, six (23%) in the Ghana Health Service, and four in the Ghana Local Government Service (15%). With only one opportunity apiece, the Audit Service, Tourism, and the Ministry of Agriculture had the fewest opportunities (4%). Employee retirements, vacations, and death, according to the aggregate results of the descriptive data, provided the biggest potential for payroll fraud. The largest government organizations in Ghana, such as the Ghana Education Service, Ghana Health Service, and Local Government Services, had the most opportunities. Furthermore, the Ghana Education and Health Services, which employs about 80% of the country's public sector workers, has the highest risk of payroll fraud.

Multiple Linear Regression Analysis

A multiple linear regression analysis was conducted using the default input strategy in the SPSS analytical software to determine how much each independent variable contributed to the changes in the prevention of payroll fraud. The data was then examined and categorised for the research variables: payroll fraud prevention (PFP), which was the dependent variable, and independent variables – biometric identification number (BIN), bank verification number (BVN), and electronic transfer system (ETS).

Results of Analysis

Tables 2, 3, and 4 provide the regression results of the effect of electronic payment systems on payroll fraud prevention in selected Ghanaian government agencies using CAGD as the research topic and data source, with an emphasis

on the electronic payment systems variables (BIN, BVN and ETS) and their significant effects on payroll fraud prevention.

Table 2: Model Summary of Effect of Electronic Payment Systems on Payroll Fraud Prevention

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin Watson (DW)
1	.961[a]	.923	.693	.0299	2.515

Source: Field Survey (2021)

Table 2 indicates the results of the model summary. It shows the R, R-Square and the Adjusted R square. The figure of concern in table 2 is the R Square, the coefficient of determination, it is the proportion of variation in the dependent (payroll fraud prevention) variable explained by the regression model. An R Square value of 0.923 indicates that about 92.3% effect on a successful prevention of payroll fraud comes from the independent electrical payment systems used in this study. The model's explanatory power suggests that cumulative effect changes in the independent variables explained 92 percent of the changes in the dependent variable. This is to say that, if the system is effectively monitored, fraud could be prevented in the government's payroll system in Ghana. This agrees with Etale and Pouzigha (2020) who concluded that electronic voucher payment systems have a positive insignificant effect on preventing payroll fraud. Furthermore, the Durbin Watson (DW) score of 2.515 is close to the 2.0 threshold for no autocorrelation among the independent variables. This indicates that the study's independent variables have no autocorrelation.

The R value represents the Pearson Correlation coefficient. The R value of 0.961 indicates a very strong relationship between the electronic payment systems (BIN, BVN and ETS) and prevention of payroll fraud. Cohen (1988) suggests the following guidelines for the interpretation of the magnitude of correlation coefficient; r= +/- (.10 to .29) small, r= +- (.30 to .49) medium, r= +- (.50 to 1.0) large. Thus, the results indicate a strong positive relationship between the variables. With a corrected R-square value of 0.693, the model employed for this analysis is a proper and good match with a confidence level of 69 percent. As demonstrated by the relatively high adjusted R-square of 0.693, the regression model fits the data effectively (or 69 percent). Only roughly 31% of the variation in Payroll fraud prevention is due to unknown variables not included in the current model.

Table 3: ANOVA of Effect of Electronic Payment Systems on Payroll Fraud Prevention

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	7.989	1	7.989	4.004	.000
	Residual	27.894	152	.184		
	Total	35.883	153			

Source: Field Survey (2021)

The results of the ANOVA in Table 3 indicate a statistically significant figure of p=.000, as held up by Tabachnick and Fidell (2007), a significant level of less than or equal to .05 is necessary for social science research. If such a condition is met, then the independent variable does a good job explaining the variation in the dependent variable. In this analysis, the ρ-value is well below

.05 (ρ = .000). Therefore, it can be concluded that the R and R2 between the two dimensions of using BIN, BVN and EST (electronic payment systems) and prevention of payroll fraud is significant. Irrespective, the likelihood of F-statistics value of 0.348, electronic payment systems have a favourable but insignificant impact on payroll fraud prevention (which is greater than the 0.05 level of significance). This is alarming because the components used failed to account for other human aspects like employee fraud collaboration.

Table 4: Coefficients of Effect of Electronic Payment Systems on Payroll Fraud Prevention

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.197	1.406		0.140	.911
	BIN	.143	0.263	-0.237	0.545	.683
	BVN	0.099	0.286	0.183	0.346	0.788
	ETS	0.984	0.417	0.887	2.361	0.255

a. Dependent Variable PFP

b. Predictors; (Constant), ETS, BIN, BVN

Source: Field Survey (2021)

As a result of findings in Tables 2 and 3, the model adopted is sound enough for electronic payment systems to be used in tandem with other methods to address payroll fraud. However, with a margin of 0.143, 0.099, and 0.984, a unit increase or decrease in BIN, BVN, or ETS would result in an increase or decrease in payroll fraud prevention magnitude in Ghanaian government organizations, especially CAGD. The objectives are discussed below:

Objective 1: Determine the effect of biometric identification number on payroll fraud prevention

The coefficient of BIN in Table 4 shows that though a positive relationship on the prevention of payroll fraud, this result is insignificant. This means that in the Ghanaian system, biometric identification number is ineffective in preventing fraud. This puts the system of the electronic payment system under a lot of queries. Questions like how the system is automated, the genuineness and its effectiveness to be able to clear fraud in the form of ghost workers and even in situation where employees change work. Among other things also, is the forgery of birth certificate.

In developed countries like Bayelsa, Etale and Pouzigha (2020) found that in selected ministries, BIN is very ineffective in preventing payroll fraud. Also, in developing economies like Nigeria, electronic system of payment does not reduce the level of payroll fraud. Nwaiwu and Joseph (2021) found that this is due to the unwillingness of institutions to move from the traditional accounting system to modern (computerised accounting system) accounting report systems. Flowing from Nwaiwu and Joseph (2021), and the Ghanaian accounting system which is not mainly computerised, the findings from this study is not far from wrong. Not all institutions and its respective employees are using electronic systems of payment. Thus, they may not be using BIN, and this may make it impossible to easily tracked to reduce the level of fraud contributing to the findings in this study.

Gee (2014) also showed that a system that uses electronic means of paying employee salary is coupled with fraud. This is because as far as the first payment scheme goes through effectively using the BIN, there is no check

system to clear backlogs. Also, the beneficiaries of such accounts are full of uncouth attitude and as such do not report for the seizure of payments where necessary. Partially, the outcome of BIN not contributing to preventing payroll fraud is also attributed to the ineffectiveness or less suitable employees with the right attitude towards work to conduct periodical scrutiny to ensure that the records of employees in the respective institutions is accurate.

Objective 2: Determine the effect of bank verification number on payroll fraud prevention

The BVN is a unique banking number for an individual (employee), expected to be the same across different branches and banking institutions; clearly, the Ghanaian banking system does not have such high-level security. This study is a prove that the Ghanaian banking system does not contribute to preventing payroll fraud with a positive insignificant p-value of 0.788.

Over the years, Nigeria is one of the countries fighting against fraud and corruption. Studies from Nangih and Davies (2017), Ikechukwu et al. (2020) Ayodele (2021) are the few who have proven that in Nigeria, BVN is a strong positive significant to preventing payroll fraud. Nangih and Davies (2017) identified that enforcing a system where all employees of any level of institutions are strictly paid through a computerised system, the level of fraud is reduce. This is because, with such a system, employees cannot beat the artificial intelligence used in the systems intended to prevent fraud and ensure a more safe and easy means for payment.

This may be why for this study, BVN is ineffective in contributing to the prevention of payroll fraud. Another question that arises out from the findings of this study is to assess which level of employees are more guilty to

contributing to the ineffectiveness of the BVN. However, these employees and their institutions cannot be solely blamed for the ineffectiveness of the Ghanaian banks' contribution to fraud prevention. Ayodele (2021) reiterated that the BVN is more effective if it is fully adopted and can contribute to the reduction of financial leakage (Ismaila, Ilyas & Ishola, 2018). But the insignificant results of the study show that in Ghana, this is improbable and payroll fraud is not being preventing using BVN.

Objective 3: Determine the effect of electronic transfer system on payroll fraud prevention

Table 4 shows that the effect of ETS on the prevention of payroll fraud is insignificant in Ghana. Comparing to the other electronic payment systems, the coefficient is less than the others however, insignificant. Bakari (2021) has shown that ETS contributes significantly to the prevention of payroll fraud unlike the findings of this study. The findings of this study are in line with Etale and Pouzigha (2020) who report that electronic transfer system have a positive insignificant effect on payroll fraud prevention.

The insignificant results of this study are interpreted as the unwillingness of the ordinary Ghanaian to adopt technology and also, the inability of the accounting body to move away from traditional accounting processes. Electronic systems of payments are however shown to be more effective for monitoring the movements in an out of employee accounts (Bakari, 2020; Summers, 2012). Because, an electronic system of payment uses a database includes information on personnel activities, names and addresses, current and past salary payment information, as well as time and attendance data. The purpose of keeping these records is to make information accessible

when needed. Additionally, the system has interfaces for accounting and a number of other administrative systems, which streamlines reporting procedures. However, in this study, there is insignificant effect of electronic system of paying employee salary to the prevention of payroll fraud (Etale & Pouzigha, 2020).

Chapter Summary

The findings of data collected to examine the influence of E-SPV systems on payroll fraud prevention in the Ghanaian government payroll are summarized in this chapter. After delivering the questionnaires to the respondents, the researcher solicited responses from those who correctly answered the research questions. In this chapter, the acquired data has been sorted, analyzed, evaluated, and organized in accordance with the study's objectives. The influence of electronic payment systems factors has a beneficial impact on Payroll fraud prevention in Ghanaian government enterprises, as evidenced by the estimated beta and probability values of the independent variables (beta values 0.143, 0.099 and 0.984; P-values 0.0683, 0.0788 and 0.0255 for BIN, BVN and ETS respectively). This means that all of the study's independent variables are positively related to the study's dependent variables, with statistically not significant to preventing payroll fraud.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

The goal of this study was to ascertain the impacts of electronic salary payment voucher systems on payroll fraud prevention in the government of Ghana payroll. The study's summary, results, and recommendations are all included in this chapter. The summary of the findings is described in the first section based on the study's objectives, the conclusions are presented in the second section, and the study's recommendations for further research are presented in the third section.

Summary of the Study

The main purpose of this study was to investigate the impact of electronic payment systems on the prevention of payroll fraud in a few Ghanaian ministries. Through the adoption of electronic salary payment vouchers, all of the e-payment system factors were empirically proven to have a beneficial effect on payroll fraud prevention in Ghanaian Ministries, but the effect was not significant at the 5% level.

Summary of Key Findings

The following is a summary of the study's findings in relation to the research objectives.

With a beta value of 0.143, biometric identification numbers were found to have a positive effect on payroll fraud prevention and this result is additionally insignificant. This means that in the Ghanaian system, biometric identification number is ineffective in preventing fraud. This puts the system of the electronic payment system under a lot of queries.

The BVN is a unique banking number for an individual (employee), expected to be the same across different branches and banking institutions; the Ghanaian banking system however, does not have such high-level security. This study is a prove that the Ghanaian banking system does not contribute to preventing payroll fraud with a positive insignificant p-value of 0.788.

Finally, electronic transfer systems were found to have a positive effect on payroll fraud prevention with a beta value of 0.984. This shows that electronic transfer systems play no role in preventing payroll fraud. The insignificant results of this study are interpreted as the unwillingness of the ordinary Ghanaian to adopt technology and also, the inability of the accounting body to move away from traditional accounting processes.

Conclusion

The impact of computerized salary payment systems on payroll fraud prevention in a few Ghanaian ministries was investigated in this study. The study's specific objectives focused on the impact of electronic payment systems on the prevention of payroll fraud. These goals were determined using a survey research approach, and data for the study was collected using questionnaires arranged on a 5-point Likert summated rating scale. Multiple regression analysis was used to examine the data.

The study's findings revealed that the electronic payment system variables (BIN, BVN, and ETS) had a positive impact on payroll fraud prevention. Furthermore, all of the independent variables were shown to have a positive relationship with the study's dependent variable, however the relationship was not significant at the 5% level. Electronic payment methods, according to the research, have a positive influence on combating payroll fraud.

Recommendations

The study puts forth the following recommendations in line with the findings made:

1. The government, heads of ministries, departments, or units are recommended to take appropriate actions to ensure full compliance with BIN by all employees in Ghana's several ministries.
2. The government of Ghana should ensure that all employers, government employees, giving and receiving salaries use the BVN so that financial transactions in the employee's salary account can be tracked to avoid financial leakage.
3. In addition, the government should ensure that accountants in charge of salary payment closely adhere to electronic means of transferring employees' pay cheques, and that manual payments are no longer used.
4. The study further recommends that every employee on Government payroll obtain a BVN in order to track financial transactions in the employee's salary account.

Suggestions for Further Studies

Regression models should be used in data analysis in future research to predict the number of other problems in the electronic wage payment system. The findings of this study were intriguing, and further research having access to the entire list of all management units in Ghana's public sector is suggested as a next step. In addition, more research might be done to see how long separated employees continue on the payroll before being removed from the system.

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APPENDICES

APPENDIX A

UNIVERSITY OF CAPE COAST

COLLEGE OF HUMANITIES AND LEGAL STUDIES

SCHOOL OF BUSINESS

DEPARTMENT OF ACCOUNTING

QUESTIONNAIRE

Dear Sir/ Madam

This research instrument has been drafted to derive the impact of electronic salary payment voucher on the prevention of payroll fraud in the government of Ghana payroll. A case study of CAGD. Please note that the confidentiality of your response is assured. Please select the appropriate options for the questions. Thank you.

Section I: Background Information

1) Gender of respondents

a. Male [ ]

b. Female [ ]

2) Age of respondent

a. 20-29 years [ ]

b. 30-39 years [ ]

c. 40-49 years [ ]

d. 50-59 years [ ]

e. 60-69 years [ ]

Section II: Evaluation of Payroll Fraud Prevention

	ITEMS	SA	A	N	D	SD
1	Physical and electronic surveillance activities ensure payroll fraud prevention					
2	A thorough review of source documents is one core attribute of preventing payroll fraud.					
3	The arithmetical accuracy of payrolls can be checked properly before recommending for further necessary actions through the use of forensic auditors.					
4	Payroll fraud prevention ensures that no one employee performs various aspects of salaries and wages in the public sector.					
5	Proper checking of clock cards, attendance register and time recording by employees to avoid earning manipulation.					

Section III: Evaluation of Biometric identification number on Payroll fraud prevention

	ITEMS	SA	A	N	D	SD
1	Can biometrics identification reduce ghost employees, false employee's claims and time theft					
2	Payroll fraud can be handled if the government Payroll system is computerized.					
3	Payroll fraud can be reduced by the use of Biometrics identification.					
4	Payroll fraud can be eliminated through the use biometrics identification					
5	Biometrics identification can stop Payroll fraud					

Section IV: Evaluation of Bank verification number on Payroll fraud prevention

	ITEMS	SA	A	N	D	SD
1	Payroll fraud can be reduced by the use of bank verification number (BVN).					
2	Payroll fraud can be eliminated through the use of bank verification number (BVN).					
3	Bank verification Number (BVN) has a significant impact on prevention of ghost workers					
4	bank verification number (BVN) can reduce Payroll fraud					
5	Bank verification number (BVN) can eliminate Payroll fraud					

Section V: Evaluation of Electronic transfer system on Payroll fraud prevention

	ITEMS	**SA**	**A**	**N**	**D**	**SD**
1	Electronic Transfer System involves computerized payroll System.					
2	Electronic Transfer System involves Biometrics identification and bank Verification number (BVN).					
3	Electronic Transfer system has a Significant Impact in the prevention of Ghost workers					
4	Electronic Transfer system impacts Significantly on the prevention of false Employee's claims.					
5	Electronic Transfer System impacts positively on time theft					

APPENDIX B: Questionnaire Administered to Institutions

SECTION 1: Information on management units

1. Name of agency or management unit……...…...

2. Rank or grade of respondent……

SECTION 2: Information on separated staff in government agencies in Ghana?

1. What is the staff strength of your agency/ management unit? [ ]

2. Do all employees in the agency/ management unit receive salary through the payroll at the Controller and Accountant General's Department (CAGD)?

Yes [] No []

3. If yes, how many employees receive salary through the CAGD payroll?

[] **If No, then answer questions 5 and 6.**

4. State the number of employees not paid through the CAGD payroll []

5. Select how the employees in question 4 above are paid by selecting from the payment options below

a. By check [ ]

b. cash [ ]

c. direct bank deposit [ ]

6. Indicate the number of employees on CAGD payroll under each employee category below:

a. Established/Permanent staff [ ]

b. Contract employees [ ]

c. Part time employees [ ]

d. Other categories not indicated above……

7. Select the source of funding for salaries of staff in your agency/ management unit?

a. Government of Ghana funds [ ]

b. Internally Generated funds [ ]

c. Donor funds [ ]

d. Statutory funds [ ]

8. Please state the number of employees paid under each source of funding

a. Government of Ghana funds [ ]

b. Internally Generated funds [ ]

c. Donor funds [ ]

d. Statutory funds [ ]

9. How many employees on CAGD payroll retired in 2016? [ ]

10. Please provide the information on employees on CAGD payroll who retired in

2016 in the table below.

	Rank	Dates of retirement	Date CAGD stopped the salaries from the payroll
1			
2			
3			
4			

Please note: If there are more employees than the space provided in the above table, please feel free to add the details (same as in the table) on a separate sheet.

11. How many employees on CAGD payroll vacated their posts in 2016? [ ]

12. Please provide the information on employees who vacated their posts in 2014 in the table below

	Rank	Date the staff vacated their post	Date CAGD stopped the salaries from the payroll
1			
2			
3			
4			

Please note: If there are more employees than the space provided in the above table, please feel free to add the details (same as in the table) on a separate sheet.

13. How many employees on CAGD payroll went on study leave without pay in?

2014? [ ]

14. Please provide information on employees who went on study leave without pay in the table below

	Rank	Date of study leave without pay	Date CAGD stopped the salaries from the payroll
1			
2			
3			
4			

Please note: If there are more employees than the space provided in the above table, please feel free to add the details (same as in the table) on a separate sheet.

15. How many employees on CAGD payroll were deceased in 2014? [ ]

16. Please provide information on deceased employees in 2014 in the table below

	Rank	Date staff were deceased	Date CAGD stopped the salaries from the payroll
1			
2			
3			
4			

Please note: If there are more employees than the space provided in the above table, please feel free to add the details (same as in the table) on a separate sheet.

17. How many employees on CAGD payroll resigned in 2014? [ ]

18. Please provide information on employees who resigned in active service in 2014 in the table below

	Rank	Date of resigned	Date CAGD stopped the salaries from the payroll
1			
2			
3			
4			

Please note: If there are more employees than the space provided in the above table, please feel free to add the details (same as in the table) on a separate sheet.

19. How many employees on CAGD payroll were dismissed in 2014? [ ]

20. Please provide information on employees who were dismissed in 2014 in the table below

	Rank	Date of dismissal	Date CAGD stopped the salaries from the payroll
1			
2			
3			
4			

Please note: If there are more employees than the space provided in the above table, please feel free to add the details (same as in the table) on a separate sheet.

21. Do you have any staff who is not currently at post in your management unit but receiving salary? Yes [] No []

22. State the reason(s) why these staff are not at post

	Reasons for staff not being at post	Rank	Date of absence	expected date of reporting back to work
1				
2				
3				

Please note: If there are more employees than the space provided in the above table, please feel free to add the details (same as in the table) on a separate sheet.