

The causes and remedies for perennial ghost workers fraud in payroll in Tanzania

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AJoGPL
ISSN: 2789-2298

Vol 1. Issue 3.
pp. 57-71, June 2022
<https://ajogpl.kab.ac.ug>

Abstract

With the advent of information communication technology (ICT), Tanzania launched human capital management information systems (HCMIS) to create, store, and share human resource information to solve perennial challenges like ghost workers on the payroll. Despite these efforts, ghost worker fraud on the payroll remains a recurrent problem. This situation undermines the quality of public service and creates losses on the wage bill. Previous studies did not clearly explain the reasons for perennial ghost workers on the payroll in Tanzania. Therefore, the paper explains the causes of perennial ghost workers on the payroll and proposes potential measures to curb it. Data were collected from the President's Office, Public Service Management and Good Governance which is the custodian of Human Capital Management Systems of all government public offices in the Tanzanian government. Drawing from a thematic analysis of ten interviews and a systematic literature review, the paper provides insights into the subject matter. Findings reveal that HCMIS is not a panacea in addressing perennial ghost workers fraud on the payroll. It depends on ethical and professional bureaucrats. However, the persistence of ghost workers on the payroll is amplified by the weak management systems and unethical bureaucrats' lust to squander public funds on the payroll. Without strengthening HCMIS and taking stern measures to prosecute fraudsters and regain lost funds and trust, ghost workers will be a common feature of the payroll in Tanzania.

Key words: Payroll Fraud, Corporations - Corrupt practices, Fraud - Prevention, Ghost workers, Tanzania

Introduction

The United Nations documents consorted efforts for transforming institutions; strengthening integrity, transparency and accountability; and preventing and combating corruption, which could contribute to advancing development in all spheres (United Nations, 2019). At the core of development, the quality of civil matters a lot. It is an engine of the development and growth of any nation. The desired quality of civil service, among other issues, is free of ghost workers on the payroll (Nyaledzigbor, 2015). Ghost workers are names of formerly employed or fictitious civil servants who are ineligible to be paid salaries and any other fringe benefits. There were several efforts to remove ghost workers from the payroll like retrenchment, the headcount of employees, and the installation of ICT supported systems in the public offices to create civil servants database (Stevens and Teggemann, 2004). However, disappointingly, ghost worker fraud on the payroll continued to gain momentum and popularity (WHO, 2020).

For instance, in 2007 Ghana reported over 1937 ghost employees (Nyaledzigbor, 2015); in August 2013, Zimbabwe unveiled more than 75,000 ghost workers (Moyo, 2017); between 2014 and 2016, Nigeria removed 110,000 ghost workers and saved more than 33 million dollars (Haruna et al., 2015). In 2014, due to ghost workers fraud, Kenya paid \$million to ghost workers (Hope, 2014). Wastage of public resources decreases public sector performance and weakens the government's role in improving the quality of service provision.

In Tanzania, efforts against three enemies (i.e. diseases, ignorance, and poverty) translate the wage for independence (Nyerere, 1967). Arusha Declaration in 1967, African socialism and other reforms aimed at combating the three enemies. In 1991, Tanzania initiated the Civil Service Reform Program (CSR) for staff retrenchment, identification of ghost workers, and establishment of payroll controls (Therkildsen, 2001). In 1997, further initiatives established Payroll Verification Exercise (PVE) (Therkildsen, 2001). This exercise required employees to appear in person, authenticate their particulars, and sign off against payroll-sourced lists. The PVE enabled the government of Tanzania to detect and remove about 4,600 ghost workers from the wage bill (Kiragu, 1999). Another strategy was launching ICT supported operations (LAWSON) that had to streamline two lists of civil servants from the Public Service Management office and the Finance Ministry (Schalkwyk and Widner, 2012). The strategy enabled the detection and removal of about 1,400 ghost workers on the payroll. From this phase onwards, bureaucrats could not easily collude with salary payments. Ideally, the users could not temper with the new system (IRMT, 2007). However, ghost workers' fraud on the payroll continued. It undermined the government efforts because it perpetuated siphoning of public resources and worsened public service delivery. These situations exacerbated further the level of poverty, ignorance, and diseases in Tanzania.

Tireless reforms in public service resulted in the launching of the Human Capital Management Information System (HCMIS) in Tanzania (IRMT, 2007). The HCMIS stores, retrieve, and shares reliable human resources information between and amongst ministries, departments and agencies (MDAs) and Local Government Authorities (LGAs) (Silva and Lima, 2018). The HCMIS increases efficiency and effectiveness (Daniel, 2015). It captures names, birth dates, professional qualifications, positions, and salaries (URT, 2016). All this supports informed decisions concerning employees' recruitment and hire; promotions, transfers, leaves, performance appraisals, salaries, training, turnover rates; and personal information. Notwithstanding the use of high technology and some notable triumphs, in 2014/2015, formerly employed civil servants received Tshs. 392 million. In 2015/2016, the same phenomenon increased to Tshs. 1,007 million (IMF, 2016; Safe Global, 2021). The Controller and Audit General (CAG)'s review reveals that the Rural Energy Agency 2019/2019 paid Tshs. 146 million to ghost workers (National Audit of Tanzania, 2020). This situation raises doubts about the efficiency and effectiveness of the HCMIS. In addition, reviewed empirical studies on HCMIS which include but are not limited to Haruna, Joseph and Samson, 2015; Ndaro, 2016; Njau, 2017; Oguzierem, Sofiri and Okodudu, 2017) concentrated on the consequences of ghost workers on the payroll. Most of the studies tangentially explain the emergence and persistence of the ghost workers on the payroll in Tanzania. Thus, the paper specifically explains the causes of ghost workers' fraud in the payroll, explores the persistence of ghost workers fraud in payroll systems, and suggests possible solutions to the menace.

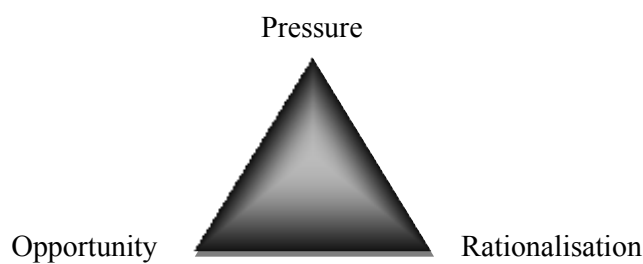
Theoretical premises

To explain the causes of ghost workers on the payroll, we subscribe to the Fraud Triangle Theory (FTT) and its derivative; Diamond Fraud Theory (DFT). In exploring the persistence of ghost workers on the payroll, we apply Fraud Management Lifecycle Theory (FMLT). The FMLT provides a framework for reasons behind the repeatedly/ regeneration of ghost workers on the payroll in Tanzania. In the subsequent sections, we identify each theory, its tenets and linkages to explain ghost workers' frauds on the payroll.

The fraud triangle theory

According to Cressey (1953), there are reasons for ghost workers on the payroll. Cressey orates that bureaucrats in cooperation with other people engage in fraud related to stealing government funds. However, fraudulence cannot occur without the presence of synchronized factors. Those factors are; "pressure, opportunity, and rationalisation" hence a triangle theory (FTT) (Cressey, 1953).

Figure 1. Fraud Triangle



Source: Abdullahi, Masor and Nuhu (2015:32)

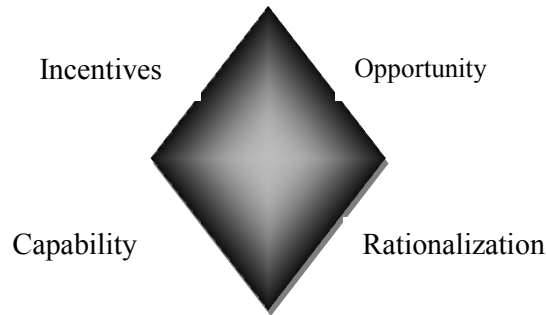
The pressure denotes political, financial, non-financial, and social issues bureaucrats experience (Cressey, 1953). They include lavishly living and lack of or inadequate discipline. For example, gambling exemplifies non-financial pressure. Social and political pressures happen because bureaucrats believe they cannot drop their prominence (Kassem and Higson, 2012). For example, the bureaucrats involved in salary payments would manipulate the systems to squander public money to fulfil social obligations. However, nothing happens without the bureaucrats identifying an opportunity for committing fraud. Perceived opportunities for fraud are weak internal-control mechanisms or pitiable supervision systems that pave the way for bureaucrats trusted to manage HCMIS to embezzle salary and fringe benefits funds (Abdullahi, Masor and Nuhu (2015). However, pressure and perceived opportunities cannot result in fraudulence on the payroll without bureaucrats rationalizing their behaviours. By subscribing to this ill-gotten notion, wretched bureaucrats bring forth validations to defend decadent demeanour. Some of the elucidations and alleged reasons bureaucrats use may include but are not limited to, "some people did it why not me too", "and others justify their action as "I had to steal to meet my family obligations". Despite the FTT's powerful explanations on the causes of the ghost workers on the payroll, it is yet to respond to, why does not everyone who experiences pressure, opportunity and rationalization commit fraudulence in the organization? The Diamond Fraud Theory could provide the most probable answer.

Diamond fraud theory

The diamond Fraud Theory is an extension of the Fraud Triangle Theory. Wolfe and Hermanson just added one element (capacity) to the triangle theory to convert a Fraud Triangle Theory to a Diamond Fraud Theory.

Wolfe and Hermanson (2004) suggest an answer to the above question. Even under tighter control and broader oversight, fraud acts would persist on the payroll in Tanzania as Wolfe and Hermanson assert, "...despite intense efforts to stamp out corruption, misappropriation of assets, and fraudulent financial reporting, it appears that fraud in its various forms is a problem that is increasing in frequency and severity" (2004:38).

Figure2. Fraud Diamond



Source: Wolfe and Hermanson (2004)

Capability refers to the individual's ability and traits because they are a prerequisite of frauds whenever there are other three elements (i.e. perceived pressure/motive, opportunity and rationalization). Lister (2007) and Rae and Subramaniam (2008) demonstrate that incentives and rationalization can only bring the people toward the doorway created by the opportunity to commit frauds on the payroll. Persons who commit fraud on the payroll for a long time or on a large amount of money possess various traits. They use their positions and functions in managing HCMIS to create the ability to seize opportunities not available to other employees. For example, corrupt bureaucrats whose capabilities permit them to verify the payroll can do it maliciously.

The capabilities of the fraudsters originate from a situation whereby they are more involved in processing monthly wage bills. They gain more knowledge and control over time. Secondly, fraudsters are clever, inventive, and knowledgeable of all organization's control procedures and faults. In turn, fraudsters access the system or assets against the rules and regulations. Wolfe and Hermanson reaffirm that about 46% of the public fraud involved corporate Chief Executive Offices. Moreover, "...51% of the perpetrators of occupational fraud had at least a bachelor's degree, and 49% of the fraudsters were over 40 years old..." (Wolfe and Hermanson, 2004:40). Thirdly, fraudsters are confident enough to take the trouble to solve problems if caught. Fraudsters are egotists- determined to attain their objectives at all costs. Success in one fraud act justifies the next one. Those involved feel like proving how smart they are. Fourthly, they can compel others to hide or harass their subordinates to commit fraud. This state of affairs creates ways to avoid some processes that can deter or reveal fraud. It results in producing loopholes for deception. Fifthly, fraudsters are permanent liars who keep in mind all lies. They hide documents or constantly present incorrect information to a variety of authorities. Lastly, fraudsters control nervous tension too well to be detected. Despite Wolfe and Hermanson (2004)'s expression and amplification of the capability factor, Lister (2007: 63) argues that hardly ever capability is the basis of fabricated employees' names on the payroll. It is just "the source of heat for the fire" because not all bureaucrats under pressure seize opportunities, and rationalise the situation for frauds (Wolfe and Hermanson, 2004). Additionally, not all workers with skills and good positions in the public service department commit fraudulence (Sorunke, 2016).

Sorunke brings on the scene ethical issues (Personal Ethics) into the equation of the cause and prevention of deception on the payroll. An ethical person would perform duties according to well-established standards about right and wrong that stipulate what one ought to do in the light of rights and responsibilities to society (Sorunke et al., 2014; Safe Global, 2021). Ethics is the summation of norms that guide the individuals' behaviours in the public office (Sorunke et al., 2014). It is not just capability, pressure/incentives, opportunities, and rationalizations that make fraudulence on the payroll for personal gains, but the level of personal ethics matters. Findings demonstrated that a high level of integrity matters because even under pressure, some bureaucrats do not commit fraudulence (Sorunke, 2016). Committing fraud by unethical bureaucrats does not need any pressure, but one just wants to accumulate wealth. Some bureaucrats are already wealthy due to gluttony. But they continue amassing wealth through deception. Sorunke (2016) insists that individuals with the capability and low personal ethics with determination to advance the ill-gotten agenda collaborate with internal or external bureaucrats for grand or long-term deceptions.

For that reason, motivation, integrity, opportunity, and capability of the employees explain the cause of ghost workers on the payroll in Tanzania. Rationalization is associated with personal integrity (Kassem and Higson 2012:194; Rae and Subramaniam, 2008:106). Employee veracity is about "the personal code of ethical behaviour each person adopts" (Albrecht et al., 1984:18). Unlike pressure and rationalization, personal integrity is the fundamental element. It reveals itself through both one's decisions and the decision-making process (Kassem and Higson, 2012:193). It is important to acknowledge that the cause of ghost workers on the payroll is a versatile occurrence. To curb it requires one to know all possible reasons for ghost workers fraud on the payroll in Tanzania. The proceeding section tersely uses a Fraud Management Lifecycle Theory to exhaust explanations of ghost workers on the payroll.

The fraud management lifecycle theory

Wilhelm (2004) uses fraud management lifecycle theory (FMLT) to explain how to stop or significantly decrease deception in the workplace. Managing fraud involves a lifecycle of the network where each stage in the lifecycle is a collective entity (Wilhelm, 2004). Eight linked measures make up the theory; "deterrence, prevention, detection, mitigation, analysis, policy, investigation and prosecution" (Wilhelm, 2004:9). Deterrence involves ending fraud on the payroll earlier than its occurrence by making the path difficult and fear of corollary for fraudsters to migrate. It intends to avert or dishearten fraud before it occurs. Deterrence is the result of each stage of FMLT to restrain and detracts elements of fraudulence. Its triumph is dependent upon the performance of other steps of FMLT.

Prevention involves activities to stop fraud from occurring. Here, the fraudsters hide from performing or perpetrating fraudulent actions. It is reasonable to end losses to occur versus continuity of fraudulent activity. Detection intends to disclose the existence of a fraud attempt, for instance, using detective measures based on statistics to know fraud before it occurs. By design, HCMIS should contain defensive measures, processes, and authentications to make it harder for fraudsters to temper payroll data. If governments pay all salaries and fringe benefits through the employees' banks, it is more difficult for the fraudsters to create fraudulent bank accounts (Tefurukwa, 2021). Mitigation intends to avoid damages from occurring or accomplishing fraudulent actions. For instance, making a bank account inactive whenever suspicions arise on any financial transactions such as salaries and other fringe benefits can stop fraudulence. It could avoid severe losses due to fraud on the payroll.

It aims at quick actions to reduce the extent of efforts and losses incurred to regain or correct the impact of fraudulence. However, mitigation performance is the function of the business environment and detection tools.

The analysis intends to comprehend the occurrence of losses despite deterrence, detection, prevention, and mitigation actions. For example, the government has to assess the consequences of the fraud on the payroll and study to determine the factors behind the losses, and impacts and find sustainable answers. The government can apply a method like root-cause analysis (Wilhelm, 2004). The policy aims at creating, evaluating, communicating, and assisting in the formulation of rules and regulations to lessen the occurrence of fraud and the nuisance to lawful customers. For instance, the government should allocate enough resources to fight against ghost workers' fraud on the payroll. The policy must well stipulate deterrent value, loss decrease, operational scalability, and efficiency.

Investigation assists to collect sufficient proof and information that can assist in curtailing deceptive action, returning assets, and presenting evidence for trial and conviction of the fraudsters. Deception investigations involve three main issues, “internal investigations, external investigations, and law enforcement coordination. The first area, internal investigations, includes investigations of employees, contractors, consultants, or vendors. External investigations examine customers (fraudulent claims), fraudsters (individual crooks), and groups (an association of criminals)” (Wilhelm, 2004:14). Lastly, the prosecution is due to all the achievements and breakdowns in the FML. It embraces regaining assets, criminal compensation, and conviction with its attendant deterrent value. The prosecution aims at punishing fraudsters. It curtails deceptions by establishing, maintaining and enhancing the reputation and obtaining recovery or restitution wherever possible.

Previous studies on ghost workers' fraud on the payroll

Empirical studies have covered several issues concerning human capital management systems and ghost workers on the payroll. For example, Haruna, Joseph, and Samson (2015) examined “the performance of the Integrated Personnel Payroll and information system (IPPIS) to ghost works problem in LGAs in Nigeria”. Findings reveal a negative association between the fake workers' problem and productivity. The ghost workers cause low employee morale, epic deception, decreased employee career prospects, and reduced efficiency and effectiveness. The study found the effects of the ghost workers' syndrome, which included low morale among workers, irregular payment of salaries to ghost workers, low efficiency, corruption, reduced career prospects, and carrier training opportunities. In a vicious cycle, these effects are motives/pressure for bureaucrats to commit fraud (Cressy, 1953). While Haruna, Joseph and Samson advocated political support to make IPPIS effective, both Haruna et al.,2015, and Cressy's, 1953 studies do not explain how ghost workers could appear on the payroll and the way the IPPIS could combat ghost workers fraud in the payroll. It is difficult to wipe out ghost workers in public offices without knowing their genesis.

Oguzierem, Sofiri and Okodudu (2017) examined ghost workers fraud and its effect on the payroll and unemployment in the education sector in Bayelsa state in Nigeria. The study subscribed to the FMLT of Wilhelm (2004) and adopted cross-sectional and ex-post-facto research designs. The study shows various dimensions of ghost worker fraud used in the public service.

It includes multiple employments, multiple salaries with different names, receiving more payment than one is entitled to, backdated employment and inherited employment. Furthermore, the study shows that ghost workers' fraud inflates the wage bills in the public sector and reduces employment opportunities for newly qualified candidates. It resulted in the government continuing to ban new employment due to saturation of nominal and payrolls with ghost names. This article builds on the study by Oguzierem, Sofiri and Okodudu (2017). It subscribes to a similar theoretical framework to control the inclusion of fake ghost workers in the payroll in Tanzania.

Poncian and Mpambije (2015) examined how local government authorities (LGAs) work to meet objectives, probable grounds of failure to use funds as planned and implications to the poor Tanzanians. The study reveals that most of LGAs in Tanzania suffer from salary embezzlement. Money spent on ghost workers was Tshs 178,066,130 in 2007/2008 and Tshs 832,448,998 in 2012/2013. This situation shows that efforts to curb fraudulence in the LGAs were still weak as the embezzlement of the government funds on ghost workers increased by 21% in five years. Besides, Ndaro (2016) and Njau (2017) show that even when HCMIS was used to assist LGAs to manage human resources, LGAs were still facing inadequate information flow between and amongst MDAs concerning employees' information. Njau (2017) regrettably anticipated some LGAs to face serious problems using HCMIS. Nevertheless, studies by Poncian and Mpambije (2015), Ndaro (2016) and Njau (2017) did not shed light on the repeated cause of ghost workers in the payroll before and after the introduction of HCMIS. Unless we address these issues, governments could continue to waste funds on ghost workers.

Previous studies have explored well the consequences of ghost workers fraud in the country's economy, payroll, new employment opportunities, and employees' performance. They have also identified various dimensions of ghost workers' fraud and ways to eradicate it. On the other hand, knowledge regarding the emergence and persistence of ghost workers in the payroll system remains a paradox. This study bridges the gap by identifying the causes and management of ghost workers in the payroll in Tanzania.

Methods and Materials

We use a case study research design for in-depth examination and a rich understanding of the efficiency and effectiveness of the HCMIS in managing the predicament of fraud in the payroll system. The study employs a case study from the President's Office, Public Service Management, and Good Governance (PO-PSMGG) at Dodoma municipality. The researchers purposely selected the area of data collection because it is the centre for managing all human resources activities of the government in Tanzania. The study employs interviews as the main source of primary data. Ten interviews were conducted. In this category, purposively we selected a director of the division of human resource management, three staff responsible for managing HCMIS, four staff for the staff inspection section, and two staff from the payroll management section. All staff members were conversant with the human capital management system.

To obtain rich information from the interviews, we employed semi-structured interview guides with open-ended questions. This approach enabled us to use key questions and examine more details about the phenomena under discussion by posing more questions and occasionally allowing the interviewees to enrich their responses to cover all pre-determined questions. On average interviews lasted for half an hour.

All interviews were conducted in Kiswahili. Consent of the interviewees, we recorded all interview sessions. This enabled us to transcribe all audios. Therefore, the first versions of transcribed interviews were translated into English versions for easy and further coding processes.

We employed thematic analysis. For having a general idea of its background, we started by reading and re-reading the whole data. Then from each interview, we underlined words and or phrases and sentences in paragraphs that indicated the answers to the study. We generated codes for highlighted words such as weak, ghost workers, outdated, and inefficiency. Then by using codes we established themes. For example, we established themes such as an ineffective system for payroll, an unreliable employees' database and an unfaithful system manager. We compared original data with established themes to identify additional points and modify themes accordingly.

In the result section, we present quotations with established themes, without making any judgement. However, to establish the underlying meaning of the opinions and viewpoints of the respondents, we interpret data to get some reasons. We demonstrate this in the discussion section by presenting the meaning of the findings and discussing it.

Results

The interviews and document review form the foundation of findings in this paper. The presentation of the results follows the sequence of questions on the causes of ghost workers on the payroll, the capacity of HCMIS, and reasons for the perseverance of ghost workers fraud in the public offices.

Fake workers on the payroll systems

By using the interview guide, the findings show that ghost workers appear on the payroll systems such as ghost names, deceased ghost workers, and voluntary and retired ghost workers. However, the payroll contains ghost workers due to what the Director of the Human Capital Division narrated:

The old system generated ninety per cent of the ghost staff whose information was in hard copies before 2016. We have imported such information into the electronic system. There were many ghost workers on the payroll. We had to take further steps to remove ghost workers from the payment system. After re-auditing such kinds of ghost workers frauds are no longer a challenge as the exercise reduced them by 99%. However, possibly the staff retired in a government institution, but an employer who is not honest did not remove them from the payroll system, and we continued to make payments. Moreover, this often happens to retired voluntarily employees below 60 years of age. Also, for those who retire at a later age (i.e. above 60 years of age), for example, Professors and lecturers in high learning institutions the current system cannot identify their precise retirement date and conduct automatic terminations.

In addition to this, findings suggest more sources of fake workers on the payroll, which the government of Tanzania continues to incur at the expense of other costs. Shedding more light on this, one of the Human Capital Management Officers (I) had this to say:

Official authorities may terminate some employees due to disciplinary offences. We are not involved in the processes. Therefore, unscrupulous employers may not inform us or remove such staff from the payment system. We may continue to make payments as usual to terminated employees after a year or months, we

continued to make payments as usual, and that is when ghost workers become a gate of embezzlement of the public funds.

In addition to disciplinary cases, the deceased employed who remain on the payroll as actual civil servants create ghost workers, as well as one of the officers II, had this to utter:

Besides, the employee may have died many days ago without updating the information in the systems. Systems that remain outdated make MDAs and LGAs continue to pay unlawful employees as usual until when responsible office brings the updates on the scene. The worse scenario is when dishonest system users can change information such as account numbers of the employees in the system anytime without higher authorities being aware.

Reduction or stopping fake workers on the payroll

One of the functions of HCMIS is significantly to reduce or avoid ghost workers. Responses regarding the efficiency and effectiveness of HCMIS on this matter show varying inclinations. Responding to how HCMIS helps the government to decrease ghost workers on the payroll, the Human Capital Management officer IV had the following to say:

Through the system we have, the employee who has reached its retirement age of 60 years, the system immediately removes him without commands from the system user 'automatic termination at 00:01 AM. Through the existing system, it helps to have enough staff information, conduct physical inspections, and carry out audits of employees and payments when we go to government offices.

Furthermore, human resource officer VII systematically explains how they combined several steps alongside the HCMIS to resolve some perennial challenges as follows:

...to enter employee information in the HRMIS you must go through many steps. For new employment, Public Service Recruitment Secretariat and NACTE must verify their professional certificates. The employee has to report physically to his employer; the employer will send the information to the approver at PO-PSMGG; the approver will ask the employer for a confirmation letter from the NACTE and Secretariat of Recruitment connected to the 'HCMIS' system. Moreover, for promotions... system users are required to attach a special verification letter. It is given by the general secretary after the approval of PO-PSMGG. Thus, for a ghost worker to enter the payroll, an employer or a perpetrator must deceive every step and fake verification from the exams council, employment secretariat and approver is not easy. Therefore, this system prevents the entering of ghost workers from the payment system.

Adding to this, Human Capital Management Officer V had this to assert:

The system does not allow entering the same employee information. For example, the system requires the user of HCMIS to fill out the employee profile, including all the proven notes such as academic, birth certificates, employment letters, and a check number. Thus, the system user incorporates the same information to avoid double payments.

Identification of ghost workers

The study also examines how HCMIS detect and identifies ghost workers in the system. Responses on the usage of HCMIS to spot fictitious names on the payroll are divergent.

Some respondents agree that HCMIS can control ghost workers, but others disagree. For example, Human Capital Management Officer IX revealed the following:

The system can track and detect an employee who has reached his retirement age of 60'. However, the system cannot track or detect the presence of staff at work every day. Therefore, HCMIS cannot show employees who have just died, voluntarily retired and MDAs and LGAs terminated.

The other respondent; the Human Capital Management Officer X also had this to demonstrate:

The system cannot detect ghost workers, but through the HCMIS, we get enough information and use our unit Staff Inspection Section to verify this. We go to government offices and compare the staff list details at the government department with the staff list in the payroll system. If we usually hear rumours of fraud, we go there to find out more. We take measures that require all employees to be present and sign a form in person. We order the employers to act upon the situation according to the law.

Tracking fictitious compensation

Responding to the ability of the HCMIS to stop and or identify unlawful payments, Human Capital Management officer VIII explains the following:

No, HCMIS as a system cannot detect fictitious compensation, unless, the audit experts use the information they have in the system to check whether the paid employee is eligible or not.

Additionally, Human Capital Management Officer II provides further elaboration as follows:

The system does not accept two accounts for one employee. Therefore, it is not easy to make double payments. Nevertheless, the unfaithful system manager can change the account number of the staff to swindle government funds without other system managers being aware of the incident. The system does not verify data entered with other authorities' databases like NIDA on the birth certificate and other particulars. Due to this, systems managers may enter HCMIS incorrect data like employees who have passed away and conceal manipulated all details.

Persistence of Ghost workers on the payroll

Responding to why ghost workers seem to be a perennial challenge to public service even after the installation of HCMIS, Human Capital Management Director asserts that:

We installed HCMIS, but we are still facing challenges. The system cannot track or identify the existence of an employee at work every day. Unless the employer himself provides information, we do not know who has just died, whom MDAs or LGAs have just dismissed, or employees who have voluntarily retired. Above all, except for the Government Salary Payment Platform (GSPP), there is no proper connection between HCMIS and other e-government systems.

Other respondents provide more or less similar responses to the issues concerning the persistence of fake workers on the payroll. For example, Human Capital Management officer III adds the following opinions:

The system gives enormous power to the users to change the information at any time and without approval from a higher authority. For example, the users cannot make any changes without permission to change the account number of payments. All this may result in the continued existence of ghost worker frauds.

Adding to the above explanations, Human Capital Management officer VIII perceive the reasons for the persistence of fake workers on the payroll as follows:

Though the system has tried to reduce the number of ghost names on the payroll, it is like antivirus software. It cannot solve all problems at all times. You cannot say that the problems will not repeat or completely stop. As the government try to seal all loopholes, perpetrators create new techniques to advance their agenda.

The above results show chances for the continuation of ghost workers on the payroll due to the inherent features of HMIS and the human resource management of the HCMIS at PO-PSMGG.

Discussion of the findings

Findings (see section 5.1) reveal several reasons for ghost worker fraud on the payroll. Reasons include outdated databases, irregular employees, dishonest employees, and time lag. Literature review shows that the ghost workers in the payroll systems appear as non-employees, terminated staff, dead employees, and voluntarily retired staff (Tuffour, 2002; Ingrid, 2021; Safe Global, 2021). The findings imply two sources of the ghost workers in the wage bill. First, there were ghost names that the dishonest employees could add to the new Human capital management information system. Secondly, ex-employees (deceased, voluntary retired and dead staff) in the payroll system still earned a salary. All decadent demeanours of dishonest bureaucrats could result in ghost workers' fraud on the payroll (Tuffour, 2002; Lister, 2007; Tefurukwa, 2021). Additionally, due to the pressure, unethical bureaucrats could use the outdated status of every employee in the systems for financial gain (Ingrid, 2021; Safe Global, 2021).

Nafiu, Yalo and Aduku (2016); Oguzierem, Sofiri and Okodudu (2017) and Safe Global (2021) previously established similar findings. They confirm the presence of fictitious employees, dead, retired and terminated staff on the payroll. All these are sources of fraud on the payroll. Besides, the re-engagement of some rear professionals such as senior officials and lecturers in the education sector created irregular employees on the payroll. In the absence of a mechanism to deal with unique cases, perpetrators take advantage of these opportunities to advance fraudulence. According to Cressey (1953), pressure, opportunity and rationalisation could be the causes of fraud on the payroll in Tanzania. However, the findings of this study do not clearly show that pressure drives the bureaucrats to decadent demeanours. Inadequate measures to curb corruption in the payroll remained a perennial challenge.

The findings also show that a high percentage of ghost workers on the bill were not employees. They were names of retired or terminated employees imported in the old system 'paper-based form' to HCMIS (Bwaki, 2020). We infer that records in papers were not accurate because there were not enough attempts to audit human resources before transferring information into a new system. It is possible government perceive ICT supported systems as a panacea to the problem of ghost workers on the payroll (Oguzierem, Sofiri and Okodudu, 2017). The HCMIS and other ICT systems operate based on "garbage in garbage out". Due to laxity, unreliable and invalid paper-based data, unreliable information could be created in HCMIS. ICT systems like HCMIS can solve perennial problems on the payroll. However, there is a danger of the payroll management being pro-info logic and forgetting that efficient and effective e-government services depend on social, economic and political factors (Tefurukwa, 2019).

Any e-government project that depends on technology alone is doomed to fail (Leavitt, 1964; Bostrom and Heinen, 1997; Norman, 2015; Tefurukwa, 2019). The situation partly explains the persistence of ghost workers on the payroll even after the installation of HCMIS in Tanzania. The qualities of the bureaucrats behind the systems precede the technology employed.

From the above, we deduce that systemic problems create loopholes or opportunities for dishonest bureaucrats to advance ghost workers' fraud on the payroll. Before HCMIS, the Tanzanian government conducted several physical payroll verification exercises, which Sawe and Maimu (2001) commend as successfully identifying and removing ghost workers instantly without fancy technology. However, Sawe and Maimu disapprove of some dishonest bureaucrats involved in the auditing exercises because they maliciously retained some ghost workers on the payroll. We infer this is one of the reasons for the cause and persistence of ghost workers on the payroll. Furthermore, we deduce that fraud management procedures, if not well controlled, fraudsters take advantage of the loopholes instead of improving public services in Tanzania.

The findings show that HCMIS improves the payroll system by creating databases and information necessary for payroll. It can assist the investigation by the staff at the PO-PSMGG in tackling the problem of fake workers in offices. By design, the HCMIS is a central point of access to the employee database for human resource management (Bwaki, 2020; Dialoke and Goddey, 2017). Enakirerhi and Temile (2017) demonstrate that Integrated Personnel Payroll and Information System (IPPIS) is a poll of data for human resources in the government. Valid and reliable data are sources of information for making informed decisions in public service (Safe Global, 2021). Since HCMIS creates a database, it supports the management of fraudulence on the payroll. Similar findings from previous studies (see Enakirerhi and Temile, 2017; Dialoke and Goddey (2017) confirm that HCMIS positively contributes to decreasing ghost workers. Ndaro (2017) found out that HCMIS assist in detecting ghost workers in the Shinyanga region as it improves reporting procedures that result in removing ghost workers on the payroll. Likewise, Dialoke and Goddey (2017) found out that Electronic Human Resources Management (EHRM) cleanses the payroll system in Nigerian LGAs and somehow seals fissures for fraud.

The findings (see 5.5) show several weaknesses in the system. This situation may be the source of fraud on the payroll as it creates an opportunity for the bureaucrats under financial pressure to rationalise their ill-gotten agenda (Cressey, 1950). While this is just "the source of heat for the fire", in the same vein, Ndaro (2016) found out that the HCMIS does not automatically remove retired employees. The current and the previous findings (i.e. Ndaro, 2016) are not in harmony. Due to this divergence, Fraud Triangle Theory explains that intentionally or unintentionally, human resources officers do not terminate payments to deceased and resigned employees. This situation implies that bureaucrats behind the human resource systems are the determinants of the ghost workers' fraud on the payroll in Tanzania. Therefore, while HCMIS is a technical system, as an e-government service, it cannot be efficient and effective without ethical and dedicated bureaucrats to serve the public diligently (Tefurukwa, 2020).

The findings reveal that the HCMIS cannot track and detect fictitious compensations unless PO-PSMGG auditors decide. Auditors depend on HCMIS information to conduct physical inspections. It means if the employers (i.e. MDAs and LGAs) delay information, ghost workers continue receiving salaries as usual.

We infer delayed updating information from MDAs is one of the sources of ghost workers on the payroll. Similarly, Njau (2017) reveals inefficiency and ineffectiveness in HCMIS as the source of ghost workers on the payroll. The status is due to most of the heads of the departments presenting information to the PO-PSMGG very late or no updates at all. In addition, Oguzierem, Sofiri and Okodudu (2017) demonstrate that the human capital information system is not a panacea to perennial challenges. In Nigeria, the government installed Integrated Personnel and Payroll Information System (PPPIS) in 2004, but three years later, ghost workers' fraud was still rampant (Oguzierem et al., 2017). Fraudsters create double employments (Safe Global, 2021), which results in the government paying multiple salaries to the same persons. We infer that employees responsible for human resources purposely embezzle government funds. Compounded with inadequate or lack of management measures against frauds on the payroll, ghost workers continue and increase in magnitude.

Also, findings explain the recurrence of ghost workers on the payroll despite efforts like HCMIS to manage the situation in Tanzania. Except for the Government Salary Payment Platform, strategies did not integrate HCMIS with other e-government systems. It implies a database created by the HCMIS is in silos. Inadequate linkages result in the wastage of e-government resources (Tefurukwa, 2019). Tuffour (2002) perceives systems like HCMIS to get support from all available e-government systems such as biometrics that could not make HCMIS more efficient and effective.

Bureaucrats are the main fraudsters in the payroll system. According to Therkildsen (2000), all auditing employee exercises do not identify all ghost workers on the payroll in Tanzania. Fraudsters retain some of them and create others. The physical verification exercises (PVEs) are porous. Unethical bureaucrats falsify employees' data. Likewise, Tuffour (2002) found the reappearance of ghost workers on the payroll in Ghana. It is the product of the syndicate that create a fictitious database of retired employees. The unethical employees keep changing the vouchers, workstations, and other details to fetch funds from the payroll in Ghana. The unethical employees exist to create loopholes within the HCMIS and all systems that process the remuneration of the employees. However, not all these findings are self-sufficient to explain the cause of perennial ghost workers.

According to Lister (2007) and Kassem and Higson, (2002), as long as MDAs and LGAs lack stronger or continue to have permeable systems, ghost workers become permanent on the payroll. Likewise, Ndaro (2016) found that although the human resource officers and the executive directors are responsible for HCMIS, the system could not register any of this when logged in and what s/he did in the system. It implies, by design or deliberately, that the system perpetuates frauds on the payroll. Lack of or inadequate security undermines the HCMIS and other integrated Government Salary Payment Platform (GSPP). According to Cressey (1950)'s fraud triangle theory and Wilhelm (2004)'s fraud management lifecycle theory, the perennial ghost of workers on the payroll is due to several porous avenues in HCMIS, which fraudsters use to advance ghost workers' fraud.

Conclusions and recommendations

This paper examined the cause, persistence and remedies for management of ghost workers in the payroll in Tanzania. Drawing from the findings, ghost workers on the payroll occur due to dishonest bureaucrats responsible for managing human resources.

Like any ICT system, the HCMIS is somehow imperfect either by design or application. A combination of unethical bureaucrats managing payroll and systemic weaknesses of HCMIS are the causes of perennial ghost workers' fraud on the payroll in Tanzania.

Therefore, to stop or substantially reduce the menace of ghost workers fraud on the payroll in Tanzania, bureaucrats, in particular, those behind ICT supported operations like HCMIS should demonstrate the highest level of integrity and professionalism. All systems in governments are imperfect, but when managed by ethical and professional bureaucrats, they yield the highest level of service delivery. With ethical bureaucrats behind the current system for managing human resources and payroll in Tanzania, ghost worker fraud can be reduced significantly and eventually stopped. Additionally, HCMIS should be inherent with management features that can deter, prevent, detect, mitigate, and provide evidence and information to prosecute fraudsters on the payroll in Tanzania.

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