ASSESSING THE IMPLEMENTATION PROCESS OF TREASURY SINGLE ACCOUNT OPERATIONS AND PAYMENT SYSTEMS IN TANZANIA

UDDAH M SARWATT

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ABSTRACT

Anchored on stakeholder, management and modern money theories, study on which this dissertation is based assessed the implementation of Treasury Single Account (TSA) in Tanzania. The TSA infrastructure is usually implemented as part of the Financial Management Information System (FMIS) solutions. Therefore, this study assessed the implementation process of Treasury Single Account Operations and Payment Systems in Tanzania. Specifically, the study intended to; assess the legal and regulatory frameworks of the TSA operations; investigate the TSA processes and interbank systems; and examine the oversight mechanism of the TSA. Furthermore, the study employed a quantitative approach, whereby data were collected through a toolkit questionnaire with 44 questions from 60 sample size of respondents. Analysis was done descriptively, in which only frequencies and percentages were considered. In addition, graphs and tables were used to illustrate findings. The findings show the 68.2% of the overall performance in legal regulatory framework; this indicates the average performance as rating in this research. In the process and interbank systems, results show 75% of the overall performance based on the rating implies the effectiveness in this category is good. Lastly, the oversight mechanisms in results indicates 72% of the overall performance, this is categorized as good. Inferential analysis shows that all three predictors i.e. legal regulatory framework, process and interbank systems, and oversight mechanisms were statistically significant ($P \leq 0.05$) to effective implementation of TSA. However, recommendations need the government to learn from other countries which have experienced the implementation of TSA operations for many years of time, the reason is to improve the overall performance of the implementation up to the highest rating score points.

DECLARATION

I, Uddah Sarwatt, do hereby declare to the Senate of Sokoine University of Agriculture that this dissertation is my own original work done within the period of registration and that it has neither been submitted nor being concurrently submitted to any other institution

_____ _____

UddahSarwatt Date

(MAPME Candidate)

The above declaration is confirmed by

_____ _____

Dr. Daniel .W. Ndyetabula Date

(Supervisor)

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DEDICATION

This dissertation is dedicated to my beloved son Ethan, to my parents the late Professor Sebastian Sarwatt and Agness Awett Sarwatt, and to my sisters Lohi and Doreen.

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LIST OF ABBREVIATION

BCEAO	Banque Centrale des États de l'Afrique de l'Ouest
CB	Central Bank
FMIS	Financial Management Information System
IFMIS	Integrated Financial Management Information System
IMF	International Monetary Fund
MMT	Modern Money Theory
PFM	Public Financial Management
TGL	Treasury General Ledger
TSA	Treasury Single Account (TSA)
WAEMU	West African Economic and Monetary Union

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the Study

Government banking arrangements are an important factor for efficient management and control of government's cash resources. Such banking arrangements should be designed to minimize the cost of government borrowing and maximize the opportunity cost of cash resources (Agbe *et al.*, 2017). This requires that all cash received is available for carrying out government's expenditure programme and making payments timely. Many emerging market and low-income countries have fragmented systems for handling government receipts and payments. In these countries, the ministry of finance/treasury lacks a unified view and centralized control over government's cash resources. As a result, cash lies idle for extended periods in numerous bank accounts held by spending agencies while the government continues to borrow to execute its budget. Udobi *et al.* (2016) and Oni and Adebayo (2012) explained that by establishing a unified structure of government bank accounts via a TSA, it will solve these problems and improve cash management and hence receive priority in any Public Financial Management (PFM) reform agenda.

TSA is a financial policy used in several countries all over the world. For years, development partners have promoted the implementation TSA in developing countries as the main instrument to optimize cash management. Centralizing all public monies in a single account should strengthen oversight and facilitate the mobilization of idle cash to cover essential expenditure.

In sub-Saharan Africa, TSA reforms have mainly focused on centralizing the public entities' bank accounts that have been scattered in different commercial banks in one single account under the central bank. On that regard the TSA features, operations and implementation were meant to be as comprehensive as possible to accommodate the roles, which have been played by other stakeholders. With the support of international organizations like International Monetary Fund (IMF), this approach was successfully implemented in some developing countries like Mali (Taiclet and Boukezia, 2014).

In Francophone Western Africa, the coverage of TSAs has significantly improved over the last years (Nguenang, 2017). The West African Economic and Monetary Union (WAEMU) regional directives are quite clear and promote the centralized system for establishing a TSA. For example, the directive on public accounting regulations states that the TSA must be held at the regional central bank (the Banque Centrale des Etats de l'Afrique de l'Ouest, BCEAO), that there should be only one accounting network and one cash management system for each member state (Vion, 2017).

The member states of the East African Community (EAC) have recently agreed to adopt the centralized single account where by the countries decided to close down multiple government bank accounts and keep their revenues in a single account each as part of efforts to increase transparency and accountability in the use of public funds (Anyanzwa, 2018). This move is not only meant to enhance accountability and oversights of public funds, but also to reduce the administrative costs when a number of commercial banks manage the accounts.

Tanzania has set the pace; the Finance Minister Phillip Mpango said that the move would reduce the number of government accounts. While tabling the 2018/19 budget, the

Minister of Finance in Tanzania, said that *"I propose to make amendments to the Local Government Finance Act, CAP 290, the Public Finance Act, CAP 348 and the Bank of Tanzania Act, CAP 197 in order to introduce a Treasury Single Account, which will be used for collection and payment of government funds"* as reported in the East African blog by Anyanzwa (2018).

1.2 Problem Statement

According to Corkery (1995), one key reason for failure of the public sector reforms is that models derived from developed countries mostly under the sponsorship of IMF and World Bank are largely irrelevant because within more sophisticated institutional practices and procedures, any changes that have been introduced are supported by institutional safety nets that are not available in Africa. He further argues that private sector management practices imported in some countries have not always transplanted successfully because the parallel reform of monitoring and review procedures called by the introduction of these practices is not taking place simultaneously. The lack of political will for reforms translates into concrete actions why reforms fail. This argument is crucial for understanding problems of administrative reforms in Africa.

In Tanzania, the objective of the public financial reform was to establish control over public money. Ministries were incurring large commitments and overdrafts and the country was running unsustainable deficits. Financial control was neither effective nor efficient. Moreover, the government was still faced with information asymmetry problems whereby it was difficult to determine the country's cash position at any point in time, unlimited commercial bank accounts which increase administration costs, growing domestic debt and borrowing which were not aligned to needs, and inability to undertake effective cash planning and management. Due to that, introduction of the TSA was

deemed necessary, and its implementation effectiveness is of importance to be monitored and evaluated throughout the time.

The focus in this research is to monitor the TSA process in Tanzania and how it has been properly adopted to allow effective implementation. This process being new to Tanzania, there has not been any study on TSA to observe the adoption and implementation. There is a knowledge gap on how effectively and efficiently the TSA has been adopted by the concerned stakeholders. The research on which this dissertation is based highlights the knowledge/information gaps, legal framework of the TSA operations, TSA process and interbank systems, and oversight mechanisms of the TSA.

1.3 Significance of the Study

The study monitors and evaluates the adoption process of the TSA in Tanzania which is a key step when one reports on the project success factors. Specifically, the research findings provide useful information and data that will offer understanding to the government and the general Tanzanian population on the adoption process of the TSA. The policy recommendations suggested assist the policy makers to construct their way forward on the respective matter for increasing efficiency within the financial systems. Moreover, the study findings contribute to the body of literature in the area of accounts, specifically in project management and evaluation thereby constituting empirical literature for future research in the subject area.

1.4 Study Objective

1.4.1 General objective

The overall objective of this study was to assess the implementation of the TSA in Tanzania.

1.4.2 Specific objectives

i. To assess the legal and regulatory frameworks of the TSA operations

ii. To investigate the TSA processes and interbank systems

iii. To examine the oversight mechanism of the TSA

1.5 Research Questions

i. What are the legal and regulatory frameworks of TSA operations?

ii. Which processes TSA follow in interbank systems?

iii. How does oversight of TSA affect its implementation?

1.6 Concepts Definitions

1.6.1 Treasury single account (TSA)

According to the International Monetary Fund (IMF), the term Treasury Single Account (TSA) is defined as a unified structure of government bank accounts enabling consolidation and optimum utilization of government cash resources.

1.6.2 Treasury single account main account

This is the treasury's account with the central bank, which consolidates the government's cash position. Cash balances in all other linked accounts are swept into this account.

1.6.3 TSA subsidiary accounts or sub-accounts

These are not separate bank accounts in the sense of holding individual cash balances, but are special sub-accounts within the main TSA account.

1.6.4 Transaction accounts

This refers to some government bank accounts that are justified for retail transaction banking operations are opened separately and are structured as transaction accounts.

1.6.5 Zero-balance accounts (ZBAs)

These are accounts opened in commercial banks that are used for disbursements or for collection of government revenues. All revenues collected would be deposited in the TSA.

1.6.6 Imprest accounts

These transaction accounts can hold cash up to a maximum authorized amount and are recouped from time to time, when there is only limited availability of interbank settlement facilities.

1.6.7 Transit accounts

These accounts are not meant for day-to-day transaction banking operations of government units. A transit account simply serves as a transit for eventual flow of cash into the TSA main account.

1.6.8 Correspondent accounts

A separate ledger account is opened for each correspondent. The correspondent entity has real time information on the balances it maintains in the TSA.

1.7 Limitations of the Study

i. The staffs of Bank of Tanzania and Ministry of Finance who were supposed to provide information concerning the topic were found to be occupied to extent that they forgot to provide the requested filled toolkit questionnaire or agree to

participate in this study. Therefore, to overcome this kind of limitation, I used to request for appointments and reminds via phone calls to pay physical visits to their perfect offices to get requirements.

ii. Responses rate was found sometimes to be low due to most of respondents to be in a hurry and very busy. To overcome this, I encouraged participation and responsiveness of questions; to make it clear, the purpose of this study was explained and anonymity of respondents was ensured to encourage participation of respondents in filling questionnaires.

iii. The study methodology focuses on cross-section techniques due to limitation of data. The employed data was collected at a single point in time in the Bank of Tanzania in Dar es Salaam and Ministry of Finance in Dodoma, Tanzania and so limit the researcher to employ comprehensive analysis techniques that could be possible if time-series or panel data were available. The study addresses this limitation by including qualitative analysis as part of the methodology to allow in-depth analysis of the variables, regardless of time factor.

CHAPTER TWO

2.0 LITERATURE REVIEW

This chapter reviews literature on treasury single account and has been organized under the following sub-topics: concepts definitions, review of Treasury Single Account (TSA), review of TSA framework in Tanzania, review of empirical studies, theoretical framework, empirical studies and research gap and conceptual framework.

2.1 Review of Treasury Single Account (TSA)

In the IMF working papers, Pattanayak and Fainboim (2010) defined the TSA as a unified structure of government bank accounts that gives a consolidated view of government cash resources. Based on the principle of unity of cash and the unity of treasury, they explained a TSA as a bank account or a set of linked accounts through which the government transacts all its receipts and payments. While it is necessary to distinguish individual cash transactions for control and reporting purposes, this purpose is achieved through the accounting system and not by holding/depositing cash in transaction specific bank accounts. This enables the treasury to delink management of cash from control at a transaction level.

As Danladi (2015) states that the major benefit of a TSA is to enhance revenue generation and ensure transparency and accountability in government expenditure; it could also help to minimize revenue leakages (Eme and Chukwurah, 2015). The TSA is expected to consolidate all cash resources of the government in a single account, which were previously purposely located in various bank accounts (Adeolu, 2015; and Danladi, 2015). However, TSA will also guarantee timely information on its cash resources on real time and online and harmonizes government serving of its obligations (Chukwu, 2015).

Where necessary, the government seeks appropriate legislations and legal backing to facilitate the relevant regulatory environment towards its successful implementation.

Dener (2013) states that although there may be specific variations, the TSA operations are usually managed by the Central Treasury (CT) or Accountant General (AG) of the Ministry of Finance. A secure interface between the FMIS and Central Bank (CB) systems is used to automate the TSA operations, based on a specific legal and regulatory framework. The TSA and the interbank payment systems are usually managed by the Central/National Bank. Commercial banks and other government entities may also be involved in the TSA operations.

Delineating the boundary of a TSA is an important issue, and needs to be carefully considered in light of each country's institutional and legal/regulatory framework. In defined circumstances, there could be a case for maintaining some bank accounts that cannot be fully integrated into the TSA. For example, there are situations where geographical factors or the non-availability of banking facilities precludes the use of a TSA (Pattanayak and Fainboim, 2010). The TSA should cover all central government entities and their transactions. These include accounts managed by social security funds and other trust funds, extra-budgetary funds (EBFs) and autonomous government entities, and loans from the multilateral institutions and donor aid resources. A TSA could also be extended, in theory at least, to include sub national levels of government and other public institutions through the use of correspondent accounts. Even when the central TSA does not cover sub national governments in a federal system, TSAs should be established at each sub national government level.

According to Dener (2013) the toolkit for TSA focuses to centralized model, however the proposed methodology can be applied to decentralized TSA arrangement as well. As Pattanayak and Fainboim (2010) explain that although the TSA can follow the decentralized model, in most cased the centralized system is adopted. Under this model, requests for payments are prepared by individual budget agencies and sent to a central treasury payment unit for control and execution. The central payment unit manages the float of outstanding invoices. This model may create a useful synergy between cash management on the one hand, and expenditure control and transaction accounting on the other hand. However, the centralization of expenditure transaction processing can also lead to inefficiencies, including high transaction costs, and potential for corruption in countries where the control systems are inadequate. Another issue that needs to be considered is whether the authorization of commitments is centralized or decentralized to individual spending agencies.

In the latter case, if the commitment control and payment systems are not well integrated, payment arrears may occur. Although in this model the payment and accounting functions are centralized, individual spending agencies are treated as distinct accounting entities through a treasury ledger system. Therefore, information on the individual ledger accounts of the spending agencies (including information on their respective transactions) is maintained and controlled internally by the treasury and thus not visible to the banking system. Under this, only the treasury central unit deals with the commercial banks, making payments from the TSA and receiving collected revenues into the central unit processes and records all inflows and outflows and cash balances to the appropriate ledger account (Pattanayak and Fainboim, 2010).

2.2 Review of TSA Framework in Tanzania

Through Monetary Policy Statement, the Bank of Tanzania (BoT, 2019) reports that since July 2018, all Government payments are made through TSA and processed through Tanzania Automated Clearing House (TACH) and Tanzania Interbank Settlement System (TISS) for amounts above TZS 10 million. As Pattanayak and Fainboim (2010) stipulate that in most countries where TSA is applied, commercial banks are used to transfer revenues collected to the TSA main account on the same day. The banks are remunerated on a fee-for-service, based on the number of transactions that have been processed. The fee is usually established through a competitive bidding process. When there are RTGS settlement systems in place that allow commercial banks to network with other banks and with the central bank, the fee can be negotiated and reduced to a small amount. The taxpayer makes the payment to a transit account in a commercial bank. The funds are automatically remitted to the TSA in the central bank at regular intervals (for instance, at the end of the business day or at more frequent intervals if an RTGS is used). Each day the bank submits an account statement (ideally in electronic format to facilitate reconciliation) to the tax authority and to the treasury, which is used for reconciliations against taxpayer records (tax authority) and the TSA (MoF/treasury). As mentioned above, an RTGS could enable within-the-day transfers from taxpayers' accounts to the TSA, via commercial bank accounts.

The main objectives of a disbursement system are to pay the government's obligations in a timely and cost-effective manner, and to reduce opportunities for fraud and theft. Manual or semi-automated treasury systems imply slow payment processes. Tanzania has a very basic financial management systems and communication infrastructure, together with a manual or semi-automated and often not integrated treasury system and limited communication capabilities. In Tanzania, payment requests often go through regional or

local treasury offices and are submitted for payment and settlement against the TSA. This results in slower payment processes than with fully automated systems (Pattanyak and Yaker, 2010).

The government accounting system should be designed to record all transactions and capture relevant information independently of the cash flows in specific bank accounts. There may be problems, in practice, in achieving this result. In many Tanzania with manual accounting systems, a comprehensive treasury ledger system does not exist and a significant part of the information required for budgetary and financial accounting purposes continues to be derived from the government's bank accounts structure such as information specific to spending agencies, budget lines. A computerized Integrated Financial Management Information System **(**IFMIS) is being considered, it comes with an inbuilt treasury general ledger (TGL). TGL systems typically have layers of sub-accounts for handling all types of treasury operations related to receipts, payments, financing, and surplus cash placement (Pattanayak and Fainboim, 2010).

2.3 Cash and Liquidity Management

The overall objective of effective cash management is to reduce the average cash balances of the government to a minimum level to avoid unnecessary borrowing and to maintain stable liquidity levels as far as possible. Tanzania attempts to minimize the level of cash balances held in the TSA by actively targeting a minimum balance. Where the treasury successfully targets a stable cash balance in the TSA, the effect of the government's fiscal transactions is largely neutralized for money market and monetary policy purposes, therefore simplifying liquidity management operations (Cabello, 2013). This can be achieved with various instruments that allow the government to place surplus balances in the market or to access funds at short notice, if there is an unexpected requirement for

funds. It is difficult for Tanzania to target cash balances in the absence of a developed domestic government short-term securities market, or arrangements with commercial banks to lend cash at short notice to the treasury. However, the development of an active cash balance targeting policy should be a long-term objective, to be implemented when the necessary pre-conditions are in place.

Once a TSA has been established and its target balance has been set, a strategy needs to be developed for investing available surplus cash, and funding temporary cash shortfalls. The strategy should include options for both short-term and longer-term investments. The management of surplus cash investment and short-term borrowing could be handled either by a specialized unit within the Ministry of Finance with the central bank. In Tanzania, often lacks the Ministry of Finance expertise's required for undertaking money market operations and tend to let the central bank handle this task on their behalf. The reason is that money market operations are a usual central bank activity, performed as part of its monetary operations. As with all fiscal agency operations performed by a central bank, however, it is vital that these market transactions are transparently distinguished from any monetary policy operations (Williams, 2010).

2.4 Theoretical Framework

Theory is an ordered set of assertions about a generic behaviour or structure assumed to hold throughout a significantly broad range of specific instances (Wacker, 1998). Theory is a group of rationally arranged laws or relationships that define a discipline, and seek to clarify a problem, describe revolutionary elements of a phenomenon, or provide predictive utility in a systematic way (Mouza, 2018). A number of different theories of socioeconomic accounting were borrowed to form a sound foundation to substantiate TSA adoption and implementation. This study was underpinned by four major theories namely

stakeholder theory, management theory, modern money theory and public finance management theory because the four theories integrate all the elements necessary for effective adoption of the treasury single account.

2.4.1 Stakeholder theory

Originally developed by Mitrof (1983), the theory focuses on morals and values required by the stakeholders within a respective organization or project for successful implementation. It assumed that adoption of the Treasury Single Account by the governments as a result of the pressure from stakeholders/citizens majorly against corruption. It suggested that the government will responds to the concerns and expectations of powerful stakeholders/citizens and some of the responses will be in the form of strategic opinions. Stakeholder's theory provides rich insights into the factors that motivate government in relation to the adoption and implementation of the TSA.

2.4.2 Modern money theory (MMT)

The MMT, as discussed by Wray (2012), examines how monetarily sovereign governments operate and their impacts on the economy. It shows that it is relevant to aggregate the central bank and the treasury into a government sector that finances itself through monetary creation such that financial positions of the treasury and the central bank are so intertwined that both of them are constantly in contact in order to make fiscal and monetary policy run smoothly.

2.4.3 Public finance management theory

This theory, which has been presented by Khan and Hildreth (2004), assumed that all aspects of financial resources-mobilization and expenditure should be well managed in government for the benefits of the citizenry. It includes resource mobilization,

prioritization of programmes, the budgetary process, efficient management of resources and exercising control to guide against threats. Treasury Single Account (TSA) is primarily used to avoid misapplication of public funds.

2.5 Conceptual Framework

This study establishes a conceptual framework which illustrates the content and expected outcomes of implementation of TSA, as described in Figure in Figure 1 below;

According to the established conceptual framework, it was presumed that effective implementation of Treasury Single Account and Operations and Payment Systems (dependent variable) is the product of these three independent variables; legal and regulation framework; TSA process and interbank systems; and oversight mechanism of TSA. However, each component in the conceptual framework has its indicators to be used to assess the TSA implementation.

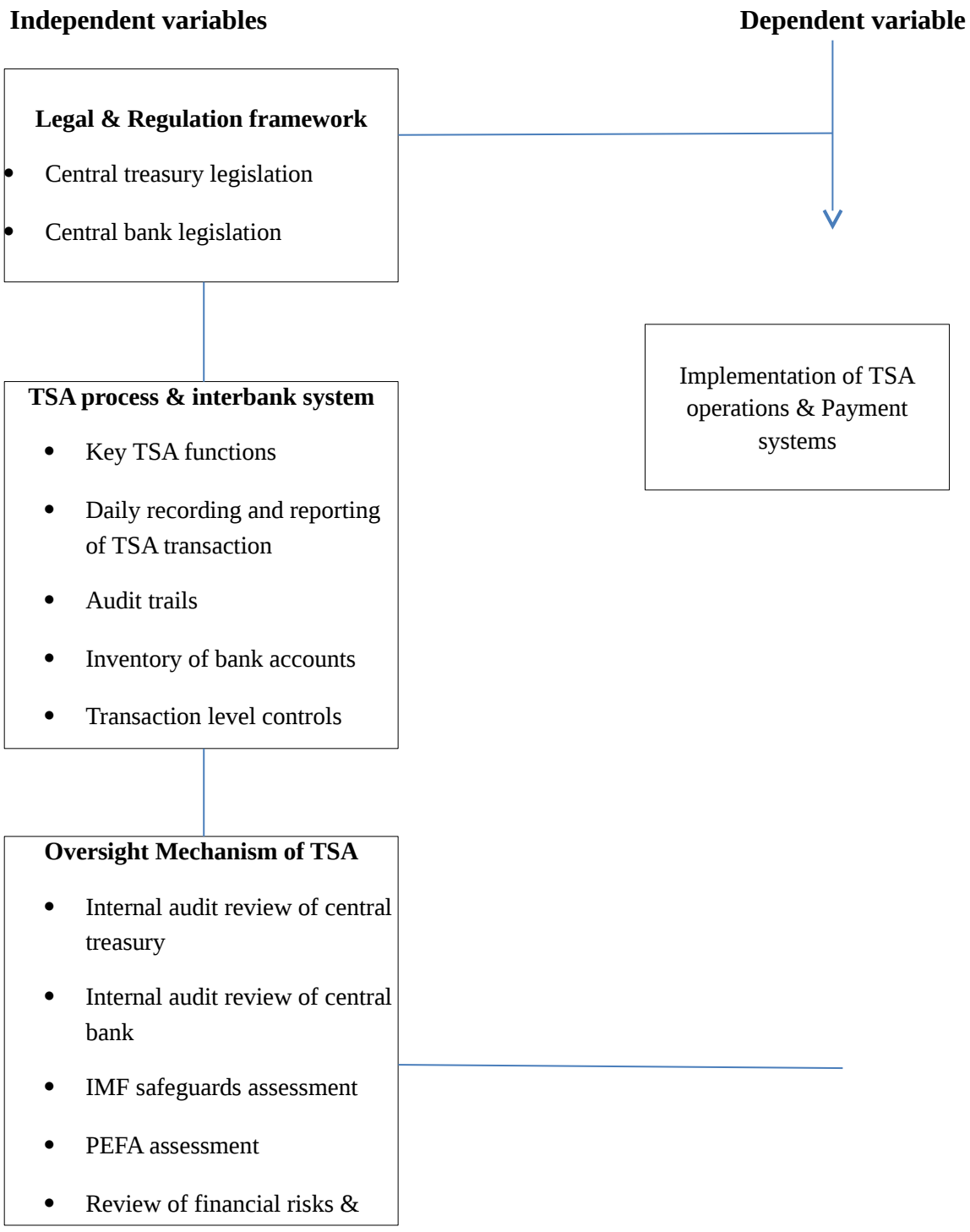


Figure 1: Conceptual Framework

2.6 Review of Empirical Studies

There are few empirical studies existing in the subject of TSA in developing countries, particularly in Tanzania: Ekubiat and Ime (2016) studied adoption of the TSA by State Governments of Nigeria focusing on benefits, challenges and prospects. According to the study, Nigeria's Public Funds at all levels have wrongly been accounted for by previous administrations. However, to avert this threat coupled with the present country's dwindling economy, the Federal Government of Nigeria has implemented Treasury Single Account (TSA) to manage the scare financial resources but State Governments of Nigeria have been left out. The aim of this study was to examine the benefits, challenges and prospects of adoption of Treasury Single Account (TSA) by State Governments of Nigeria. Descriptive cross-sectional survey design was adopted for the study. The data obtained from questionnaire administration were analyzed using descriptive statistics and t-test statistics. The finding revealed that TSA adoption and full implementation by the state governments would be of great benefit as showed in the weighted means scores of 4.20 and total of 24.87; there would be challenges in a short-run but the benefits in a long-run would definitely out-weight the challenges. The authors concluded that the State Government of Nigeria should adopt and fully implement TSA for successful control and accountability of public funds to avoid bailout funds always from any source. They should enlighten all stakeholders on the benefits of TSA adoption as well as professional and regulatory bodies should help in designing, conceptualizing and road mapping of TSA for the states.

Isa (2016) studied the Treasury Single Account (TSA) as an Instrument of Financial Prudence and Management; prospects and problems. According to the study, the Treasury Single Account (TSA) had just been implemented fully in the Nigerian economy by the government in order to ensure prudence and probity in the management of financial

resources. With the TSA, government expected to block all loopholes and leakages of financial resources of the government and ensure a robust financial management system. The paper, therefore, provides the conceptual meaning of the TSA and also gives its expected benefits to the economy of Nigeria such as enhance system of financial management and control, unification of various accounts of government, reduction of the costs of government borrowing and ensuring optimum utilization of government financial resources. The paper also analyzed the objectives of the TSA systems and their various accounts such as TSA's main account, Subsidiary Account, ZBAs, Transit and Imprest Account among others. The paper, finally, discussed the prospects of the TSA system and its challenges and concluded that the system required political will, honesty and determination so as to overcome the various challenges identified in the paper in order to achieve the expected benefits of the system.

Oguntodu *et al.* (2015) carried out an Assessment of Treasury Single Account and Nigeria's Economy Between 1999 and2015. According to the study, TSA is a pool in which all government revenue are collected and controlled by the Central Bank of Nigeria, with the view to boost the economy and reduce corruption. CBN statistical bulletin (1999-2015) was analyzed using the OLS estimator. To this effect, an empirical analysis of the relationship between TSA and economic performance in Nigeria was carried out. The results showed that the TSA had a positive significant impact on the country's economic growth but this impact is limited by various factors, one of them being the recent implementation of the policy in Nigeria which made the discovery of historical data difficult. The recommendation of this study was that the Federal Government of Nigeria should initiate policies and various means to make sure that there are proper accountings of the funds entering into the TSA, and that such funds should follows due processes.

2.7 Research Gap

In many literatures which have been reviewed it seems that many studies conducted earlier were based on adoption of the TSA. In addition, most of them focused on benefits, challenges and prospectus of TSA by states or governments. Though, most of these studies establish a conclusion that states/government should adopt and fully implement TSA for success control and accountability of public funds to avoid bailout funds always from any source, there are few studies which focused on assessing the implementation of TSA and Payment Systems in low-income countries. It is also important to note that there is no study conducted in Tanzania about TSA Operations and Payment Systems. Therefore, to bridge this gap, this study focused to assess the implementation process of the Treasury Single Account Operations and Payment Systems particularly in Tanzania.

Lack of the similar studies in Tanzania, being a country which has adopted TSA recently, is one of the major gaps. Moreover, conceptually, still this study intends to cover the following areas (referred as independent variables for the study) which are important when one monitor and review the smooth adoption and effective implementation of the TSA (being the dependent variable);

- The strength of the legal and regulation framework to support the smooth implementation of the TSA, as pointed out by Oguntodu *et al*. (2015) in their recommendations.
- The effectiveness of the processes adopted in inter-bank systems
- The efficiency of the oversight mechanisms in place

Nevertheless, most studies relied on quantitative analysis while this study brings in the qualitative part to assess the relationship of the dependent and independent variables in depth.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

This chapter outlines the study area, research design, the population studied, the sampling procedure, sample size, the methods that were used to collect data and analyse them, ethical consideration pertaining to the research, reliability and validity of the research and limitations of the study.

3.1 Description of the Study Area

This study was conducted in two regions in Tanzania, which are Dar es Salaam and Dodoma. The selection of these study areas was due to their strategic location, the Bank of Tanzania Headquarters' being in Dar es Salaam and the Ministry of Finance Headquarter being in Dodoma.

3.2 Research Design

The study followed a quantitative method research approach where by a quantitative data were collected. The researcher employed the survey method to obtain the quantitative data. Moreover, the review of key documents, which include laws, regulations and policies, was done to add more detailed information to the findings. The study followed the cross-section methodology due to limitation of data to employ panel or time-series research design and the duration of the maters being short, i.e. 18 months.

3.3 Population, Sampling Procedure and Sample Size

The population used for this study was all the staff members of the Bank of Tanzania in Dar es Salaam and Ministry of Finance in Dodoma. Convenience sampling technique and purposive sampling techniques were used to select the required samples in order to increase the reliability of the collected information. According to Dornyei (2007), convenience sampling is a non-probability sampling technique where subjects are selected because of their proximity to the researcher. Moreover, Oppong (2013) stipulates that convenience samples are sometimes regarded as ‘accidental samples’ because elements may be selected in the sample simply as they just happen to be situated, spatially or administratively, near to where the researcher is conducting the data collection.

The study participants include managers, operational staff and technical specialists from the respective institutions. From the Ministry of Finance, the study participant were from the Administration and Human Resources department, Financial Information System Management department, Treasury Registrar department, Government Budget department, Planning Policy Analysis and Public Procurement Appeals Authority. Moreover, the Bank of Tanzania participants were from the following departments: Publications, Financial Markets, Banking Operations, Banking Supervision, Payment system.

The general rule of the thumb is to always to use the largest sample possible to increase representation probability (LoBiondo-Wood and Haber, 1998). In this study a convenience sample of 60 respondents was obtained, from the employees of Bank of Tanzania in Dar es Salaam and Ministry of Finance in Dodoma. The sample size of 60 adhered to the statistical principles as it is noted that regardless of the population size, a

sample size of 30 is the bare minimum for studies in which statistical data analysis is to be done (Bartlett *et al.,* 2001).

3.4 Data Collection Methods and Tools

3.4.1 Primary data

For the survey, the study employed quantitative research approach with a rapid assessment tool kit of 44 questions. The toolkit included five categories as key indicators as follows: Legal and regulatory framework of TSA operations (11 questions), TSA processes and interbank systems (25 questions) and Oversight mechanisms (8 questions). This assessment questionnaire (checklist) was hand delivered and completed questionnaires were collected immediately after the respondent completed to fill in and sometimes after a few days. However, the toolkit included the open-ended questions to obtain further detailed responses.

Furthermore, Dener (2013) states that, this toolkit was originally established in response to a request from the Public Sector and institutional Reform Cluster of the Europe and Central Asia (ECA) Region for the assessment of Treasury Single Account (TSA) operations in Kyrgys Republic in October, 2012. However, the transformation of this toolkit into a generic TSA rapid assessment toolkit was supported by the Governance of Public Sector Management Practice (PRMPS) of the World Bank's Poverty Reduction and Economic Management (PREM) Network. Furthermore, the toolkit was shared with a number of government officials, and project teams for field testing, and to benefit from additional feedback for possible improvements since then (Ibid).

This kit was applied in this study because is designed to assist the government officials in clarifying current status of TSA operations, it also used to identify possible improvements

in practices/processes, regulations, information security, and payment systems (Dener, 2013). To make it clear, this study was intended to assess the TSA operations and Payments systems; hence this toolkit was very useful in collecting information.

3.4.2 Secondary data

The supportive secondary data were obtained through reviewing reports from the Bank of Tanzania in Dar es Salaam and Ministry of Finance in Dodoma. The information included Public financial management guidelines, financial acts and financial management's reforms program strategies, which helped the researcher in gaining in-sight of the phenomenon under study. Moreover, the document search did mainly focus in getting information concerning the adoption process of the new financial policy research. The secondary data supplemented the primary data and helped to make inference on study's objectives and dependent variable.

3.5 Data Analysis

As initial analysis technique, data management was conducted to study the general information from the responses collected before further analysis. In that process, the researcher sorted, edited, coded and analysed the collected data to ensure that errors and points of contradiction were eliminated.

3.5.1 Quantitative data analysis

The obtained data for each research question was tabulated for purposes of providing the researcher with a comprehensive picture of how the data look like and assisted the researcher in identifying patterns. Using the SPSS version 21.0 software, the data collected in the survey were analysed following descriptive techniques. From there, the frequencies and percentage of the responses for the targeted questions were obtained.

Furthermore, regression model specifically linear regression was used to test the significant level between three independent variables i.e. (legal and regulatory framework; TSA processes and interbank systems; oversight mechanism of the TSA) and one dependent variable i.e. effective implementation of TSA operations and payment systems. As it is stipulated by Yin (2003) multiple linear regression analysis is a method designed to measure linear relationship between dependent and two or more (multiple) independent variables or predictors. The regression model equation used is described below;

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + \ldots\ldots b_nX_n \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots..(1)$$

Whereas:

Y = Dependent variable (Effective implementation of TSA operations and payment systems) i.e. (0 = if effective, 1 = if not effective)

X_s = Independent variables

a = Y intercept, where the regression line crosses the Y axis

b_1 = the partial slope for X_1 on Y

X_1 = Legal and regulatory framework (0 = if good, 1 = if weak)

X_2 = TSA processes and interbank systems (0 = good, 1 = if weak)

X_3 = Overnight mechanism of TSA (0 = if good, 1 = if weak)

3.5.2 Response measures

For reliable and consistent analysis, guidance on **Ratings** was followed when analysing data. The criteria for rating the answer given by the key respondents were as follows:

0 =**Non-existent** (Lack of any recognizable process. Activity not yet planned/established.)

1 = **Initial / ad-hoc** (Issue recognized. Activity planned and approved for implementation)

2 = Defined **process** (Activity implemented partially)

3 = Managed **and measurable** (Activity effectively operational)

4 = **Optimized** (Activity refined to the level of international good practice)

Rating "4" means that the subject activity related with the interbank payment systems and TSA processes have been refined to the level of international good practice with continuous monitoring and improvements. Information systems: There is an integrated FMIS solution to automate all critical aspects of budget execution, including TSA and performance monitoring, providing tools to improve quality and effectiveness in PFM.

Rating "3" indicates that there are areas in which a country is doing well in interbank payment systems and TSA. It is possible to monitor and measure compliance with procedures and to take action where processes appear not to be working effectively. Processes are under constant improvement. From information systems perspective, FMIS supports the TSA operations fully.

Rating "2" indicates that there are areas for improvement. Government should consider devoting sufficient resources to ensure that improvements can be quickly made and strategies developed for effective implementation of necessary improvements. There are standardized procedures (automation of existing practices) communicated through training. However, it is left to the individual to follow these processes, and it is unlikely that deviations will be detected. FMIS supports the TSA operations partially (for example monitoring the account balances, without supporting automated payments).

Rating "1" means that the entity has recognized that the issues exist and need to be addressed. There are no standardized processes; instead, there are ad hoc approaches that tend to be applied on an individual or case-by-case basis. Government should consider

devoting sufficient resources to ensure that improvements can be quickly made and strategies constructed for effective implementation. From information systems perspective, limited capabilities exist for automation of processes.

Rating "0" indicates lack of any recognizable processes. The activity requires immediate attention and clear strategy with high-level political commitment. While it does not necessarily imply from a low rating that a government has poor public financial management (PFM) systems, it usually does indicate a key concern that requires immediate attention.

Rating "n/a" indicates that the activity cannot be measured and scoring is not applicable. In such cases, clarifications should be provided and such activities are not included in the calculation of ratings.

Assessment of the performance The rating calculations suggested as part of this assessment are expected to assist countries in determining the strengths and weaknesses in five specific categories listed above.

The percentage rating (0 to 100) for each category (except "n/a" scores) is calculated from:

$$\text{Rating of a category} = \frac{\Sigma \text{Points scored under the category}}{\text{total of activities under the category} - \text{of "n/a"} * 4} \times 100 \quad \ldots\ldots (1)$$

The total rating is calculated by adding all scores (except "n/a") in all five categories (0 to 100):

$$Total\ rating = \frac{65 - total \ \Sigma\ Points\ scored\ under\ all\ categories}{(¿\ of\ \text{n/a} * 4)} \text{ x 100} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(2)$$

The following grades were used to indicate the overall performance based on the total rating:

- Very Weak below 30%,
- Weak 30% - 49.9 %,
- Average 50% - 69.9 %,
- Good 70% - 89.9%,
- Excellent above 90%.

3.6 Ethical Considerations

The research adhered to the Sokoine University of Agriculture's research ethics and code of conduct throughout the study. The ethical principle governing this research was adhered to confidentiality principle and participants were asked for their informed consent. The study applied for research permit from the Sokoine University of Agriculture. The information basing on the permit and aims of this study was transmitted to the Bank of Tanzania in Dar es Salaam and Ministry of Finance in Dodoma to set-up arrangement for data collection. During data collection the right to participate voluntarily and the right to withdraw at any time was adhered so that the individual was not being coerced into participation. During data analysis and interpretation, the researcher protected the anonymity of individuals and discarded the data so that the data could not fall into the hands of other researchers who might appropriate it other purposes. In writing and disseminating, the research language or words that are biased against persons because of gender was totally ignored. The potential

of suppressing, falsifying or inventing findings to meet a study's need were absolutely not applied.

3.7 Reliability and Validity of the Study

Reliability is defined as the degree to which the finding is independent of accidental circumstances of the research (Chen and Sun, 2013). It means that other people may obtain the same finding if they go through the same research process. In order to ensure the reliability and validity of the findings the study employed triangulation of different sources of information by examining evidence from the source and used it to build a coherent justification.

CHAPTER FOUR

4.0 RESEARCH RESULTS, INTERPRETATION AND DISCUSSION

4.1 Response rate, Demographic and Socio-economic characteristics of the Respondents

4.1.1 The response rate of respondents

During the survey, the researcher gave out 60 questionnaires, balancing according to gender as observed in Table 1, targeting 60 respondents from the Bank of Tanzania member staffs and the Ministry of Finance. Kaynak *et al.* (2005) and argued that a response rate of 50 percent is adequate, a response rate of 60 percent is good and a response of 70 percent is very good. In this study, the researcher managed to collect 60 questionnaires which implies it is 100 percent response rate.

4.1.2 Socio-demographic characteristics of the respondents

The socio- demographic characteristics of respondents collected data for the study were age, sex, educational level, marital status, work experience and economic occupation. As

stipulated by Harvey (2006) that, social demographic characteristics of individuals who participate in a study have a significant role to play in expressing and giving the responses about the problem. Therefore, in this study a set of social demographic characteristics of 60 respondents were examined. Results for sex of respondents are illustrated in Figure 2; while the finding of other social demographic characteristics i.e. age group; educational level; marital status; and years of experience are indicated in Table 2 below.

4.1.2.1 Sex and age of respondents

The results in Figure 2 show that 50% of the respondents were male and 50% of respondents were female. In addition, the figure shows that in the group of Male (i.e. 50%), 21.7% of them were from the Bank of Tanzania whereby 28.3% were from the Ministry of Finance. However, in the category of female (i.e. 50%), only 23.3% of them were from the Bank of Tanzania, and the remaining i.e. 26.7% were from the Ministry of Finance.

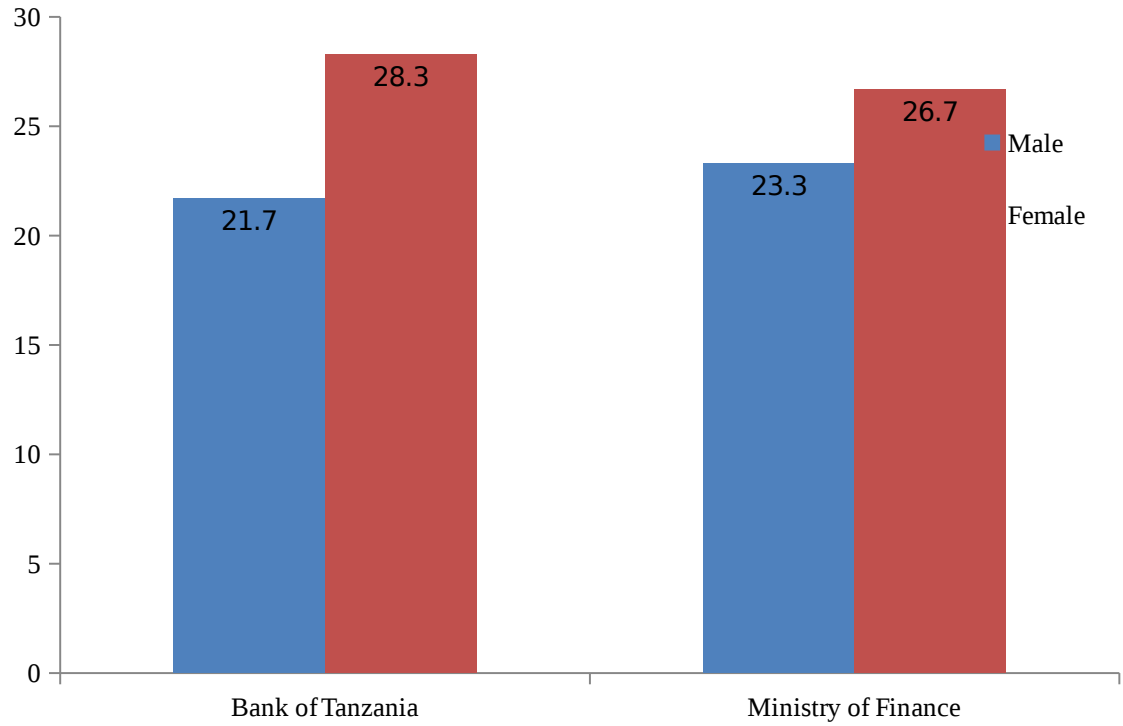


Figure 2: Sex of respondents

4.1.2.2 Age of respondents

In respect to age, 15% of the respondents were aged between 20 and 29 years, while 48.3% were aged between 30 and 39 years followed by 28.3% of respondents ranged between 40 and 49 years and lastly 8.3% of respondents were aged between 50 and 59 years. This shows that there is gender balance with people dealing with the TSA administrative roles, most of them aging above 30 years that implies their maturity and experience on the roles performed.

4.1.2.3 Educational level, marital status and working experience

The results in Table 2 show that 56.7% of respondents were first degree graduates followed by 21.7% of respondents who were secondary school leavers, diploma 8.3%, Masters 6.7%, primary education 3.3% while post-graduate diploma and Doctor of Philosophy (PhD) were 1.7% and 1.7% respectively. The statistics implies that, at least half of the staff members have higher-level education, which would be deemed necessary to define the capabilities and abilities of the team to deal with TSA operations.

4.1.2.4 Working Experience

In respect to working experience the study findings show that 71.7% of respondents had experience of 1-5 years, followed by 20% respondents reported to have 6-10 years, 8.3% of respondents had experience of 11 years and above. Although less than half of the respondents have less than 5 years of working experience in their current organizations, still the approximately 30% of the member staffs with significant experience are significant to provide spill-over effect to the other member staff on handling the technical tasks, like dealing with the TSA that has been recently introduced. Nevertheless, since the

TSA operations are new to most of the member staff, the role of working experience on workers' performance on the same is minimum.

Table 1: Respondent's Socio-demographic Characteristics **(n=60)**

Characteristics	Category	Frequency (n=60)	Percent (100%)
Age group	20-29 years	9	15.0
	30-39 years	29	48.3
	40-49 years	17	28.3
	50-59 years	5	8.3
Education level	Primary education	2	3.3
	Secondary Education	13	21.6
	Diploma	5	8.3
	Degree	34	56.7
	Post-graduate Diploma	1	1.7
	Masters	4	6.7
	PhD	1	1.7
Marital status	Married	42	70.0
	Not married	18	30.0
Working experience	1-5 Years	43	71.7
	6-10 Years	12	20.0
	11 + years	5	8.3

4.2 *Objective 1*: Legal and Regulatory Framework

In this objective, a researcher wanted to assess the legal and regulatory framework in implementation of TSA. The two themes were considered during assessment; these include the Central Treasury Legislation and Central Bank Legislation. However, it is important to note that these two components are identified in the reviewed BoT and MoF policy documents as important components to consider in Legal and Regulatory Framework. To assess these two components, 11 questions that measure the performance level of the legal regulatory framework were considered. The findings in Table 2 indicate a 68.2% overall performance based on the total rating. This rate indicates average performance from the regulatory authorities on enhancing the effective implementation of the TSA, and therefore there is a room for improvement in terms of policies, laws and regulations. Furthermore, these findings are supported by the views suggested in IMF Working Paper (2010) which state that legal/regulatory framework is an

important issue to be carefully considered in TSA operations. The findings of this objective are illustrated clearly in Table 2 and discussed in the sub-headings below:

Table 2: Overall performance of legal and regulatory framework

Components	Scored points		Total rating points	
	Points	%	Points	%
Central treasury legislation	17	38.6	24	54.5
Central bank legislation	13	29.6	20	45.5
Total rating points	**30**	**68.2**	**44**	**100.0**

4.2.1 Central treasury legislation

The findings in Table 2 illustrate that 38.6% of points scored under this category showing a clear legal and regulatory framework for Treasury Single Account operations has been established with appropriate and effective sanctions for non-compliance. These points were obtained from six questions that were set to measure the performance level of the central treasury legislation as indicated in Figure 3 below. The respondents ranked these questions from 0 to 4 then scores were converted into percentages, total percentage of points obtained were 38.6% out of 54.5%. These results imply that there is a room for improvement.

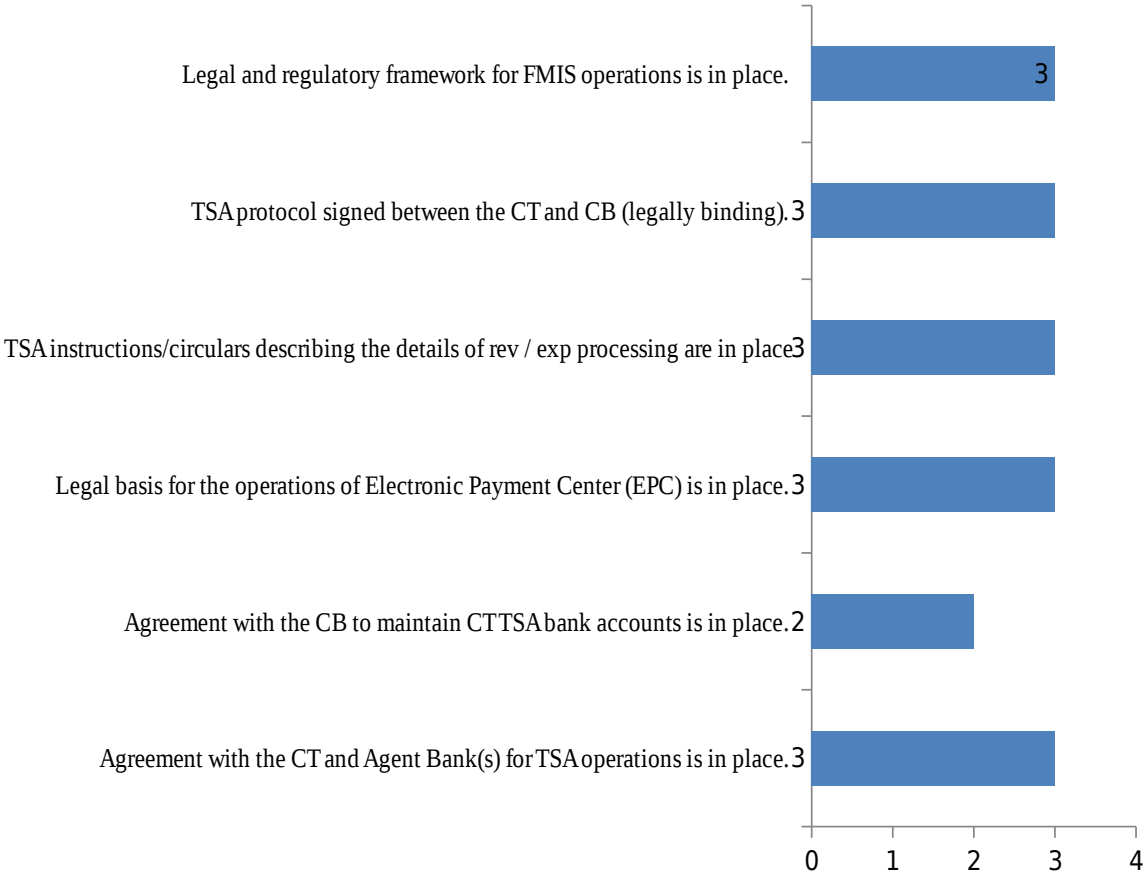


Figure 3: **Point scored under central treasury legislation i.e. 15 (38.5%) out of 24 (54.5%) points**

4.2.2 Central bank legislation

Apart from central treasury legislation, the findings in Table 2 also show that 45.5% of points scored under the central bank legislation showing a clear and legal regulatory framework for interbank systems have been established with appropriate and effective sanctions for non-compliance. These points were obtained from five questions that were set to measure the performance level of the central bank legislation as clearly described in Table 3 below. The respondents ranked these questions from 0 to 4 and then scores were converted into percentages, total percentage of points obtained were 29.5% out of 45.5% points. Similar to the former discussed legislation, the impact of the legislation can be

improved when the stakeholders opinions are collected indicating which areas can be improved.

Table 3: **Point scored under central bank legislation** i.e**. 13 out of 20 points**

Questions/Statements	**Rating Points**					**Scored points**
	0	1	2	3	4 Points	%
Banking law and regulations are in place				√	3	6.8
Electronic Signature law / regulations are in place.	√				0	0.0
RTGS law / regulations are in place.				√		6.8
ACH (BCS) laws / regulations are in place				√		6.8
Laws/regulations for oversight of payment & settlement systems are in place.					√ 4	9.2
Total Scored Points	**0**	**0**	**0**	**9**	**4**	**13**	**29.6**

NB: "√ " means "Score".

4.3 *Objective 2:* Process and Interbank Systems

In this objective, a researcher needed to assess the process and interbank systems. To get a clear and valid information, five items were used to assess the process and interbank systems which are segregation of key TSA functions, daily recording and reporting of TSA transactions, audit trails, inventory of bank accounts and transaction level controls that sums up all the process and interbank system for maintaining effective financial management systems and internal control frameworks. The findings in Table 4 show a 75% overall performance based on the total rating that implies that the effectiveness of the interbank system is good. In addition, these findings prove the application of public finance management theory in TSA as presented by Khan and Hildreth (2004), the theory encourages the application of resources-mobilization and expenditure should be well monitored and managed for better performance. However, in this case resource-mobilization includes also interbank systems as a component which was assessed in this study. In detail, each item is discussed separately in the sub-headings below:

Table 4: Overall Performance of Process and Interbank Systems

Components	Scored points		Total rating points	
	Points	%	Points	%
Segregation of key TSA functions	20	20.0	24	24.0
Daily recording and reporting of TSA transactions	30	30.0	36	36.0
Audit trails	15	15.0	20	20.0
Inventory of bank accounts	4	4.0	8	8.0
Transaction level controls	6	6.0	12	12.0
Total rating points	**75**	**75.0**	**100**	**100.0**

4.3.1 Segregation of key TSA functions

The research shows 20.0% of points scored out of 24% under this category showing segregation of key TSA duties is enforced through organizational structures, user access in the treasury/payment systems and procedural documents. The segregation of key TSA functions was measured by 6 questions; each question has 4 point and was ranked from 0 to 4, then the scored points were converted into percentages. This results show that significant preparations were done to accommodate the adoption of the TSA and enhance its implementation without mixing its functions with other institution activities.

Table 5: Point scored under Segregation of key TSA functions i.e. 20(20%) out of 24 (24%) points

Questions/Statements	Rating Points					Scored points	
	0	1	2	3	4	points	%
Payment management functions are executed by the Central Treasury through automated processes					√	4	4.0

supported by FMIS							
Payment control functions are performed by CT through automated processes supported by FMIS.					√	4	4.0
Payment control functions to check compliance with the Banking legislation are performed by CB through automated processes supported by CB information systems			√			2	2.0
Accounting functions for TSA operations (reconciliation and reporting) are performed by CT through automated processes supported by FMIS				√		3	3.0
Accounting of the TSA operations (recording all daily flows and providing daily bank statements) is performed by the CB through automated processes supported by the CB information systems.					√	4	4.0
Oversight functions for payment and settlement systems (financial + information security controls) are performed by the CB through automated processes.				√		3	3.0
Total Scored Points	**0**	**0**	**2**	**6**	**12**	**20**	**20.0**

NB: '√' means "Score"

4.3.2 Daily recording and reporting of TSA transactions

The daily recording and reporting of TSA transaction was measured by nine well-fitted questions, each question has 4 point and was ranked from 0 to 4 by the respondents then scored points were converted into percentages. The research shows 30% of points scored under this category which indicates the performance level of all TSA transactions related with budget revenues (receipts), and expenditures (payments) are meet 30% out of 36% points. These transactions are daily recorded and reported through CB payment and settlement systems, and the CT's FMIS solution. Administrative tasks are very necessary to facilitate smooth implementation of the programme, and the results suggest that, in the meantime, this role is well undertaken.

Table 6: **Point scored under daily recording and report of TSA transactions i.e. 30 (30%) out of 36(36%) points**

Questions/Statements	Rating Points						Scored points
	0	1	2	3	4	Points	%
RTGS system is capable of recording/reporting the details of all TSA payments on a daily basis.					√	4	4.0
ACH (BCS) system is capable of recording/reporting the details of all TSA payments on a daily basis.					√	4	4.0
CB GL captures all flows in TSA bank accounts through their accounting system/GL on a daily basis.			√			2	2.0
Agent Banks transfer all revenues to the CT's designated TSA bank account at the CB on a daily basis through online connections to RTGS/ACH.		√				1	1.0
Central Treasury submits all payment requests in required formats through CTCB TSA interface from a secure electronic payment center through automated processes supported by FMIS on a daily basis.					√	4	4.0
CB sends bank statements from the RTGS and ACH about the details of all TSA transactions through automated processes on a daily basis.				√		3	3.0
CB sends bank statements from the CB General Ledger about the flows in TSA bank accounts through automated processes on a daily basis.					√	4	4..0
Reconciliation of the CB (and Agent Bank) bank statements is performed by the CT through the FMIS General Ledger (GL) module on a daily basis.					√	4	4.0
Each TSA transaction must contain a unique identifier which can be used to link the payment or receipt to the accounting entries in the CT's FMIS GL.					√	4	4.0
Total Scored Points	**0**	**1**	**2**	**3**	**24**	**30**	**30.0**

NB: '√' means "Score".

4.3.3 Audit trails

Five questions measured the performance of the audit trails. These five-question had 4 points each and was ranked according to the respondent's view from 0 to 4. 15 points that present 15% of points obtained from the category that indicated the performance of Audit trails is enabled and effectively used in Central bank and Central Treasury information systems by only 15% out of 20% of points. Accountability is key to determine the

effectiveness of the initiative, therefore the audit trails efficiency have room to be improved since most respondents have ranked them average.

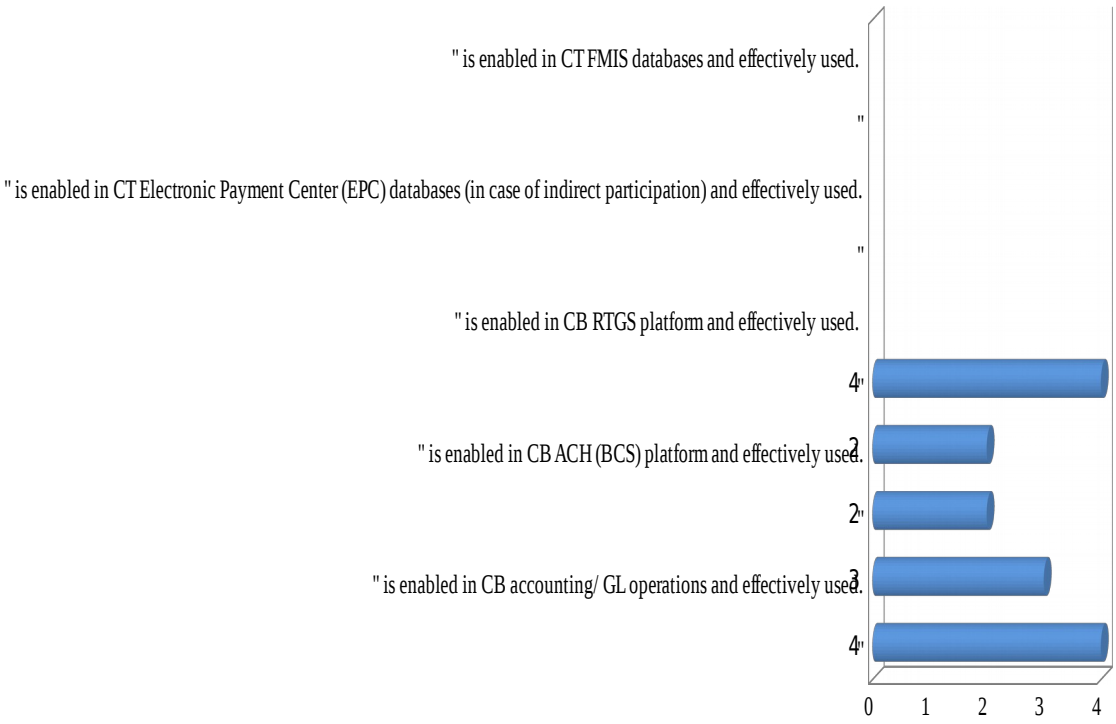
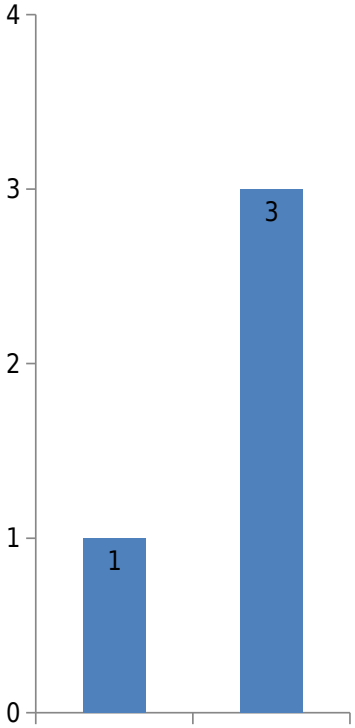


Figure 4: Point scored under audit trails **i.e. 15(15%) out of 20(20%) points**

4.3.4 Inventory of bank accounts

The inventory of bank accounts had two main questions that contained four points each in order to measure its performance; the total of 8% would indicate the excellent performance of the inventory. However, the research shows 4% of points scored out of 8% under this category indicate that an inventory of existing Bank accounts to be used in FMIS and TSA operations exist and regularly updated by 4 points out of eight. This reflects that there is a room for improvement.



CT FMIS has an inventory of all Bank accounts to be used in TSA operations and this is synchronized with the CB inventory.

Figure 5: **Point scored under inventory accounts** i.e. 4(4%) out of 8(8%) points

4.3.5Transaction level controls

The transaction level controls had three questions that measured its performance. Each question had 4 points obtained from the rankings of 0 to 4. The responded gave out a total of 6% of points which indicates that all transaction level controls are performed as a part of the oversight role on payments and settlements by 6% of points out of 12%. This is half of the required performance level, which challenges the concerned stakeholders to observe why the transactions controls have less efficiency and how can they improve the situation.

Table 7: **Point scored under Transaction level control i.e. 6 (6%) out of 12(12%) points**

Questions/Statements	**Rating Points**						
	0	1	2	3	4	points	%
CB has RTGS/ACH payment system checklists managed through automated processes and reports the results of all transactions in well-defined formats (SWIFT).						2	2.0
RTGS and ACH payment controls include checking the bank accounts against the "black list" maintained by the CB.			√	√		3	3.0
Central Treasury submits all payment orders electronically from FMIS to RTGS/ACH, without any manual intervention. CB disables manual entry mode for CT.		√				1	1.0
Total Scored Points	**0**	**1**	**2**	**3**	**4**	**6**	**6.0**

NB: '√' means "Score"

4.4 *Objective 3:* Oversight mechanisms

In an oversight mechanism there are five major components of assessment. These components are listed below for further details. The respondents gave out twenty-three points which lead to 72% overall performance which is categorized as good in the assessment level presented in this research. Moreover, it is very important to note that these findings match with the views reported by Schmitz *et al*. (2006) who stipulate that most of governments which implement TSA operations systems have made commitments to their budgets on a periodic basis, this enables them to undergo model of centralized cash control, but decentralized responsibility for commitments, payments, and accounting. This is how the overall performance has been seen to be good, hence they are able to commit on internal audit review of central treasury, and internal audit review of central bank to improve implementation of TSA.

Table 8: Overall performance of oversight mechanisms

Components	Scored points		Total rating points	
	Points	%	Points	%
Internal audit review of central treasury	6	18.8	8	25.0
Internal audit review of central bank	5	15.6	8	25.0
IMF safeguards assessment	3	9.4	4	12.5
PEFA assessment	2	6.3	4	12.5
Review of financial risks and controls	7	21.9	8	25.0
Total rating points	**23**	**72.0**	**32**	**100.0**

4.4.1 Internal audit review of central treasury

Two questions measured the performance of the internal audit review of central treasury. These two questions had 4 points each and were ranked according to the respondent's view from 0 to 4. A total of 18.8% scored points out of 25% were obtained from the category that indicated the performance of central treasury is subject to regular review by internal audit, external audit and by peer auditors by only 18.8% points out of 25% points, which is a good performance level.

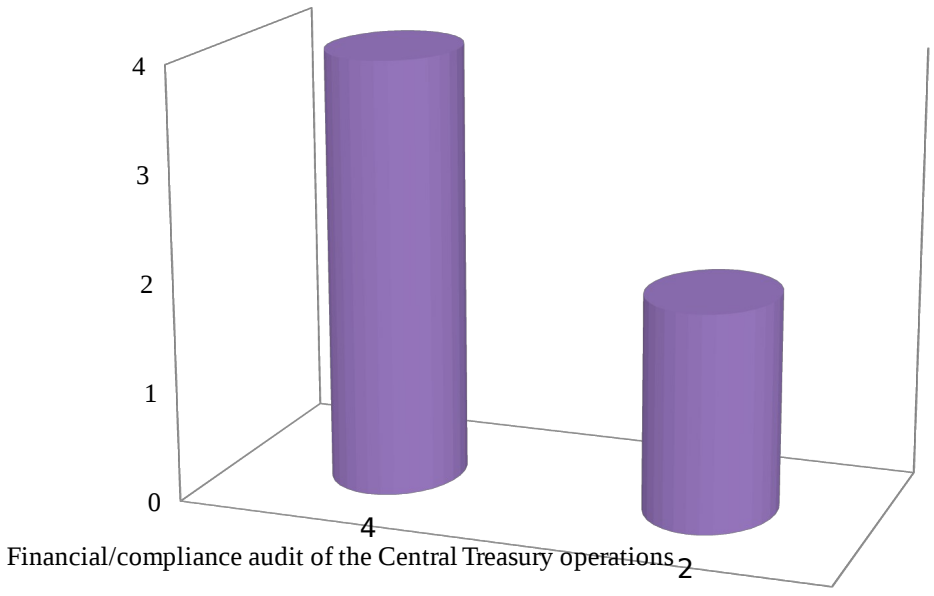


Figure 6: Point scored under internal audit review of central treasury i.e. 6 out of 8 points

4.4.2 Internal audit review of central bank

Two questions measured the performance of the internal audit review of central bank. These two questions had 4 points each and were ranked according to the respondent's

view from 0 to 4. A total of 15.6% of scored points were obtained from the category that indicated the performance of central bank is subject to regular review by internal audit, external audit and by peer auditors by only 15.6% out of 25% of scored points.

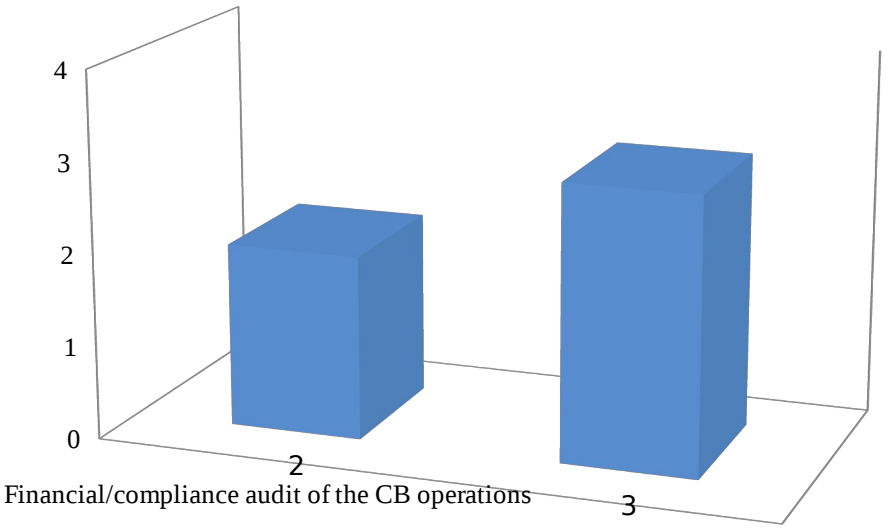


Figure 7: **Point scored under internal audit review of central bank i.e. 5 out of 8 points**

4.4.3 IMF safeguards assessment

One question measured the performance of IMF Safeguards. The one question had 4 points and was ranked according to the respondent's view from 0 to 4.A total of 9.4% points was obtained from the category that indicated the performance of IMF Safeguards Assessment is performed regularly as a review of the CB's governance framework by 9.4% out of 12.5% of scored points, which is a very good performance. This shows that the IMF has reliable assessment measures to ensure countries follow the required principles and regulations when adopting and implementing the TSA.

Table 9: **Point scored under IMF safeguard assessment** i.e. 3 out of 4 points

Questions/Statements	**Rating Points**					**Scored points**	
	0	1	2	3	4	Points	%
The CB governance framework is up				√			

to the standards as evidenced by the IMF's Safeguards Assessment						3	9.4
Total Scored Points	**0**	**0**	**0**	**3**	**0**	**3**	**9.4**

NB: '√' means "Scores".

4.4.4 PEFA assessment

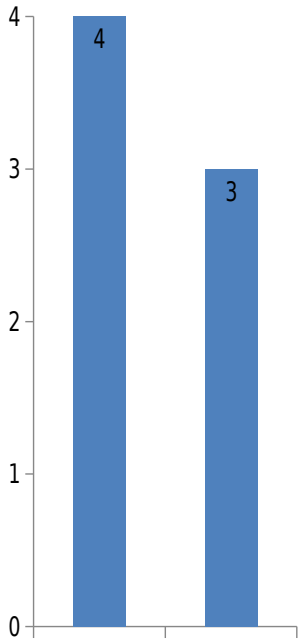
One question measured the performance of PEFA assessment. The one question had 4 points and was ranked according to the respondent's view from 0 to 4.A total of 6.3% points was obtained from this category which indicated the performance of PEFA assessment is performed as a core diagnostic to review the overall PFM and accountability performance only 6.2% scored points out of 12.5% of points to score.

Table 10**: Point scored under PEFA assessment i.e. 2 out of 4 points**

Questions/Statements	**Rating Points**					**Scored points**
	0	1	2	3	4	
The TSA operations and the CT/CB practices are reviewed during the PEFA assessment, and related assessments are used to monitor the progress.			√			2
Total Scored Points	**0**	**0**	**2**	**0**	**0**	**2**

4.4.5 Review of financial risks and controls

Two questions measured the review of financial risks and controls. These two questions had 4 points each and was ranked according to the respondent's view from 0 to 4.A total of 21.9 of points to score were obtained from this category which indicated the Financial risks and controls are regularly reviewed and attached to the annual financial system reviews of the CB and CT by 21.9% scored points out of 25% points to score.



The risk and controls report are prepared annually, describing the overall assessment of the CT information systems, the controls and any deficiencies.

Figure 8: **Point scored under review of financial risks and controls i.e. 7(21.9%) out of 8(25%) points**

4.5 Regression Analysis on Effective Implementation of the TSA Operation and Payment Systems

A multiple linear regression model was developed by involving three predictors (legal and regulatory framework, TSA processes and interbank systems, and overnight mechanisms) which were modeled against the dependent variable (effective implementation of TSA operations and payment systems). The results in Table 10 indicate that all three predictors (legal and regulatory framework p = 0.003, TSA processes and interbank systems p = 0.000, and overnight mechanisms p =0.000) were statistically significant at level ($P \leq 0.05$).

The results also show that all three predictors which were found to be statistically significant had positive influences to effective implementation of TSA operations and payment systems. Therefore, the results reveal that the increase or change in one unit of

legal and regulatory framework, TSA processes and interbank systems, and overnight mechanisms lead to the increase of effective implementation of TSA operations and payment systems by one unit.

In addition, the results in Table 10 indicates R^2 = 99.1%, this means that 99.1% of used variance was explained by all independent variables, while the remaining i.e. 0.9% was explained by other factors unknown to a researcher. Moreover, Table 10 illustrates also the Tolerance rate and Variance Inflating Factors (VIF) which was used to determine multi-collinearity statistics between explanatory. According to the Table, the degree of Tolerance of variables is greater than 0.1 and the VIF does not exceed 5 to 10. This reveals that there was no problem of colinearity statistics among explanatory variables. Therefore, a researcher concluded that the associated regression coefficients were clearly and reliable.

Table 11: Results of regression analysis on dependent and independent variables

Model	Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	T	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
(Constant)	0.162	0.377		0.430	0.000	0.892	1.122
Legal and regulatory framework	0.300	0.180	0.220	1.669	0.003	0.831	1.203
TSA processes and interbank systems	0.033	0.302	0.014	0.110	0.000	0.737	1.357
Overnight mechanisms	0.605	0.384	0.645	1.574	0.000	0.778	1.285
R^2 = 99.1%							
Adjusted R^2= 99%							

a. Dependent Variable: effective implementation of TSA operations and payment systems

4.6 The Link of the Theories with the Study Results

The Modern Money Theory (MMT) by (Wacker, 1998) pointed out the importance of linking the monetary and fiscal policies to ease government responsibilities especially in the planning and budgeting. This back up the results obtained in the established legal and regulatory frameworks to assist the smooth implementation of the TSA. The government saw the necessity of transparency of the available resources to allow the planning and implementation of the country's development goals to go as expected. The rating of more than 60% on the existing frameworks is above average, and still there is a room for improvement.

The Stakeholders Theory by Mitrof (1983) focuses on the morals and values required by the stakeholders within a respective organization or project for successful implementation. The study measured this by observing the oversight mechanisms in place which observe the accountability of the entrusted stakeholders for effective and efficient implementation of the TSA. The 71.8% rating on the performance of controls in place suggest the satisfactory mechanisms in place.

The Public Finance Management theory by Khan and Hildreth (2004) stress on the importance of managing the financial resources-mobilization and expenditure within the government for the benefits of the citizens. This back up the review of the inter-bank systems variables, which focused on establishing the strength of the processes in place. The success of the single account is to ensure the banks abide to the common goal of efficiently managing the mobilization of the public resources and reasonably plan for their expenditure.

CHAPTER FIVE

5.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

Aiming to monitor the TSA initiative that has been recently adopted in Tanzania, this study assessed the implementation of Treasury Single Account (TSA) to establish the strength of the existing rules and regulations governing it, the process adopted, and the oversight mechanism. Employing a quantitative research approach, the study used both the primary and secondary data to answer its research questions. The study conducted the descriptive analysis from the survey data.

The findings show the 68.2% of the overall performance in legal regulatory framework; this indicates the average performance as rating in this research. In the process and interbank systems, results show 75% of the overall performance based on the rating implies the effectiveness in this category is good. Lastly, the oversight mechanisms in results indicates 72% of the overall performance, this is categorized as good. Inferential analysis shows that all three predictors i.e. legal regulatory framework (p=0.003), process and interbank systems (p=0.000), and oversight mechanisms (p=0.000) were statistically significant ($P \leq 0.05$) to effective implementation of TSA.

5.3 Conclusion

Based on the findings obtained in the first objective this was to assess the legal and regulatory framework in implementation of TSA, a conclusion is made that there is the average performance of the effectiveness on legal and regulatory framework in TSA operations and implementation. This is due to the 68.2% of the overall performance that is rating as average performance in this study. However, it is also concluded that the overall

performance needs improvements; hence it has not reached to the highest point of score as the best indicator for effective implementation of TSA.

Based on the findings obtained in this study concerning the second objective that needed to investigate the process and interbank systems, a conclusion is made that, implementation of Treasury Single Account Operations and Payment Systems in this component is not bad, hence it performs with 75% which is about exactly three quarters of the target. However, there are still some faults in these results hence the remaining 25% contributes to not effective implementation; therefore, efforts to improve are also needed.

Based on the results concerning the third objective that examined the oversight mechanism as a component which was used to assess implementation of TSA, a conclusion is made that, this component is well implemented as it seems to reveal the outcome of 72% total rating score which indicates nearly to three quarters of the total rating score. Furthermore, it is also concluded that implementation of TSA through this component has not reached to the highest rating score of hundred percent.

5.3 Recommendations

From the findings of the study, it is recommended that:

- The government should put more efforts to make sure that legal and regulatory framework are considered in all parts of implementation of Treasury Single Account Operations and Payment Systems; hence it is an important component which could make the implementation to be easy and effective. This could be done by learning from other countries which have been implementing TSA for long time.

- Since the rating score concerning process and interbank systems has not reached to hundred percent, efforts should also be done by the government to improve all processes and interbank systems for effective implementation of TSA. This can also be done by learning on how the countries which got high rating score perform.

- Since the overall performance concerning oversight mechanism has not also indicated the highest score rating points, there is a need to improve all activities concerning decentralized model, by doing and reporting on internal audit review of central bank, central treasury, and IMF safeguard assessments. This could be done by establishing good and applicable policies and laws which will facilitate the implementation procedures.

5.4 Suggestions for Further Research

This study focused on the feedback from the central government on the effectiveness of the TSA implementation after being adopted. However, it will be of benefit not only to policy makers but also to the empirical body of knowledge if the feedback from the commercial banks will also be collected due to the key role they play in the TSA success. Moreover, this study used cross-section data; however, the analysis will be richer if time-series or panel data will be developed and analyzed. These can be addressed in the future researches.

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APPENDIXES

Appendix 1: Operational definitions of variables

Variable	**Operational Definitions**	**level of Measurements**	**Units of Measurements**
Age	Numbers of years since one was born.	Ratio	Actual years
Sex	Biological being male or female.	Nominal	1 = Male 2 = Female
Education	Number of years one attended formal education.	Ratio	Actual years
Marital Status	Fact of someone being married or not	Nominal	1=Married. 0 = Not married
Experience	Years since joining an organization	Ratio	Actual years

Appendix 2: Questionnaire for organization's staffs

SOKOINE UNIVERSITY OF AGRICULTURE

COLLEGE OF SOCIAL SCIENCE AND HUMANUTIES

DEPARTMENT OF POLICY PLANNING AND MANAGEMENT

Questionnaire for organization's staffs

ASSESSING THE ADOPTION PROCESS OF TREASURY SINGLE ACCOUNT OPERATIONS AND PAYMENT SYSTEMS IN TANZANIA

By

Uddah Sarwatt

M.A. (Project Management and Evaluation) Student

E-mail: uddahsarwatt@gmail.com, Mobile Phone: 0753871413

S/n	Name of organization
Date	Ward
Starting time	Position of staff
Ending time	Staff's contact number

Preamble

My name is Sarwatt Uddah, a postgraduate student from Sokoine University of Agriculture, pursuing Master of Art in Project Management and Evaluation. I am conducting research which aims *to assessing the adoption process of treasury single account operations and payment systems in Tanzania.* Therefore, I am specifically collecting data which will be used for academic purpose only. I would like to assure you that the information that you will give out are confidential and hopeful you will get the feedback after few months.

General Instructions:

Kindly respond by ticking or writing briefly where required

Section A: Background Information

1. State your sex**:**

(i) Male ☐ (ii) Female ☐

2. What is your age in years? ..... ☐

3. What is your highest level of education? .....

4 What is your marital status?

(i). Married ☐ (ii) Not married ☐

5. How many years have you worked in your Organisation? **.....**

Section B: Legal and regulatory framework of TSA operations

This section focuses on the availability of Legal and regulatory framework of TSA operations. Please rate the statement from 0 to 4.

REF	TSA ASSESSMENT COMPONENTS	Q REF.	QUESTIONS / STATEMENTS	RATING	COMMENTS
1.1	Central Treasury legislation	Q.1	Legal and regulatory framework for FMIS operations is in place.		
		Q.2	TSA protocol signed between the CT and CB (legally binding).		
		Q.3	TSA instructions/circulars describing the details of rev / exp processing are in place		
		Q.4	Legal basis for the operations of Electronic Payment Center (EPC) is in place.		
		Q.5	Agreement with the CB to maintain CT TSA bank accounts is in place.		
		Q.6	Agreement with the CT and Agent Bank(s) for TSA operations is in		

			place.
1.2	central bank legislation	Q.7	Banking law and regulations are in place
		Q.8	Electronic Signature law / regulations are in place.
		Q.9	RTGS law / regulations are in place.
		Q.10	ACH (BCS) laws / regulations are in place.
		Q.11	Laws/regulations for oversight of payment & settlement systems are in place.

Section C: TSA Processes and Interbank Systems

This section focuses on the tsa processes and interbank systems. Please rate the statement from 0 to 4.

Ref	TSA Assessment Components	Q Ref.	Questions / Statements	Rating	Comments
2.1	Segregation of key TSA functions	Q.12	Payment management functions are executed by the Central Treasury through automated processes supported by FMIS.		
		Q.13	Payment control functions are performed by CT through automated processes supported by FMIS.		
		Q.14	Payment control functions to check compliance with the Banking legislation are performed by CB through automated processes supported by CB information systems.		
		Q.15	Accounting functions for TSA operations (reconciliation and reporting) are performed by		

			CT through automated processes supported by FMIS.
		Q.16	Accounting of the TSA operations (recording all daily flows and providing daily bank statements) is performed by the CB through automated processes supported by the CB information systems.
		Q.17	Oversight functions for payment and settlement systems (financial + information security controls) are performed by the CB through automated processes.
2.2	Daily recording and reporting of TSA transactions	Q.18	RTGS system is capable of recording/reporting the details of all TSA payments on a daily basis.
		Q.19	ACH (BCS) system is capable of recording/reporting the details of all TSA payments on a daily basis.
		Q.20	CB GL captures all flows in TSA bank accounts through their accounting system/GL on a daily basis.
		Q.21	Agent Banks transfer all revenues to the CT's designated TSA bank account at the CB on a daily basis through online connections to RTGS/ACH.
		Q.22	Central Treasury submits all payment requests in required formats through CTCB TSA interface from a secure electronic payment center through automated processes supported by FMIS on a daily basis.
		Q.23	CB sends bank statements from the RTGS and ACH about the details of all TSA

			transactions through automated processes on a daily basis.
		Q.24	CB sends bank statements from the CB General Ledger about the flows in TSA bank accounts through automated processes on a daily basis.
		Q.25	Reconciliation of the CB (and Agent Bank) bank statements is performed by the CT through the FMIS General Ledger (GL) module on a daily basis.
		Q.26	Each TSA transaction must contain a unique identifier which can be used to link the payment or receipt to the accounting entries in the CT's FMIS GL.
2.3	Audit trails	Q.27	"Audit trail" is enabled in CT FMIS databases and effectively used.
		Q.28	"Audit trail" is enabled in CT Electronic Payment Center (EPC) databases (in case of indirect participation) and effectively used.
		Q.29	"Audit trail" is enabled in CB RTGS platform and effectively used.
		Q.30	"Audit trail" is enabled in CB ACH (BCS) platform and effectively used.
		Q.31	"Audit trail" is enabled in CB accounting/ GL operations and effectively used.
2.4	Inventory of bank accounts	Q.32	CT FMIS has an inventory of all Bank accounts to be used in TSA operations and this is synchronized with the CB inventory.

		Q.33	CB has an inventory of all Bank accounts to be used in TSA operations.
2.5	Transaction level controls	Q.34	CB has RTGS/ACH payment system checklists managed through automated processes and reports the results of all transactions in well-defined formats (SWIFT).
		Q.35	RTGS and ACH payment controls include checking the bank accounts against the "black list" maintained by the CB.
		Q.36	Central Treasury submits all payment orders electronically from FMIS to RTGS/ACH, without any manual intervention. CB disables manual entry mode for CT.

Section D: Oversight Mechanisms

This section focuses on the Oversight mechanisms. Please rate the statement from 0 to 4.

Ref	TSA Assessment Components	Q Ref.	Questions / Statements	Rating	Comments
3	Oversight mechanisms				
3.1	Central Treasury is subject to regular review by internal audit, external audit and by peer auditors.	Q.37	Financial/compliance audit of the Central Treasury operations		
		Q.38	IT Audit of the CT information systems (FMIS and electronic payment center)		
3.2	CB is subject to regular review by internal audit, external audit and by peer auditors.	Q.39	Financial/compliance audit of the CB operations		
		Q.40	IT Audit of the CB information systems (payment systems and accounting)		
3.3		Q.41	The CB governance		

	IMF Safeguards Assessment is performed regularly as a review of the CB's governance framework		framework is up to the standards as evidenced by the IMF's Safeguards Assessment
3.4	PEFA assessment is performed as a core diagnostic to review the overall PFM and accountability performance	Q.42	The TSA operations and the CT/CB practices are reviewed during the PEFA assessment, and related assessments are used to monitor the progress.
3.5	Financial risks and controls are regularly reviewed system reviews of the CB and CT. and attached to the annual financial	Q.43	The risk and controls report are prepared annually, describing the overall assessment of the CT information systems, the controls and any deficiencies.
		Q.44	The risk and controls report are prepared annually, describing the overall assessment of the CB information systems, the controls and any deficiencies.