

**EXAMINING FACTORS AFFECTING EFFECTIVE FORCE
ACCOUNT IMPLEMENTATION IN UGANDA DISTRICT LOCAL
GOVERNMENTS**

BY

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DECLARATION

I, **LUKUNGU HUSSEIN**, hereby declare that this dissertation report titled
***“EXAMINING FACTORS AFFECTING EFFECTIVE FORCE ACCOUNT
IMPLEMENTATION IN UGANDA DISTRICT LOCAL GOVERNMENTS”***
is my original work and has never been presented for a degree in any other
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APPROVAL

We as University supervisors confirm that the dissertation titled

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IMPLEMENTATION IN UGANDA DISTRICT LOCAL GOVERNMENTS”***

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DEDICATION

I take the honor to dedicate this dissertation to all the great men and women who greatly contributed to the success of my research and those who persistently struggled to enhance effective force account mechanism in their respective District Local Governments despite the various constraints.

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ABSTRACT

This study examined the implementation of the force account mechanism (FAM) in ten Uganda District Local Governments (UDLGs). The study was instigated by a policy shift in June 2012, where the government transitioned from using contractors to FAM to achieve SDG 9 on building resilient infrastructure. The study objectives were; to examine the current practices of force account implementation in UDLGs, to determine the impact of current practices in implementation of Force Account in UDLGs, to examine the challenges of current practices in implementation of force account in UDLGs and to develop an effective force account implementation tool for construction projects in UDLGs. The descriptive research design with quantitative and qualitative research methods was employed. The study focused on the ten lowest-performing road fund-funded districts in Uganda, selected based on performance constraints and data availability. Data was collected from 57 participants who play various roles within these districts. Questionnaire data was analyzed with SPSS version 20 and content analysis for interviews for this study. The findings of the study unveiled strong support for the utilization of force account methods (FAM) in emergency work, particularly supported with force account practices of preparation expenditure and implementation schedule, procurement and annual work plan had high relative importance index where risk of work interruptions was effectively managed by the procuring entity or public authority. The budget, work supervision, and adherence to supervisor instructions attracted significant support. Challenges emerged were limited resource availability, incompetent personnel, suitability of equipment, and additional work during project implementation. Nonetheless, respondents expressed adherence to regulations, effective monitoring and supervision of project. Correlation results indicated that current force account practices were significant. Yet, regression results indicated that preparation of expenditure schedule ($\beta = 0.518$), implementation schedule ($\beta = 0.489$), procurement annual plan ($\beta = 0.509$) have significant effect on implementation of force account mechanism, unlike annual work plan which was insignificant. Compliance to regulatory framework, monitoring and supervision supported with increased budget and competent personnel enhanced implementation of force account mechanism (FAM). It was concluded that preparation of expenditure, implementation schedule and procurement annual plan supported by regulatory policy, budget and competent personnel enhanced implementation of FAM as displayed by the research established framework. The study recommended that preparation, approval, verification of expenditure and implementation schedule as well as annual procurement plan aligned with the budget supported with availability of qualified personnel, monitoring and evaluation, compliance to regulations enhanced project completion using force account implementation and it was upon this that a maintenance force account implementation frame work for the UDLGs was established.

Keywords: Force account, factors, Implementation, Uganda, districts.

LIST OF ABBREVIATIONS

BMAU	Budget Monitoring Accountability Unit
Bn	Billion
DUCAR	District Urban Community Access Roads
FA	Force Account
FAM	Force Account Mechanism
FY	Financial Year
GoU	The Government of Uganda
MDGs	Millennium Development Goals
MELTC	Mountain Elgon Labour Based Training Centre
MOFED	Ministry of Finance Planning & Economic Development
MoWT	Ministry of Works and Transport
PE	Procurement Entity
PPA	Public procurement Act
RBV	Resource based view theory
SDGs	Sustainable Development Goals
UG. Shs.	Uganda shillings
UNDP	United Nation Development Program
URF	Uganda Road Fund
VFM	Value for Money
UGDLGs	Uganda District Local Governments

CHAPTER ONE: INTRODUCTION

1.1 Background

Globally, force account mechanism (FAM) has captured the attention of those responsible for carrying out infrastructure project implementation in different national local governments (Satyanarayana 2012, Asian Development Bank (ADB) Project Administration Instructions (PAI) 2014). This is because of its ability to support project cost savings, internal professional capacity building because the project works are executed by internal labour force and equipment. FAM minimization of internal procurement bureaucracies greatly saves time for project implementation. Furthermore, force account mechanism is a very effective method in response to emergencies in project implementation, and this is prevalent in road infrastructure projects (Mbabazi & Mugurusi, 2019). It is very useful to governments because it helps in the provision of services which are very critical to their citizens in rural areas (ADB, 2012).

Effectively maintained infrastructure plays a pivotal role in advancing global development agendas such as the United Nations Sustainable Development Goals. These initiatives, endorsed by the international community, underscore the significance of infrastructure in elevating the living standards of impoverished populations worldwide. By ensuring that roads, bridges, utilities, and public facilities are well-maintained, we not only enhance accessibility and connectivity but also provide the foundation for economic growth, social progress, and environmental sustainability. Robust infrastructure networks empower communities, facilitate access to essential services, and foster resilience in the face of challenges, ultimately contributing to the collective

effort of eradicating poverty and achieving a more equitable, prosperous future for all Arora, et al.,(2019).

Africa's Agenda 2063 places significant importance on the development of road infrastructure as a vital catalyst for the continent's sustainable advancement and unity (Costantinos, 2023). This forward-thinking agenda highlights the necessity of creating an extensive and interconnected network of roads that spans across African nations, facilitating improved connectivity, trade enhancement, and regional cooperation. The central objective is to improve the quality, accessibility, and maintenance of road systems, with a particular focus on rural and remote areas, to drive economic growth, job generation, and social inclusivity. Through its commitment to prioritizing road infrastructure, Africa 2063 aims to address longstanding transportation challenges, boost intra-African trade, and propel the continent towards greater self-sufficiency and global competitiveness.

In Uganda Vision 2040, there is a strong focus on enhancing road infrastructure in rural areas, considering it a fundamental driver of inclusive economic expansion. The vision highlights the importance of establishing an extensive road network that links remote regions, facilitating improved access to markets, essential services, and employment prospects (Balyejjusa, 2015). The overarching goal is to enhance the condition and upkeep of rural roads, thereby boosting agricultural output, lowering transportation expenses, and elevating the overall well-being of rural residents. By giving precedence to road development

in these communities, Uganda envisions reducing the disparities between urban and rural development while promoting a more balanced socio-economic advancement throughout the country.

The Uganda Third National Development Plan (NDP III) 2020-2021 prioritizes the quality and strategic development of infrastructure, particularly in rural areas through force account projects (Lakuma, 2022). This emphasis reflects Uganda's commitment to enhancing its growth capacity and fostering equitable development across the nation. By investing in rural infrastructure projects, Uganda aims to bridge the urban-rural development gap, stimulate economic activity in previously underserved regions, and improve the overall well-being of its citizens while advancing its broader development objectives.

Effective construction sector is very critical in elevating both social and economic demands of a nation. Civil and building infrastructures are great pillars in accelerating development of nations worldwide. Effective infrastructure acts as a catalyst to the nation's industrial and services growth. Fraudulent indulgements in infrastructure project developments negatively impact the escalation of a nation's economy as a result of high costs generated from unsatisfactory performances in given projects (Tekka, 2018).

Basing on global aspect, entities target high quality construction in line with cost minimization through the utilization of different models one of which is FAM. Force account is an infrastructure maintenance model which utilizes resources as human resources and material resources requested and supplied by recognized government entity (Satyanarayana, 2012). The model prefers insourcing to

outsourcing (Schniederjans & Zuckweiler, 2004) and has been majorly ratified in developing countries especially Asian and sub-Saharan Africa where the private contractors do not have enough capacity to execute the works. It is also greatly utilized where entities have the equipment and personnel resource to execute the works. It is also very critical in doing works where the contractors are not attracted to execute the works. Inputs for the implementation of works must be procured basing on the Public Procurement and Disposal of Public Assets (PPDA) Act. The adoption of force account to execute construction projects depends on the entity's capacity in terms of competent personnel and equipment. It also enhances development of internal capacity as it prioritizes the use of internal organization work force. This has great impact on the economic stature of those communities as it improves the standards of living of the people of those communities through economic empowerment.

Since June 2012, after the amendments of the PPDA law, force account was introduced to Uganda District Local Governments (UDLGs). Before, force account maintenance works were being handled by external prequalified contractors. Government had been advised to change its maintenance implementation policy because it had not achieved cost-effectiveness, particularly in maintenance projects. This is evidenced in the assessment report on service delivery performance of local government in FY 2022/23 from the office of the prime minister where the performance of the UGDLGs. The performance of UDLGs was found to be 51% in 2022, 44% in 2021 and 36% in 2020.

To address this, stakeholders and the government have worked on analyzing the implementation of force account compared to conventional methods. This analysis focused on managing human and financial resources, supply chains, and regulatory frameworks. The existing studies from different researchers in the same field in Uganda could not effectively highlight a frame work for effective force account implementation of maintenance projects in UDLGs.

This study examined the factors that affect effective implementation of force account maintenance projects in Uganda District local governments and this was to generate knowledge regarding value for money on force Account implemented construction developments and establish an effective force account implementation frame work for UDLGs

1.2 Problem statement

In June 2012, Uganda adopted a Force Account model for road maintenance, purchasing 1425 pieces of equipment through a \$100 million loan from China to address immediate road failures and cut rehabilitation costs. However, various reports indicated that the policy had not met its goals. The Auditor General's 2015 report, the Uganda Road Fund's 2017/2018 report, and the Prime Minister's 2022 assessment all highlighted failures. Despite allocating 30% of the road maintenance budget to district governments, poor implementation of the Force Account model risked financial losses and negatively impacted productivity, commerce, agriculture, and quality of life by increasing vehicle operating costs and hampering communication and goods movement. To address these issues, a robust framework for Force Account management aligned with national and

global standards was essential for effective infrastructure maintenance and economic growth.

1.3 Main and specific objectives

1.3.1 Main Objective

To explore the effectiveness of Force Account implementation in UDGLGs

1.3.2 Specific Objectives

The specific objectives of the study included;

- i) To examine the current practices of force account implementation in UDGLGs.
- ii) To determine the impact of current practices in implementation of Force Account in Uganda District Local Governments.
- iii) To examine the challenges of current practices in implementation of force account in UDGLGs.
- iv) To establish an effective force account implementation frame work for maintenance projects in UDGLGs.

1.3.3 Research Questions

The research questions of the study included:

- i) What are the current practices of force account implementation in UDGLGs?
- ii) What is the impact of current practices in implementation of Force Account in Uganda District Local Governments?
- iii) What are the challenges and impact of current practices in implementation of Force Account in UDGLGs?

- iv) What is the effective force account implementation framework for maintenance projects in UDLGs?

1.4 Research justification

The proposed study aimed at addressing a critical gap in the understanding of effective force account implementation and its impact on road network infrastructure maintenance within UDLGs. Given the significance of road infrastructure for economic development and social connectivity, it was imperative to optimize maintenance strategies. By comprehensively examining current force account practices, evaluating their impact and challenges, and subsequently devising a tailored implementation frame work, this research provided critical understanding for enhancing the efficiency and efficacy of construction projects. As force account execution directly influences project outcomes, cost-effectiveness, and resource allocation, the study's findings served as a foundation for evidence-based policy recommendations, fostering sustainable road network maintenance practices in Uganda.

The research was an eye opener to the respondents in a way that it triggered further research for development purposes. This research added new stock of knowledge for improving the existing literature related studies and it was essential in providing new knowledge for improving community welfare and life style, thus social responsibility.

1.5 Study Scope

The study consisted of the content scope, geographical scope and time scope.

1.5.1 Content scope

The research greatly focused on ascertaining the parameters for effective force account implementation in UDLGs. The study greatly based on the conventional procedures or tools for force account implementation as highlighted in the force account implementation manuals, which was used as a benchmark in examining the current force account practices, determining their impact and establishing the challenges, which led to the development of force account implementation tool to suit the taste of time.

1.5.2 Geographical scope

The conducted research extensively examined ten (10) District Local Governments namely; Obongi, Pakwach, Alebtong, Nakaseke, Kaabong, Abim, Karenga, Madi-Okollo, Bugweri, and Agago. These districts were identified as the lowest-performing based on the government annual performance review report of Tuesday, 7th September, 2021, FY 2020/21 by the Uganda prime minister's office. The local governments' report ranked 153 UDLGs and the worst performers in service delivery are those mentioned above with a percentage of 45-15%. The research comprehensively investigated a spectrum of areas encompassing governance, service delivery, and financial management, while focusing on key performance parameters such as infrastructure development, fiscal responsibility, service quality, and transparency.

1.5.3 Time scope

The study was conducted over a span of twelve months between October, 2022 – September, 2023, encompassing the stages of proposal and dissertation writing. The investigation was limited to the timeframe between 2021 and 2023. This period was selected as it aligns with the duration of the course during which

I was required to submit my research report to fulfill the requirements for the Master of Science degree in Construction Technology and Management from Kyambogo University.

1.6 Conceptual Frame work

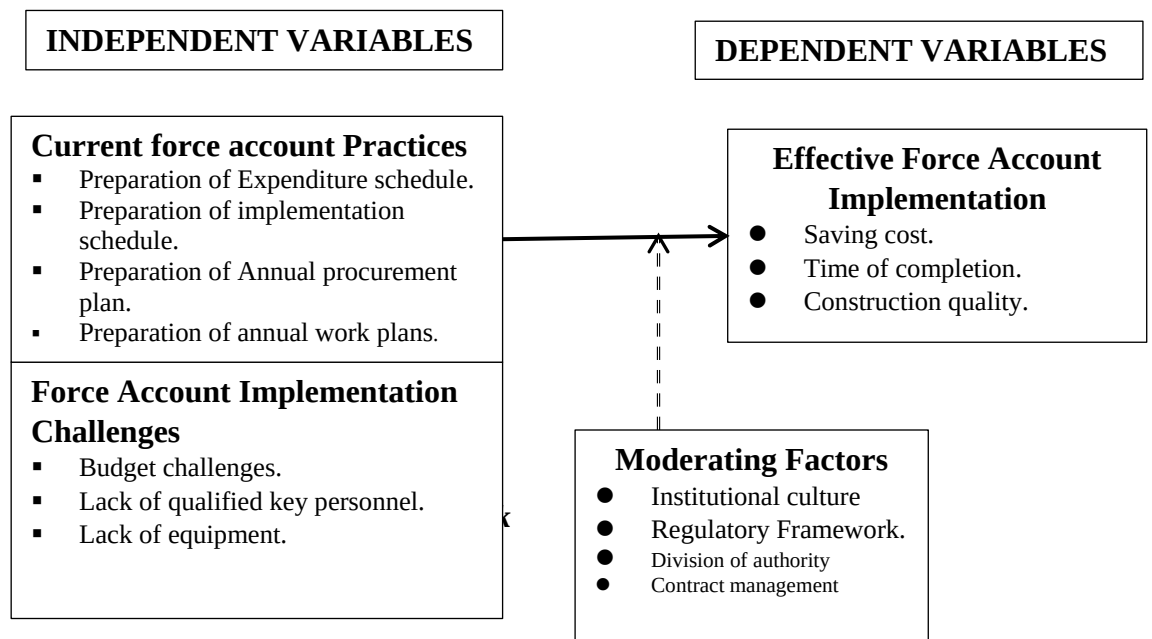


Figure 1.1: conceptual framework for examining factors affecting effective force Account implementation in Uganda District Local governments Source; literature review

dependent and moderating research variables. This study puts emphasis on relationship between parameters such as current force account practices, challenges faced as independent variable on force account implementation strategy as dependent variable which are dictated by regulatory framework, institutional culture, economic resources, management of material supplies (supply chain management) for effective force account implementation. Force Account Mechanism facilitates effective use of equipment and personnel resources at the UDLGs to execute works of construction project for sustainable infrastructure development. This resource minimization strategy of effective

implementation of FAM is the foundation for effective capacity utilization of resources at the procuring and disposal entities in Uganda.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

According to Hart (2018), review of literature is very critical in providing the person carrying out the study an understanding of what other researchers have so far done in the field of study. This is of great advantage because it displays points of strength and weakness. It also guides the researcher in formulating theories that target responding to the highlighted gaps.

2.2 Definition of Concepts

In this section, key concepts relevant to the discussion of Uganda's road maintenance policy and the Force Account model are defined for clarity and context.

2.2.1 Force Account Model: The Force Account model is a method of public sector project implementation where the government directly employs its own labour and equipment for construction and maintenance works, rather than contracting external entities. This model aims to utilize existing government resources efficiently and reduce costs associated with outsourcing.

2.2.2 Road Maintenance: Road maintenance refers to the various activities and processes involved in preserving and keeping road infrastructure in usable condition. This includes routine, periodic, and emergency maintenance activities designed to extend the lifespan of roads and ensure safe and efficient transportation.

2.2.3 Rehabilitation and Reconstruction Costs: These costs are associated with restoring and rebuilding road infrastructure that has significantly deteriorated or been damaged. Rehabilitation typically involves substantial repairs to extend the road's service life, while reconstruction involves completely rebuilding the road structure.

2.2.4 Road Network Condition: This term describes the overall state of the road infrastructure within a region or country. It is typically assessed based on criteria such as surface quality, structural integrity, and the percentage of roads rated as being in fair to good condition.

2.2.5 District Urban Community and Access Roads (DUCAR): DUCAR refers to the network of roads within district and urban areas, including those providing access to rural communities. Maintaining these roads is crucial for local connectivity, economic activities, and access to services.

2.2.6 Vehicle Operating Costs: These are the costs incurred by vehicle owners and operators due to the use of roads, including fuel consumption, maintenance, and repairs. Poor road conditions can significantly increase these costs.

2.2.7 Economic Viability: In the context of road maintenance and construction, economic viability refers to the cost-effectiveness and long-term benefits of projects. Projects that are economically viable provide significant returns on investment through improved transportation efficiency, reduced costs, and enhanced economic activities.

2.2.8 Framework for Force Account Management: This framework consists of policies, procedures, and guidelines designed to ensure the effective

implementation and management of the Force Account model. It aims to align with national challenges and global perspectives on construction project development, ensuring that infrastructure maintenance maximizes economic benefits and improves citizens' well-being

2.2.9 Force account

This is a form of project implementation model basing on force account implementation manual which utilizes internal resources in form of material supplies, equipment and labour of a government entity to execute project maintenance and implementation works (BMAU, 2019).

2.2.10 Value for money (VFM)

According to Mwangi (2021), Value for money has been defined as a utility derived from every purchase or every sum of money spent. Value for money is based not only on the minimum purchase price (economy) but also on the maximum efficiency and effectiveness of the purchase.

2.2.11 Force account policy for road maintenance works

According to Mbabazi and Mugurusi (2018), adoption of force account mechanism in road maintenance works' procurements: stakeholders 'opinions in Uganda and BMAU 2017, The Government of Uganda (GoU) In June 2012, changed the road maintenance implementation policy from hiring contractors to direct implementation of works (PPDA, 2014). This was to curtail the early failure, and expose the roads to a reasonable service life which would result in high savings of the organization reconstruction or rehabilitation costs. This aim has not yet been met due to constraints within the Uganda Road fund and Uganda

Revenue acts, inadequate operational funds allocated to the designated agencies, non-fully operational district roads rehabilitation units, Inadequate resource envelope for the road gangs and less numbers of regional mechanical workshops that are underfunded. This research is in line with the examination and internalization of the force account policy majoring on the failures or gaps and really proposes recommendations.

The Force Account road maintenance strategy is widely employed by the Department of Urban and Civil Affairs (Kwatra, Kumar & Sharma, 2020). This approach entails using their own workforce, equipment, and resources for road maintenance and repair, offering them greater flexibility and cost management. DUCAR's embrace of this approach demonstrates their dedication to effective and timely road maintenance procedures, reducing their dependence on external contractors and facilitating rapid responses to infrastructure challenges.

It is also used by UNRA on National roads. The DUCAR network is composed of 57500km which 73.3% of the whole Network for the republic of Uganda and this is mainly maintained by the respective District Local Governments basing on funding from URF. The local governments are further mandated by law to subsidize their budgets of maintenance by funds generated out of their local collected revenue. The National roads force account policy is practiced under 23 UNRA district stations spread all over the country. In January 2013, Ministry of Works and Transport released guidelines which acted as a section of the frame work to be adopted by the designated Agencies in the implementation of the force account policy along the roads of their jurisdiction. The legal and Policy framework was to accommodate both DUCAR and National Roads Maintenance

programmes enshrined within The Republic of Uganda Constitution of 1995, The local government Act, 1997, The Uganda Revenue Authority Act, 1997, The PPDA Act, 2003, The Uganda National Roads Authority Act, 2006, The Uganda Road Fund Act, 2008, The force account guidelines issued by MoWT in January 2013 and the road fund planning Budget guidelines (issued annually).

Machelle (2022) stated that preparation of annual work plan caters for work, services, supplies and required resources for execution construction projects has significant association on implementation of FAM at the public sector. (Mbabazi & Mugurusi, 2016), pointed out that implementation schedule duration of construction work for execution which has positive significant association on effective Force Account Mechanism at public sector. Matto (2023) established that annual work plan indicates the scope of works to be executed, duration and required resources which has positive significant relationship on implementation of FAM.

Matto (2021) stated that preparation of expenditure schedule for works to be executed in accordance with the applicable technical standards has positive significant relationship on effective implementation of the force accounting in the construction projects of the public entities. Further (Mfugale, 2022) established that preparation of expenditure schedule based on the budget and preferred standards has positive relationship on the effective implementation of force account mechanism at the government entities for sustainable infrastructure development.

2.3 Challenges to Force Account implementation

The implementation of the Force Account model in Uganda's road maintenance strategy has encountered several significant challenges:

1. **Financial Management and Accountability:** One of the primary challenges is the effective management and accountability of financial resources. The model relies on substantial initial investments in equipment and resources, necessitating rigorous financial oversight to prevent mismanagement and corruption.
2. **Technical Capacity and Skills:** The success of the Force Account model depends heavily on the availability of skilled labor and technical expertise within the government workforce. A lack of trained personnel can lead to inefficient use of resources and substandard maintenance work.
3. **Equipment Maintenance and Utilization:** Ensuring that the newly acquired equipment is properly maintained and utilized is a critical challenge. Poor maintenance can lead to frequent breakdowns, reducing the overall effectiveness and lifespan of the equipment.
4. **Logistical and Operational Issues:** Coordinating the logistics of deploying equipment and labor across various regions can be complex. Delays and inefficiencies in logistics can hinder timely road maintenance activities, impacting the overall road network condition.
5. **Budget Constraints:** Although the Force Account model aims to reduce costs, budget constraints can still pose a significant challenge. Limited financial resources can restrict the scope of maintenance activities and affect the quality and frequency of road repairs.

6. **Monitoring and Evaluation:** Establishing a robust monitoring and evaluation framework is essential for assessing the effectiveness of the Force Account model. Without proper monitoring, it is difficult to measure progress, identify areas for improvement, and ensure that the objectives of the policy are being met.
7. **Coordination with Local Governments:** Effective implementation requires strong coordination between national and district-level governments. Discrepancies in priorities, resource allocation, and execution strategies can lead to inefficiencies and suboptimal outcomes.
8. **Public Perception and Acceptance:** The success of the Force Account model also depends on public perception and acceptance. Transparency in operations and visible improvements in road conditions are crucial for gaining public support and trust.
9. **Environmental and Social Impact:** Addressing the environmental and social impacts of road maintenance activities is necessary for sustainable implementation. Neglecting these aspects can lead to long-term negative consequences for local communities and ecosystems.
10. **Political and Institutional Support:** Sustained political and institutional support is vital for the continuity and success of the Force Account model. Changes in political leadership or institutional priorities can disrupt the implementation process and affect long-term outcomes.

Addressing these challenges require a comprehensive and coordinated approach, incorporating best practices and lessons learned from both national and international contexts to ensure the effective implementation of the Force Account model in Uganda's road maintenance strategy.

The PPDA guidelines stipulate that supply for project materials must be done through prequalified companies. This greatly magnifies the cost of locally produced materials which greatly escalates the force account project costs. Supply of the materials sometimes takes a longer period because of the bureaucracies of procurements. This results in longer periods of project implementation.

The late release of inadequate funds to the respective District Local Government entities by central governments is a very big stumbling block in effective force account implementation. This is more pronounced during the release of Quarter four funds, where different districts cannot absorb the released funds and they are forced to return it to ministry of finance government consolidated fund as mandated by the public financial laws of the Republic of Uganda. This leaves the District local governments with a lot of unaccomplished projects which leaves a lot of stakeholders in jeopardy in respect to service delivery. Lack and poor maintenance of roads equipment greatly affects effective implementation of force account. In summary Poor cash flows, poor and inadequate equipment, lack of materials and government policies are known challenges in force account implementation (Mbabazi and Mugurusi, 2019). Staffing issues also pose a very big challenge to project implementation. Inadequate and unqualified staff greatly affects project implementation because projects are not executed in a professional manner (Enshassi, Mohamed & Abushaban, 2009).

2.4 Procedure for procurement and execution of force account works

Implementing the Force Account model for road maintenance requires a structured and well-defined procedure for procurement and execution. The following steps outline the typical procedure:

1. Needs Assessment and Planning:

- Conduct a thorough needs assessment to identify the specific road maintenance requirements.
- Develop a detailed maintenance plan outlining the scope of work, timelines, resource requirements, and budget estimates.

2. Budget Allocation:

- Secure the necessary funding for the project through the appropriate government channels.
- Ensure that the budget allocation aligns with the maintenance plan and covers all anticipated expenses.

3. Procurement of Equipment and Materials:

- Identify the required equipment and materials for the maintenance activities.
- Follow the government's procurement guidelines to acquire the necessary resources. This may involve purchasing new equipment or leasing/renting as needed.
- Ensure that the procurement process is transparent and competitive to achieve the best value for money.

4. Staff Recruitment and Training:

- Recruit the required skilled and unskilled labour for the maintenance works.
- Provide necessary training to ensure that the staff are capable of handling the equipment and executing the maintenance tasks effectively.

5. Logistics and Deployment:

- Develop a logistical plan for the deployment of equipment, materials, and labour to the maintenance sites.
- Coordinate with local governments and relevant authorities to ensure smooth operations.

6. Execution of Maintenance Works:

- Commence the maintenance activities as per the detailed maintenance plan.
- Ensure that the work is carried out according to established standards and specifications.
- Monitor progress regularly to ensure adherence to the plan and make adjustments as necessary.

7. Monitoring and Quality Control:

- Implement a monitoring and quality control system to oversee the execution of the maintenance works.
- Conduct regular inspections to ensure that the work meets the required quality standards and specifications.
- Address any issues or deficiencies promptly to maintain the integrity of the maintenance work.

8. Reporting and Documentation:

- Maintain detailed records of all activities, including expenditures, equipment usage, labour deployment, and progress reports.
- Prepare and submit periodic reports to the relevant authorities to ensure transparency and accountability.

9. Post-Maintenance Evaluation:

- Conduct a post-maintenance evaluation to assess the effectiveness and impact of the maintenance works.
- Identify any lessons learned and areas for improvement to inform future maintenance projects.

10. Maintenance of Equipment:

- Ensure that all equipment used in the maintenance activities is properly maintained and stored.
- Schedule regular maintenance and servicing of the equipment to extend its lifespan and ensure its readiness for future use.

By following this structured procedure, the Force Account model can be effectively implemented, ensuring that road maintenance works are carried out efficiently, cost-effectively, and to the required standards. This approach aims to maximize the benefits of the investment in equipment and resources, ultimately contributing to improved road infrastructure and economic development.

Effective application of force account as a method of procurement for renovation and remodeling of government building projects (Shengeza,2017), the amendments of the PPDA law in 2014, force account mechanism was introduced as a means of execution of public works by procuring and disposing entity. It is a mandate of the procurement and disposing entity to decide whether

it is cheaper to use force account other than contract. The entity has to develop labor cost estimates basing on the highlighted rates of the entity. Efforts have to be put in the costing of the indirect overheads basing on the rates provided by a competent Authority. The costs for equipment and supplies must be developed using the market rates. The entity must prepare a design, conduct a survey, prepare bills of quantities and develop a schedule of inputs and for old structures, investigations must be carried out. The Accounting officer must appoint the supervisor of works to work on his behalf. The supervisor' roles are to approve work plans, supervise the progress of the works, and verify the works undertaken, issuing performance and completion certificates and also supervising his immediate junior officers. Project manager must also be appointed who will be the custodian of quality assurance.

2.5 Budgeting and preparation of work-plans for force account mechanism

Implementing the Force Account mechanism for road maintenance involves meticulous budgeting and work plan preparation to ensure effective and efficient use of resources. The following steps outline the key processes:

1. Initial Assessment and Planning:

- Conduct a comprehensive assessment to identify the current condition of the road network and prioritize areas needing maintenance.
- Engage stakeholders, including local government officials, engineers, and community representatives, to gather input and validate priorities.

2. Defining Scope of Work:

- Clearly define the scope of work, specifying the types of maintenance activities required (e.g., pothole repairs, resurfacing, drainage works).
- Establish detailed project specifications and standards to guide the execution of the maintenance tasks.

3. Cost Estimation:

- Prepare detailed cost estimates for the identified maintenance activities, including labour, equipment, materials, and overheads.
- Consider factors such as inflation, contingencies, and potential cost variations to ensure accurate budgeting.

4. Budget Preparation:

- Develop a comprehensive budget that aligns with the cost estimates and covers all anticipated expenses.
- Ensure the budget includes allocations for unforeseen circumstances and emergency repairs.
- Secure necessary approvals from relevant authorities to finalize the budget.

5. Resource Allocation:

- Allocate financial, human, and material resources based on the budget and work plan.
- Ensure that resources are distributed equitably and efficiently to meet the needs of various maintenance activities.

6. Preparation of Work Plans:

- Develop detailed work plans that outline the specific tasks, timelines, and milestones for the maintenance activities.

- Assign responsibilities to different teams and individuals, ensuring clarity and accountability.
- Integrate risk management strategies to address potential challenges and disruptions.

7. Scheduling and Timelines:

- Create a detailed schedule that maps out the sequence and duration of maintenance activities.
- Consider factors such as weather conditions, resource availability, and traffic patterns to optimize the schedule.
- Ensure that the timeline is realistic and allows for flexibility in case of delays.

8. Procurement Planning:

- Plan the procurement of necessary equipment, materials, and services in line with the budget and work plan.
- Follow transparent and competitive procurement processes to achieve value for money.
- Ensure timely delivery of procured items to avoid delays in the maintenance activities.

9. Coordination and Communication:

- Establish effective communication channels among all stakeholders to facilitate coordination and information sharing.
- Regularly update stakeholders on the progress of the maintenance activities and address any concerns promptly.

10. Monitoring and Evaluation:

- Implement a robust monitoring and evaluation framework to track the progress and performance of the maintenance activities.
- Conduct regular inspections and audits to ensure adherence to the work plan, budget, and quality standards.
- Use the evaluation findings to make necessary adjustments and improvements.

11. Reporting and Documentation:

- Maintain comprehensive records of all budgeting and planning activities, including financial transactions, work plans, and progress reports.
- Prepare and submit regular reports to relevant authorities and stakeholders to ensure transparency and accountability.

By following these steps, the Force Account mechanism can be effectively budgeted and planned, ensuring that road maintenance activities are carried out efficiently, within budget, and to the required standards. This approach maximizes the impact of maintenance investments, contributing to improved road infrastructure and overall economic development.

According to Mbabazi and Mugurusi (2018) regarding efficient management in the adoption of the force account mechanism for road maintenance works, procurement involves having the appropriate amount of funds available at the correct time and place to meet the government's cost-effective obligations. To ensure a smooth budget implementation, it is necessary to engage in year financial planning, which entails planning and monitoring commitments to

prevent payment delays and arrears generation. An annual budget implementation plan should be created and updated quarterly, along with monthly cash and borrowing plans, to avoid such delays. It is essential to plan cash in advance and inform spending agencies to facilitate efficient budget implementation. Unless under special circumstances, in-year financial plans should align with budget projections. Therefore, procurement and disposing entities of force account must prepare an expenditure schedule, implementation schedule, annual procurement plan, annual work-plans, Quarterly work plans, resource requisitions and after project execution crown up the whole processes by a concise technical accountability report.

2.6 Activity-based costing/management and its implications for operations management

In the current era of global competition, evolving technologies, and information systems, companies are increasingly committed to achieving excellence in manufacturing. To become world-class, companies are giving greater attention to aspects such as introducing new products, ensuring product and process quality, managing inventories, and improving workforce policies. However, many companies are still relying on traditional cost accounting systems that were developed several decades ago (Kaplan and Cooper, 1998). In contrast, over the past two decades, a new accounting approach called Activity-Based Costing/Management (ABC/M) has gained acceptance among companies in the USA, the Pacific Rim, and Europe (Keegan and Eiler, 1994). ABC/M systems offer a comprehensive perspective that goes beyond financial data and include non-financial information in their reporting. The main purpose of this paper is to explore how ABC/M systems can support effective decision-making processes

in operations. The paper introduces a conceptual framework called the "operations hexagon," which utilizes ABC/M systems to enhance decision-making in various operations management (OM) aspects (see ABC/M systems achieve improved cost estimation accuracy by using multiple cost drivers to trace the cost of activities to the products that consume the resources related to those activities (Babad and Balachandran, 1993).

The development process of an ABC/M system involves identifying resources used in the work, determining the drivers that assign resource costs to activities based on effort expended, identifying the activities performed, determining activity drivers that allocate activity costs to products based on unique consumption patterns, and identifying the recipients of the work (i.e., for whom the work is done) (Cokins, 1993). ABC/M systems are based on the idea that products consume activities, activities consume resources, and resources consume costs (Sprow, 1992). These systems assign costs to activities based on their consumption of resources and then allocate activity costs to products or services based on a selected measure of their individual workloads (Anderson, 1993; p. 7). By examining all relevant processes or activities in the production of a product, ABC/M systems help determine the precise portion of each resource consumed by a particular product. The information provided by ABC/M systems assists in identifying profitable products, valuable customers, value-added processes, and areas for improvement. These systems are increasingly adopted to obtain more reliable product costs, improve processes, and develop better marketing strategies, resulting in enhancements in product design, internal processes, supplier relationships, and customer satisfaction.

A key aspect of ABC/M systems is the concept of cost drivers, which are events associated with activities that lead to the consumption of a company's resources (Babad and Balachandran, 1993). Unlike traditional cost accounting that often uses a single cost driver (e.g., direct labour or machine hours) for allocating overhead costs, ABC/M systems achieve greater accuracy by utilizing multiple cost drivers to link activity costs to the products based on the resources consumed by those activities. To identify cost drivers, accountants need to investigate the production process and identify activities that impact the cost of a product. These activities become the cost drivers. The goal is to identify all significant cost drivers for a product, although, in practice, the number of drivers is usually limited to those with the most significant impact on cost.

The shift from traditional cost accounting to ABC/M has been prompted by significant changes in the manufacturing landscape over the last two decades. While manufacturers have made substantial improvements in efficiencies and per-unit costs, they have faced challenges such as rising overhead costs and fierce competition from foreign companies with high-quality and innovative products. To stay competitive, managers have sought ways to better understand company processes and costs. ABC/M systems provide a clearer picture of overhead costs and enable businesses to identify improvement opportunities by focusing on the cost of activities related to the work performed.

As companies transition from Activity-Based Costing (ABC) to Activity-Based Management (ABM), the focus shifts from a cost assignment view (resources → activities → cost objects) to a process management view (cost drivers →

activities → performance measures). ABM systems leverage the insights gained from ABC to continually identify improvement opportunities and enhance processes. The adoption of ABC/M systems has helped companies understand the true profitability of different sectors, improve product cost analysis, and make strategic decisions more effectively.

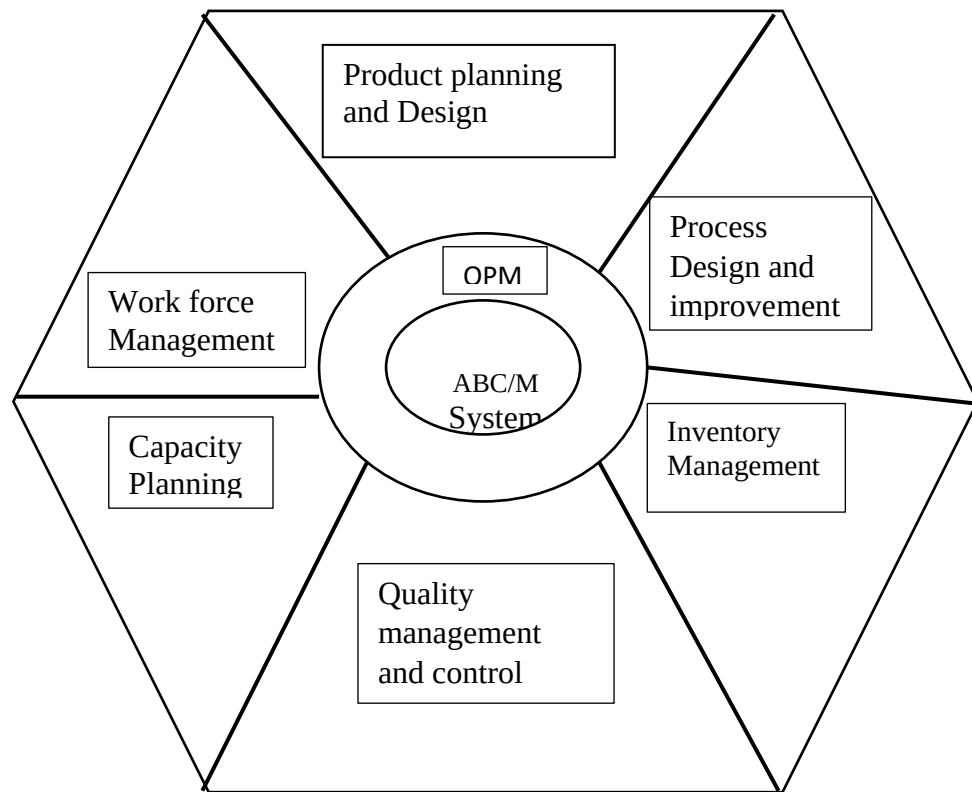


Figure 2.1 Operations Hexagon, OPM is operations management. Source: (Cooper and Kaplan, 1991)

2.7 Force account costing

Force Account refers to a reimbursement approach for the performed work, where the billing is based on the real expenses incurred, including labor, materials, equipment, taxes, and other associated costs. Additionally, a predetermined percentage of markup is added to cover overhead and profit. The contract may outline specific compensation rates for certain cost components.

2.8 The Implementation of Force Account Mechanism in Uganda

In June 2012, the Ugandan government made a significant policy change by shifting from contracting road maintenance works in LGs to implementing the FAM. This change was prompted by the acquisition of a new fleet of 1,425 pieces of equipment distributed to LGs. The Ministry of Works and Transport (MoWT) issued guidelines to provide key stakeholders with a framework for implementing the FAM for road maintenance.

The PPDA act was amended in 2014 to include FAM as a means of executing public works. The Ugandan government allocates around UGX 400 billion annually (approximately \$108 million USD) for road maintenance, with about 30% of this budget allocated to road maintenance in the district LGs. These local governments are required to implement road maintenance works primarily using the FAM guidelines issued by the MoWT and PPDA.

The force account policy suggests that the implementation of FAM should lead to efficiency gains and cost savings for procuring organizations. However, a review of procurement audit reports for the financial year 2015/16 revealed that 40% of the audited FAM procurements were rated unsatisfactory due to irregularities in procurement, delays, and poor contract management.

To understand the level of adoption of FAM in Uganda, a survey was conducted among stakeholders involved in its implementation. The survey by Mbabazi & Mugurusi, (2018) highlighted several concerns, including inadequate and unreliable equipment, staffing gaps, inadequate training, and poor accountability

for funds. Additionally, some stakeholders believed that FAM hindered the growth of the private sector in the construction industry.

The FAM potentially save money for the government, its successful implementation depends on addressing the challenges and concerns raised by stakeholders. This includes improving training, ensuring efficient work planning, conducting comparative cost studies, and enhancing accountability measures. Reviewing and refining existing policies and guidelines governing FAM implementation is essential to achieve value for money and efficiency in road maintenance projects in Uganda.

Findings from the survey (Mbabazi & Mugurusi, 2012) regarding the implementation of FAM in Uganda revealed several challenges and concerns. The FAM requires procuring organizations to use their own equipment and personnel to execute works, but the survey found that only 25% of the respondents reported having the necessary equipment, while 75% lacked the required equipment. Equipment distributed earlier was also found to be unreliable due to poor maintenance.

The guidelines for FAM allow equipment sharing among organizations, but this has proven difficult in practice due to continuous usage of equipment. Consequently, procuring organizations have resorted to hiring equipment, which goes against the principles of the FAM policy. In terms of personnel, the FAM requires procuring organizations to have their own or another organization's personnel to supervise the works executed. However, the survey revealed that

many organizations had the same individual performing both the roles of managing and supervising the works, compromising the quality of the execution.

Training on the implementation of the FAM was found to be lacking, with only 32% of the respondents reporting having been trained. This lack of training led to abuse of the FAM and the perception that it is an opportunity to earn allowances. Additionally, there were capacity gaps in work planning, procurement of inputs, and monitoring of force account activities. Regarding cost savings, only 32% of respondents conducted a cost comparison study between using the FAM and contracting out the works. The majority implemented the FAM without considering whether it was cost-effective or not. The stakeholders expressed concerns over the lack of adequate and reliable equipment, staffing gaps, inadequate training, and insufficient funds for maintenance of roads. There were also challenges related to accountability for funds, irregularities in procurement, laxity in reporting, and unclear guidelines for remuneration. Overall, the survey identified several gaps and challenges in the implementation of the FAM, impacting the efficiency and effectiveness of the mechanism in Uganda.

2.9 Force account implementation: Tanzanian Case

A study conducted by Shengeza (2017) highlights the pitfalls in the implementation of the force account method for the renovation and re-modeling of government building projects in Tanzania. The data were collected from three teaching colleges and five secondary schools. The study identified various pitfalls which included an absence of standard regulations, problems related to

technical specifications, variations due to inadequate planning, Labour costs and lack of technical skills.

The study further proposes that for better application of force account projects, the supervising consultant is required to collaborate with the procuring entity and implementation teams. According to this study, the supervising consultant should prepare technical reports before and after renovation, drawings, technical specifications of materials, estimated quantity of materials, and cost of materials and Labour. It is not clear whether the force account projects executed in Tanzania take into account the identified aspects. Failure to consider such aspects the procuring entity may face numerous challenges during implementation and after completion of the project.

2.10 Force account model design challenges

2.10.1 Exposure to risk

The force account model exposes the government to the highest degree of risk since it cannot transfer or share that risk with other entities. This means that if anything goes wrong during the project, the government bears the full responsibility for any cost overruns, delays, or other issues. (Satyanarayana (2012) cited in Mbabazi and Mugurusi (2019)).

2.10.2 Lack of clarity and understanding

The concept of force account is not well-understood in theory and practice. There is a dilemma regarding whether public bodies and stakeholders fully comprehend the concept, procedures, and challenges associated with this approach. This lack of clarity attributed to unqualified personnel may lead to

difficulties in implementation and completion of force account projects (Shengeza, 2017). The unqualified personnel with limited skills, experience and knowledge to execute works has positive significant effect on the implementation of the force account mechanism at government agency in Arusha, Tanzania (Mgimba, 2022). The insufficiency, shortage, or absence of equipment required or desired to perform work limit the implementation of the force account mechanism.

2.10.3 Ineffective allocation

Unlike private firms, which are typically paid based on project deliverables, force account units often receive allocations that are not directly tied to output. This can create inefficiencies and reduce the incentive for timely and cost-effective project completion. Sagar et al., (2022) provide that budget constrain led to delays of procurements, disputes with vendors and suspension of works which adversely contributed to the implementation of the force account at the government agency. Budget challenges limits the application of force account mechanisms at the government agency.

2.10.4 Need for an effective application

To achieve effective delivery of government building projects using the force account model, there is a need to identify and establish procedures for its proper application. This involves defining clear guidelines, processes, and protocols to ensure successful execution (Mbabazi and Mugurusi, 2019). Faith & Godfrey (2018) established that lack of tools and equipment adequate for the works limit the effective implementation of the force account mechanism for infrastructure development at the public entity.

2.11 Research gap

A study conducted by Shengeza (2017) highlights the pitfalls in the Implementation of the force account method for the renovation and rehabilitation of government building projects in Tanzania. Mbabazi and Mugurusi (2018) from Uganda documented a study on force account mechanisms in road maintenance works in Uganda and the main objective of the study was to examine the perceptions of stakeholders, key benefits and challenges of force account mechanism. At the time of the study the challenges then had out leaved their usefulness in line with economical social and geographic dynamics of Uganda. Project implementation method by Force account had gained much preference in local government entities due to its ability to save costs in construction projects. Despite this, there had not been enough literature and existing studies in the Ugandan context in those ten respective district local governments that focus on the factors that affect effective implementation of force account project in Uganda district local governments. So this research intends to harmonize such gaps by examining the factors so that serious strides would be taken in government policy formulation to realize the objectives for implementation using FAM.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

Research methodologies are those highlighted strides or techniques, a researcher utilizes to identify, select, and process data or information about a specific topic. The objective of this chapter of research is to give a description of the methodology to be engaged in the research which comprises of research design, research approach, study population, sample size and selection, sampling techniques and procedure, data collection methods, data collection instruments, validity and reliability, the procedure of data collection, data analysis and the measurement of variables and ethical considerations.

3.2 Research Design

According to Creswell, J. W, & Creswell, J. D. (2018), there are four primary categories of quantitative research designs: Descriptive, Correlational, Causal-Comparative/Quasi-Experimental, and Experimental Research. Descriptive research design is a method employed to systematically gather information to portray a phenomenon, circumstance, or population. Specifically, it aids in addressing questions related to what, when, where, and how regarding the research issue rather than delving into the why.

Correlational research design explores associations between variables without the researcher exerting control or manipulation over any of them. Correlation indicates the strength and/or direction of the relationship between two (or more) variables, with the direction being either positive or negative.

Causal-comparative/quasi-experimental research, on the other hand, is utilized to ascertain a cause-and-effect connection between two variables, where one is dependent and the other independent. While it shares similarities with experimentation, it falls short of being considered a true experiment.

Experimental research design encompasses a structured set of protocols and procedures designed for the systematic execution of experimental research using two sets of variables. In this context, the first set of variables remains constant and is employed to measure the disparities in the second set.

The research adopted descriptive research design and employed quantitative approaches. The use of a descriptive research design in this study allowed the researcher to provide a comprehensive overview of the factors affecting the implementation of force account operation. The design was well-suited for capturing the opinions, perceptions, and experiences of the respondents regarding these factors with support of convergence parallel design. The decision to combine both quantitative and qualitative methods in this descriptive design enriched the research findings by offering a complete and more nuanced picture of the situation. Qualitative method was utilized to tap the opinions of the respondents based on the variables under research and in line with their perception of the factors affecting effective implementation of force account operation in Uganda district Local governments and both interviews and documentary reviews were utilized. Quantitative method was employed to achieve the extent of similarity prevailing between the variables and this was achieved through the utilization of questionnaires to the District respondents.

Quantitative study was more than qualitative because most of the observed data were obtained from questionnaires and through face-to-face interviews and documentary review. The quantitative method was used to obtain the magnitude of the relationship between the variables.

3.3 Research approach

The research approach adopted for this study was predominantly quantitative in nature which emphasized the systematic collection and analysis of numerical data to address the research objectives supplemented with qualitative opinion. To effectively carry out this approach, the researcher meticulously designed and implemented a series of data collection instruments tailored specifically for quantitative data acquisition.

3.4 Study area

The research was conducted in the ten worst performing road fund funded districts in the republic of Uganda. The selection of the study area was dictated by performance constraint, and availability of required information for research study. Areas of study were districts of Obongi, Pakwach, Alebtong, Nakaseke, Kaabong, Abim, Karenga, Madi-Okollo, Bugweri and Agago as ranked by road fund and auditor general performance review reports submitted to prime minister's office.

3.5 Target population

Population is a full amalgamation of required elements that are beneficial to an investigation of interest (Amin, 2005). The population of interest involved District local government authorities and stakeholders who use the infrastructure located in the Districts of study.

3.6 Sample size

In line with Mugenda & Mugenda (1999), it is very expensive to pick data from the entire population. A sample of the entire population was considered for study and the parameters of the sample taken to be representative of the entire population.

3.7 Sample calculation

Calculating sample size in quantitative research design is crucial for ensuring that the study results are statistically significant. The sample size calculation depends on several factors, including the desired level of statistical power, the effect size, the significance level (alpha), and the variability in the data.

Here is a basic formula for calculating sample size for a simple random sample in a quantitative study:

Sample Size Formula for a Proportion:

$$n = Z^2 \cdot p \cdot (1-p) / E^2$$

n = required sample size

- **Z** = Z-value (the number of standard deviations from the mean corresponding to the desired confidence level; e.g., 1.96 for 95% confidence)
- **p** = estimated proportion of the population (if unknown, 0.5 is used as it maximizes the required sample size)
- **E** = margin of error (the desired precision of the estimate)

Sample Size Formula for a Mean:

$$n = \frac{Z^2 \cdot \sigma^2 \cdot E^2}{n}$$

- **n** = required sample size
- **Z** = Z-value (the number of standard deviations from the mean corresponding to the desired confidence level; e.g., 1.96 for 95% confidence)
- **σ** = population standard deviation (if unknown, a pilot study or previous research can provide an estimate)
- **E** = margin of error (the desired precision of the estimate)

Krejcie and Morgan (1970) table was used to determine the sample size. The research population constituted of participants from the 10 districts. The target population constituted of ninety (90) people with 10no. Chief accounting officers (CAOs), 10no. District Engineers, 10no. Head PDU, 10no. District planners, 10no. Resident district commissioners, 10no. Road field supervisors, 20no. Local transport representatives and 10no. Head internal Audit. The sample size for interviews was Seventy-three (73) people.

3.8 Sampling technique

Table 3.1 presents a summary of the sample size determination for various categories within the target population. The table included different groups such as Chief Accounting Officers (CAOs), District Engineers, Head of Project Development Unit (PDU), District Planners, Resident District Commissioners, Road Field Supervisors, Local Transport Representatives and Head of Internal Audit, with each category having a target sample size of 10 individuals except for Local Transport Representatives which had a sample size of 20 due to its

larger group size. The sampling technique employed for all categories, except Local Transport Representatives, is purposive sampling, which involved deliberately selecting specific individuals who are most relevant or knowledgeable about the subject of the study. However, for the category of Local Transport Representatives, a random sampling technique was used, possibly to ensure a more representative and diverse sample from this larger group. The rationale for using these specific sampling techniques was driven by the need to gather insights from key decision-makers and experts (purposive sampling) while also ensuring fairness and reducing bias in representation (random sampling). The total sample size for the study was 73 out of a possible 90.

Table 3.1: Summary of the sample size

Sample size determination table category	Target population	Sample size	Sampling technique
Chief Accounting Officers(CAOs)	10	10	Purposive
District Engineers	10	10	Purposive
Head PDU	10	10	Purposive
District Planner	10	10	Purposive
Resident District Commissioner	10	10	Purposive
Road Field Supervisors	10	10	Purposive
Local Transport Representatives	20	3	Random
Head Internal Audit	10	10	Purposive
Total	90	73	

3.9 Data collection methods

The research study involved primary and secondary sources of information from the entity where the study was carried out. The most favored method for obtaining information was through primary sources as this approach had the

ability to provide accurate and up-to date facts that accurately reflected the scale of the issue being studied. The primary data collection tools that were used in the research were interviews and questionnaires. Secondary source of information was the existing written Primary source of information which led to the actual facts from the respondents.

Data were collected from district Engineers, road field supervisors, District planner, Head Internal Audit, head PDU by the researcher for the respective selected districts using interview and Questionnaire. The researcher further examined the equipment condition, their workshops and sources of road construction materials and also their resource cash flows basing on road fund resource disbursement report to local district local governments and this qualitative and quantitative data were both arranged in useful categories and exposed to content analysis. It was further analyzed by descriptive and inferential analysis technique and processed with the aid of statistical package for social science (SPSS), followed by discussion and reporting.

3.9.1 Procedures of achievement of specific objectives

3.9.2 Specific objective 01:

To examine the current practices of force account implementation in Uganda District local governments.

Data was collected from district Engineers, road field supervisors, District planner, Head Internal Audit, head PDU using interview and Questionnaires. Qualitative and quantitative data was both analyzed and that from interview schedules was arranged in useful categories and exposed to content analysis. It

was further grouped basing on the emerging variables from questions in the interview guide. After the process of interviews and questionnaires collection, data was coded, edited, classified and tabulated. Frequencies from the data tallying and calculation of percentages were expedited. The data was presented, analyzed by descriptive and inferential analysis technique and processed with the aid of statistical package for social science (**SPSS**), followed by discussion and reporting. Narrative techniques were also used to analyze qualitative information obtained through the interview.

3.9.3 Specific objective 02:

To determine the impact of current practices in implementation of Force Account in Uganda District local governments.

Data collected in specific objective one was used to achieve this specific objective. The impact of current practices was ascertained from allocated resource absorption capacity, Road network condition, quality of work etc. for the respective District Local governments. Responses were got from the public that frequently used the roads network using interviews guides and was processed and analyzed as per specific objective one. The signs of good maintained road network are; travel time, vehicle condition, journey fares especially if the cost of fuel is low. This was further concreted by observing the prevailing road net-work condition in the field i.e. I was required to visit some roads.

3.9.4 Specific objective 03:

To establish the current challenges of Force Account implementation in Uganda District local governments.

Data was collected from district Engineers, road field supervisors, District planner, Head Internal Audit, head PDU using interview and Questionnaires utilizing the same process of an analysis as per specific objective one. I was required to look at the equipment condition, their workshops and sources of road construction materials and also their resource cash flows basing on road fund resource disbursement report to local district local governments and this data was analyzed by descriptive and inferential analysis technique and processed with the aid of statistical package for social science (**SPSS**), followed by discussion and reporting. The Data collected was utilized in specific objective 04 to develop the force account implementation tool.

3.9.5 Specific objective 04:

To develop an effective force account implementation frame work for maintenance of construction projects in Uganda District local government.

The parameters realized in specific objectives one, two and three were aggregated and processed into a simple force account framework which would address the current challenges of force account implementation to realize Value for money in the Uganda District local governments. This involved definition of the framework, observe parameters, and prioritize actions blended with definition of methods to be used. It was further followed by scheduling of activities whose progress was critically monitored in reference to the observed parameters.

3.9.6 Questionnaire

The study used the questionnaire as the preferred method for collecting data. These were structured in such a way to conform to the variables in the conceptual framework aligned to the specific objectives. The questionnaires were distributed both physically to the staff of the entity where the research was going to be carried out and on line distribution mechanism. According to Roopa and Rani (2012), online distribution of questionnaires to respondents saves time despite the longer distances of the study area and this constituted of Whats App, email, etc.

3.9.7 Interview

The researcher planned conducted in person interviews with experienced respondents using interview guide. The interview guide helped the researcher to collect data with respect to the research questions.

3.9.8 Data analysis

Quantitative data was analyzed and that from interview schedules arranged in useful categories and exposed to content analysis. It was further grouped basing on the emerging variables from questions in the interview guide. After the process of interviews and questionnaires collection, data was coded, edited, classified and tabulated. Frequencies from the data tallying and calculation of percentages were expedited. The data was presented, analyzed by descriptive and inferential analysis (correlation and regression analysis) technique and processed with the aid of statistical package for social science (SPSS Version 20), followed by discussion and reporting. Narrative techniques were also used to analyze qualitative information obtained through the interview.

Relative Importance index (RII) basing on the five grade Likert scale was also adopted in ascertaining the most pronounced or critical activities in the study in relation to the mean of the individual relative importance indices of the activities for each specific objective. Relative importance index was determined using equation 3.1.

$$RII = \Sigma W / (A * N) = 1n_1 + 2n_2 + 3n_3 + 4n_4 + 5n_5 / 5 * N \dots\dots\dots$$

(3.1)

Where, W is the weighting given to each factor by the respondents (ranging from 1 to 5), A is the highest weight (i.e. 5 in this case), and N is the total number of respondents interfaced with, RII, Relative Importance Index, is the mean for a factor which gives it weight in the perceptions of respondents. The factor with the highest weight has RII = 1, while the next factor with lower weight has RII = 2, and so on. Weighting = Summation of Rensis Likert scale allocation divided by number of responses. The Higher the value of RII, more important was the cause of effect.

3.10 Validity and reliability

3.10.1 Content validity

Content validity refers to the extent to which the measurement tool (survey, interview questions, etc.) adequately covers the entire domain being measured. To establish content validity, the measurement tools were presented to the research supervisor and gathered their opinions on whether the questions adequately covered the factors influencing force account implementation. They provided feedback on clarity, relevance, and comprehensiveness.

Pilot testing was conducted by administering the measurement tools to a small sample that represents the target population. Their responses were analyzed and feedback on whether the questions made sense and were appropriate was put under consideration for the context.

CVI assessed the extent to which the items in the tool adequately covered the domain of interest. In this study, it was assessed whether the questions adequately covered the factors influencing force account implementation at DLGs

The formula for calculating the CVI is as follows in equation 3.2:

$$CVI = \frac{\text{Number of items rated Relevant}}{\text{Total number of items on questionnaire}} \dots\dots\dots (3.2)$$

CVI for each item was calculated using the formula above. The Content Validity index for current practice of force account is 0.92, force account implementation challenges at 0.933 and effective force account implementation at 0.86 indicated that data collected with questionnaires were valid as commended by Cress well (2014), suggested that CVI of 0.80 or higher is considered indicative of good content validity.

3.10.2 Reliability

Reliability refers to the consistency and stability of the measurement tool over time and across different situations. In order to assess reliability, the same measurement tool was administered to the same group of participants at two different time points. Cohen's Kappa (1960) coefficient, which is commonly used to estimate inter rater reliability, can be employed in the context of test - retest. In test - retest, the Kappa coefficient indicates the extent of agreement

between frequencies of two sets of data collected on two different occasions. Cohen's Kappa was used to measure the agreement between the likert scale choices while taking into account the possibility of agreement occurring by chance. The formula is as follows;

$$k = \frac{P_o - P_e}{1 - P_e} \dots\dots\dots (3.3)$$

Where: P_o is the observed agreement between raters and P_e is the expected agreement, which is the agreement that could be expected by chance. The value of k ranged from -1 to 1, with different interpretations:

k = 1 indicates perfect agreement.

k = 0 indicates agreement equivalent to chance.

k < 0 indicates agreement worse than chance.

The sufficiency of the obtained k value depended on the context and the specific research question. Generally, a higher k value (closer to 1) indicated better reliability because it suggests that the observed agreement is greater than what would be expected by chance. However, what constitutes a "sufficient" k value varied depending on the field of study and the specific research objectives. The reliability coefficient for Cohen's Kappa for current practice of force account is 0.84, force account implementation challenges at 0.82 and effective force account implementation at 0.79 indicated that data collected with questionnaires were reliable as suggested by Cohen's Kappa (1960) who recommended that 0.9 and greater: excellent reliability, between 0.9 and 0.8: good reliability, between 0.8 and 0.7: acceptable reliability and between 0.7 and 0.6: questionable reliability. The reliability of the questionnaire was not questionable and provided reliable data for this study.

3.11 Study procedure

The researcher sought for certification of the research proposal, design data collection tools and obtained an introductory letter from Kyambogo University Directorate of Research and Graduate Training, introducing him to UDLGs authorities to permit him conduct the study.

3.12 Ethical Considerations

Introduction letter was obtained from the Directorate of research and graduate training of Kyambogo University and taken to the UDLGs. Consent was sought from the participants before filling the questionnaire. Plagiarism check for proposal was conducted in the University Library. Data collected from the respondents and their personal details were kept confidential. Participants voluntarily participated in the exercise and had the right to decline without any consequences. Participation was not aligned to any gender or sexual discrimination. The researcher sought ethical approval from university

3.13 Limitations

The need to reschedule meetings arose due to the non-attendance of participants at their workplaces. This was worsened by questionnaires being inadequately and erroneously completed by respondents, thereby underscoring concerns regarding the accuracy of the data. The existence of respondent bias in sharing information additionally presented a difficulty, potentially compromising the overall trustworthiness of the gathered data. Moreover, these challenges were intensified by constraints in both time and financial resources, further restricting the research undertaking.

3.14 Delimitations

To overcome the limitations, the researcher was proficient in the languages of communication, enabling effective interaction. Moreover, the researcher had to also easily socialize with the respondents and generate friendship

CHAPTER FOUR: PRESENTATION, ANALYSIS AND DISCUSSION OF RESULTS

4.1 Introduction

This chapter covers the presentation, analysis and discussion of the findings on the factors affecting effective force account implementation in UDLGs.

4.2 Response rate

Initially, the intention was to gather data from 73 individuals through a questionnaire survey. However, data from only 59 respondents were successfully collected which generated 80.8% response rate. This sample size deemed sufficient, as Mellahi and Harris (2016) suggest that a response rate of 50% or higher is considered better.

4.3 Background characteristics

This section of the study is on the background characteristics the study participants that are namely; gender of the respondents, age groups, highest levels of education and working experience. The data were as presented in Table 4.1.

Table 4.1: Background characteristics of the respondents

Characteristic	Categories	Frequency	Percentage (%)
Gender	Male	51	86.4
	Female	8	13.6
Age groups	18-25	2	3.4
	26-35	11	18.6
	36-40	19	32.2
	41-50	22	37.3
	51 and above	5	8.5

Highest levels of education	Secondary School	1	1.7
	Diploma	23	39
	Degree	28	47.5
	Masters	5	8.5
	PhD	0	0
	PDG	2	3.4

Table 4.1 provides an overview of the background characteristics of the respondents, including sex, age groups and highest levels of education. The table presents the frequency and percentage distribution for each category.

4.3.1 Gender of respondents

In terms of gender, the majority of respondents were males, with 51 individuals accounting for 86.4% of the sample. The remaining 8 respondents (13.6%) were females.

4.3.2 Age groups of respondents

Regarding age groups, the respondents were categorized into five groups. The largest group consisted of individuals aged 41-50, with 22 respondents, making up 37.3% of the sample. The second largest group was the 36-40 age range, comprising 19 respondents (32.2%). The 26-35 age group consisted of 11 respondents (18.6%), while the 51 and above group and the 18-25 group had 5 (8.5%) and 2 (3.4%) respondents, respectively. This implies that the second largest group had the highest number of respondents with 32.2% who contributed to implementation force account mechanism at district local administration

4.3.3 Level of education

In terms of the highest levels of education, the respondents exhibited a diverse range of educational backgrounds. The largest group had a degree qualification, with 28 respondents representing 47.5% of the sample. The next most common level of education was a diploma, with 23 respondents (39%). Five respondents (8.5%) held a master's degree, while only one respondent (1.7%) had completed secondary school. No respondents had a Ph.D., but two individuals (3.4%) held a professional degree or PDG. The findings regarding the utilization of Force Account Methods (FAM) indicate that education level did not play a prominent role in respondents' preferences for FAM in urgent work situations, resource requisitions, and adherence to procurement principles. The engaged participant had required expected level of knowledge to respond to the data collection tools for this study.

4.3.4 Working experience

Finally, Figure 4.1 shows the respondents' working experience divided into several categories. The largest group had a working experience of 6-10 years, with 21 respondents accounting for 35.6% of the sample. The 3-5 years and less than 2 years categories followed, with 14 respondents (23.7%) and 10 respondents (16.9%), respectively. Eight respondents (13.6%) had 11-15 years of working experience, while six individuals (10.2%) reported having more than 16 years of experience. The findings suggest that respondents' support for the utilization of Force Account Methods (FAM) in various scenarios, such as urgent work situations and resource requisitions, is influenced by factors other than work experience. The respondents had the required experienced to participate in this study.

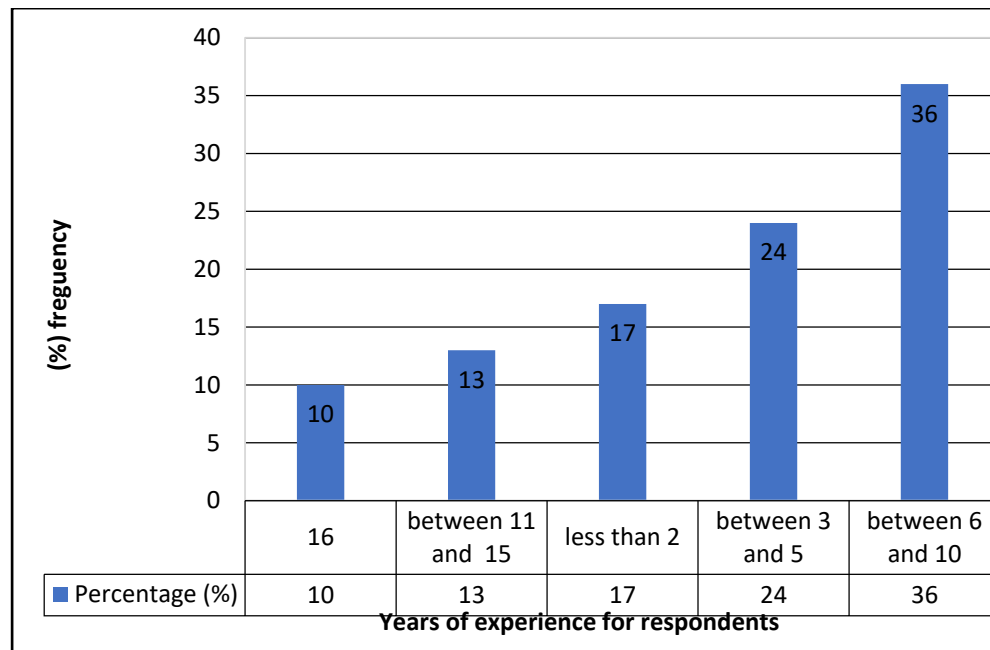


Figure 4.1: Working experience of respondents

These findings provide a snapshot of the background characteristics of the respondents in the study, offering insights into the distribution of sex, age groups, highest levels of education, and working experience within the sample.

4.4 Current practices of force account in UDLGs Projects

Table 4.2 provides a comprehensive overview and analysis of the prevailing force account implementation practices within the context of UDLGs. Each row in the table represents a specific practice, and the columns indicate the level of agreement or disagreement with that practice, along with the corresponding frequencies and percentages. The Relative Importance Index (RII) of values have been classified into: Very High (VH) ($0.8 \leq \text{RI} \leq 1$), High Level (H) ($0.6 \leq \text{RI} < 0.8$), Medium (M) ($0.4 \leq \text{RI} < 0.6$), Low (L) ($0.2 \leq \text{RI} < 0.4$), and Very Low (VL) ($0 \leq \text{RI} < 0.2$) to determine the important levels of attributes assessed. Overall, the findings from the table suggest varying levels of agreement among the respondents regarding the different current practices of force account in

UDLGs projects. The majority of the practices receive a significant proportion of agreement, indicating positive perceptions and practices in these areas. However, there are also instances where disagreement and neutral responses are notable, highlighting areas where improvements or further attention may be required.

4.5 Salient Research findings from face-to-face interviews.

The district local government stake holders are not consulted on the type of equipment they need basing on the geographic location of the districts and their geological challenges. Some districts were found stranded with very new equipment which would not be used due to geological challenges e.g where districts wanted excavators, they were availed wheel loaders.

The technical staff of the lower district local governments e.g. Town council engineers had no power of attorney in honoring certificates for payment of force account suppliers and service providers. It was basically the Town clerks and treasurers who were not technical responsible for payments. This would result in high level of corruption and manipulation which would be against the will of the technical supervisors.

There were a lot of discrepancies in line with District local government administrative office building structures of the force account stakeholders. Other districts never had office buildings, were working under trees especially in the new districts and others had high rise structures, which raised a high degree of unfairness with a lot of questions with few answers

Table 4.2: Frequency and percentage of current practices of force account in UDLGs project

Current Force Account practices in UDLGs.	Agreed		Neutral		Disagreed		RII
	Freq	%	Freq	%	Freq	%	
A. FAM is employed in situations where there is an urgent need to carry out work.	30	50.8	11	18.6	17	28.8	0.661
B. When the risks of work interruption are better managed by a procuring entity or public authority than a contractor, Force Account is utilized	36	61	10	16.9	11	18.7	0.688
C. Force Account is employed in situations of emergency that demand immediate attention	33	55.9	13	22	13	22.1	0.695
D. Expenditure schedules are prepared for force account budgeting.	53	89.9	1	17	5	8.5	0.854
E. Implementation schedules are prepared for every force account works.	51	86.5	4	6.8	59	100	0.987
F. Annual procurement plans are prepared timely.	44	74.6	4	6.8	9	15.3	0.879
G. Annual work plans are prepared with realistic targets.	47	79.7	2	3.4	9	15.3	0.789
H. Quarterly work plans are prepared timely and aligned to the available Resources.	42	71.2	6	10.2	10	17	0.984
I. Realistic resource requisitions are timely prepared and submitted for funding.	43	72.8	9	15.3	7	11.9	0.978
J. Work supervision is effectively done and instructions from supervisors strongly adhered to by subordinate staff.	46	77.9	9	15.3	4	6.8	0.993
K. Both financial and technical accountabilities are done and aligned with the availed resources.	49	83.1	5	8.5	5	8.5	0.786
L. The implementation of projects in U DLGs follows the adherence to the procurement process	30	50.8	3	5.1	17	28.8	0.879

For the first practice, which involves employing force account Methods (FAM) in situations where there is an urgent need to carry out work, the responses indicate that about 50.8% of respondents agreed that force account method (FAM) is employed when there is an urgent need to carry out work, 18.6% were neutral, and 28.8% disagreed with this statement with medium relative importance index of 0.661. This factor has medium importance on implementation of FAM at DLGs. This result resonates with the study by

Thompson & Roberts (2018), which emphasizes the flexibility of FAM in addressing urgent work requirements.

Regarding the use of force account when the risks of work interruption are better managed by a procuring entity or public authority than a contractor, the majority of respondents' exhibit agreement. Specifically, 61% of respondents agreed that force account is utilized when the risks of work interruption are better managed by a procuring entity or public authority than a contractor, 16.9% were neutral, and 18.7% disagreed with high relative importance level of 0.688. This second practice has high relative importance on implementation of FAM at DLGS. The study conducted by Roberts & Thompson (2017) echoes this sentiment, highlighting the role of procuring entities in mitigating risks associated with contractor-based approaches.

When it comes to employing force account in emergency situations that demand immediate attention, the responses indicate that 55.9% of respondents agreed that Force Account is employed in emergency situations that require immediate attention, 22% were neutral, and 22.1% disagreed with very high relative importance index of 0.854. This third practice is very important in the implementation of FAM at the DLGs. This finding aligns with the observations made by Thompson and Clark (2018) in their research on the use of FAM in emergency response. In relation to expenditure schedules are prepared for force account budgeting, 89.9% agreed, 17% were neutral and 8.5% disagreed with very high RII of 0.854 on implementation of the FAM at DLGs. The practice of implementation schedules prepared for every force account works, 86.5%

agreed, 6.8% were neutral and 6.7% disagreed with high RII at 0.987 on FAM at DLGs.

In terms of timely preparation of annual procurement plans, 74.6% of respondents agreed that annual procurement plans are prepared in a timely manner, 6.8% were neutral, and 15.3% disagreed, with very high relative importance index at 0.879 on implementation of FAM at DLGs. For the preparation of annual work plans with realistic targets, 79.7% of respondents agreed that annual work plans are prepared with realistic targets, 3.4% were neutral, and 15.3% disagreed, with high relative importance index at 0.789 on implementation of FAM at DLGs. The findings are in line with the study conducted by Mwandikile et al. (2020) who highlight this, showing that a substantial portion of respondents agree with the importance of timely planning and resource requisition preparation

Regarding the timely preparation of quarterly work plans aligned with available resources, 71.2% of respondents agreed that quarterly work plans are prepared timely and aligned with available resources, 10.2% were neutral, and 17% disagreed, with very high relative importance index at 0.984 on implementation of FAM at DLGs. For the timely and realistic preparation of resource requisitions submitted for funding, the majority of respondents exhibit agreement, 12 respondents strongly agree (20.3%), 31 agree (52.5%), 9 are neutral (15.3%), 4 disagree (6.8%), and 3 strongly disagree (5.1%), with very high relative importance index at 0.978 on implementation of FAM at DLGs. This is in line with the findings of Patel and Gupta (2018), who stressed the importance of aligning work plans with resources to optimize efficiency. Based on IIR, factors

"Realistic resource requisitions are timely prepared and submitted for funding" and "Force Account is employed in situations of emergency that demand immediate attention. This indicates that timely preparation and submission of realistic resource requisitions and addressing emergency situations promptly are considered important aspects. This aligns with the perspective shared by Mwishwa (2022), emphasizing the need for a balanced approach in force account practices.

In terms of work supervision and adherence to instructions from supervisors by subordinate staff, 77.9% of respondents agreed that work supervision is effectively done, and instructions from supervisors are strongly adhered to by subordinate staff, 15.3% were neutral, and 6.8% disagreed, with very high relative importance index at 0.993 on implementation of FAM at DLGs. This observation is consistent with the work of Seth (2004), which emphasizes the role of schedules in streamlining force account activities.

Finally, for ensuring both financial and technical accountabilities aligned with the available resources, the responses indicate that between 83.1% and 88.1% of respondents agreed that both financial and technical accountabilities are done and aligned with available resources. 8.5% were neutral, and 8.5% to 6.8% disagreed, with very high relative importance index at 0.984 on implementation of FAM at DLGs. These findings highlight the importance of both preparing realistic resource requisitions and addressing emergency situations promptly. These aspects are essential for the effective utilization of FAM, as supported by previous research (Davis, 2016).

The factor with the highest relative importance is Implementation schedules are prepared for every force account works with very high at RII of 0. 879 on FAM at DLGs. This suggests that the timely preparation of implementation schedules is considered crucial in the current force account practices. These factors underscore the need for strong supervision and setting achievable targets in FAM practices, which is in line with the insights from Taylor and Miller (2018).

Factors such as Work supervision are effectively done, instructions from supervisors strongly adhered to by subordinate staff and Annual work plans are prepared with realistic targets. These factors highlight the significance of effective work supervision and setting realistic targets in the force account practices. On the other hand, factors like Annual procurement plans are prepared timely and Both financial and technical accountabilities are done and aligned with the availed resources have relatively lower RII. Although these factors are still important, they are perceived as slightly less critical compared to others. These findings suggest that while these factors are still important, they may not be as critical as others in the successful implementation of FAM. This aligns with the perspective shared by Lusupi (2020), emphasizing the need for a balanced approach in force account practices. This suggests that practices related to Force Account implementation are highly interrelated and tend to move together consistently.

The critical practices for the implementation of FAM in the development of infrastructure in the UDLGs, majority of the practices were agreed by the respondents as critical practices for the implementation of the FAM in the local

governments. Implementation of force account mechanism is key concern for construction departments to make optimum resource utilization to enhance sustainable infrastructure development at UDLGs. The findings are further illustrated in the graph below.

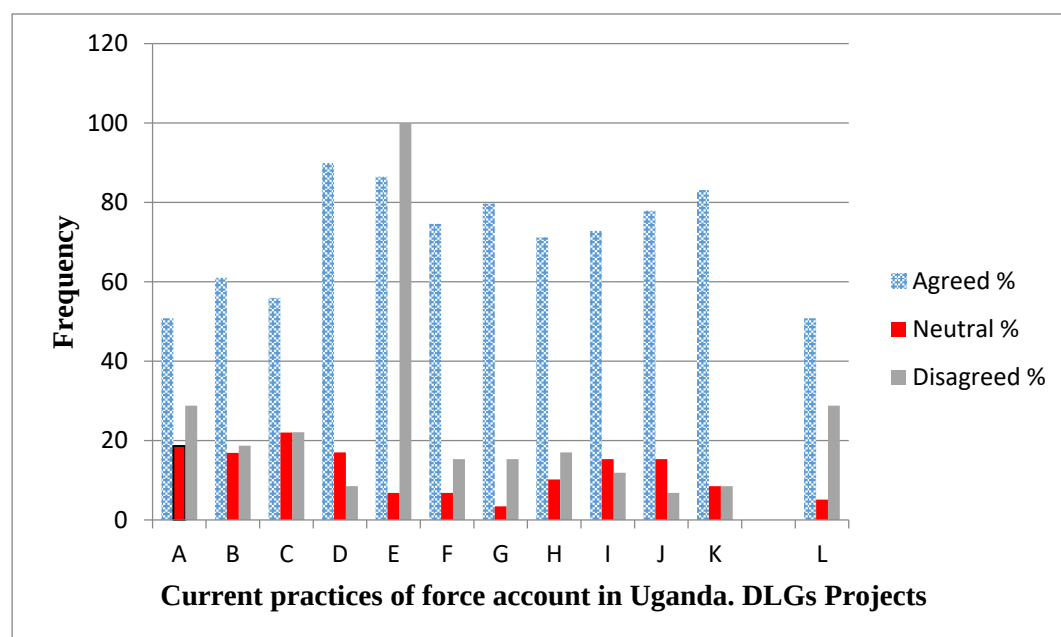


Fig 4.2: Current Practices of Force

Legend for fig.4.2

A. FAM is employed in situations where there is an urgent need to carry out work.
B. When the risks of work interruption are better managed by a procuring entity or public authority than a contractor, Force Account is utilized
C. Force Account is employed in situations of emergency that demand immediate attention
D. Expenditure schedules are prepared for force account budgeting.
E. Implementation schedules are prepared for every force account works.
F. Annual procurement plans are prepared timely.
G. Annual work plans are prepared with realistic targets.
H. Quarterly work plans are prepared timely and aligned to the available Resources.
I. Realistic resource requisitions are timely prepared and submitted for funding.
J. Work supervision is effectively done and instructions from supervisors strongly adhered to by subordinate staff.

K. Both financial and technical accountabilities are done and aligned with the availed resources.
L. The implementation of projects in your UG. DLGs follows the adherence to the procurement process

An average index was calculated to establish whether the results in Table 4.2 and figure 4.2 were normally distributed. The curve in Figure 4.3 shows that the results were not normally distributed.

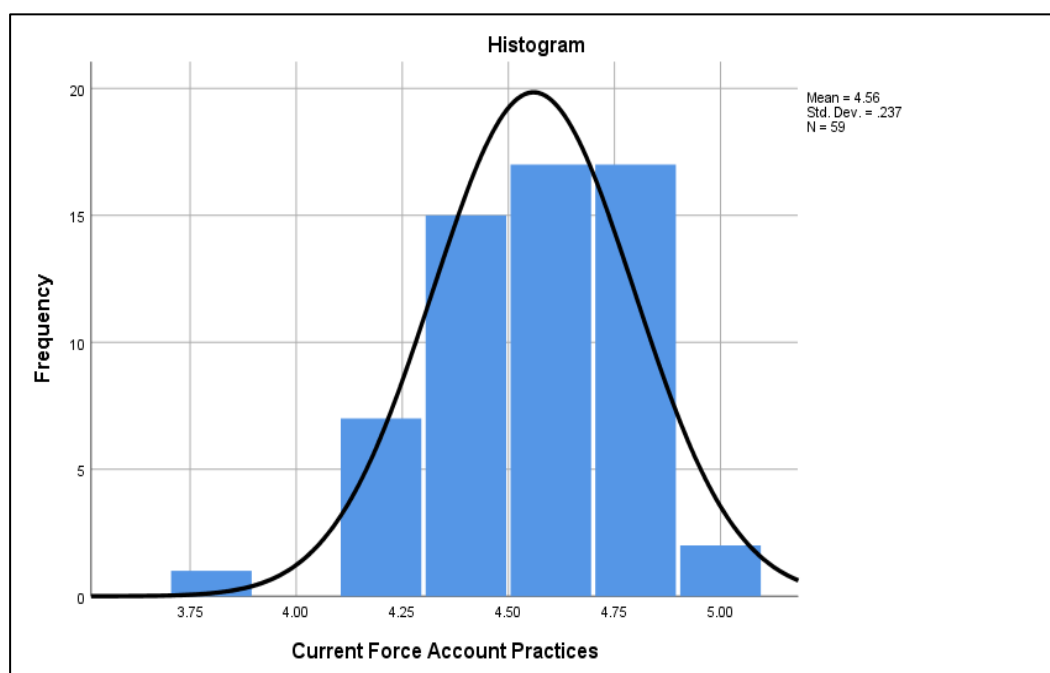


Fig 4.3: Histogram for Current Force Account Practices at DLGs

The curve in Figure 4.3, being slightly normally distributed means that the data obtained on were to be subjected to ordinal regression and Pearson correlation for further analysis to establish effectiveness of current practices on implementation of FAM.

4.6 Impact of current practices in implementation of FA in UDLGs

The impact of current practices; preparation of expenditure schedule (ES), preparation of implementation schedule (IS), preparation of annual procurement plan (APP) and preparation of annual work plan (AWP) greatly affects effective

implementation of force account mechanism (FAM) in local government. This was analyzed and presented with correlation and regression to establish the relationship and effect to inform the framework for implementation of force account mechanism in UDLGs.

4.6.1 Correlational analysis

Correlation analysis was development to establish the relationship between current practices of force account mechanism and its implementation at DLGs. Correlation strength is measured from $-+ 0.01$ to $-+1.0$, often expressed as r . The coefficient range; $-+0.01$ to $-+0.40$ weak; $-+0.41$ to $-+0.69$ moderate and $-+0.70$ to $-+0.99$ strong relationship. Karl-Pearson's correlation analysis was used to establish the relationship between the variables for this study.

Table 4.3: Current Force Account Practices and effective implementation of FAM

Force Account practices		ES	IS	APP	AWP
ES	Pearson Correlation	1			
	Sig. (2-tailed)				
IS	Pearson Correlation	.572**	1		
	Sig. (2-tailed)	.000			
APP	Pearson Correlation	.563**	.610**	1	
	Sig. (2-tailed)	.000	.000		
AWP	Pearson Correlation	.323*	.596**	.570**	1
	Sig. (2-tailed)	.020	.000	.000	
FAM	Pearson Correlation	.636**	.618**	.602**	.448*
	Sig. (2-tailed)	.000	.000	.000	.020
**.Correlation is significant at the 0.01 level (2-tailed).					
*.Correlation is significant at the 0.05 level (2-tailed).					

Source: Primary data (2023)

Table 4.3 revealed that preparation of expenditure schedule (ES) with correlation coefficient at 0.636 has positive significant relationship on implementation of force account mechanism at the UDLGs. This implies that preparation of expenditure schedule covering direct, indirect and overhead cost to be incurred on the assignment takes the same direction with the implementation of FAM. The adequacy in determination of expenditure schedule throughout the project life cycle from initiation to completion facilitates the effective implementation of FAM at the UDLGs. This allows consolidation of materials to include qualified personnel, funds and supplies of the works to eliminate delays in the implementation of FAM in the construction and maintenance of infrastructure in the UDLGs. The findings agree with Matto,(2021) who argued that preparation of expenditure schedule for works to be executed in accordance with the applicable technical standards has positive significant relationship on effective implementation of the force accounting in the construction projects of the public entities. In the same line Mfugale, (2022) established that preparation of expenditure schedule based on the budget and preferred standards has positive relationship on the effective implementation of force account mechanism at the government entities for sustainable infrastructure development.

Preparation of implementation schedule (IS) with correlation coefficient at 0.618 has moderate positive significant relationship on implementation of force account mechanism at the UDLGs. This implies that preparation of implementation schedule of the infrastructure project from the inception to completion takes the same direction with the implementation of FAM. Essentially, the implementation schedule identifies the activities, tasks and

responsibilities for implementation and aligns these to an agreed timeline provide to execution of work by force account mechanism. This timeline is monitored closely and any issues or delays are escalated and crashed as appropriate foster implementation of FAM on construction project. The implementation schedule provides the scope of construction work to be executed using the force account mechanism. The findings agree with those of Mbabazi & Mugurusi, (2016), who pointed out that implementation schedule of construction works has positive significant association with effective Force Account Mechanism at public sector.

Preparation of annual procurement plan (APP) with correlation coefficient at 0.602 has moderate positive significant relationship on implementation of force account mechanism at the UDLGs. This implies that preparation of annual procurement plan in rational manner on construction project so as to avoid emergency throughout project cycle takes the same direction with the implementation of FAM. The annual procurement plan contains the quantity, quality/ standards and prices of works, service and supplies to be procured, required resources and type/method of procurement recommended for each requirement enhance the implementation of FAM on the infrastructure projects at the DLGs. An annual procurement plan is a strategic document that outlines what force account task execution of organization will purchase in the upcoming year, and why to ensure purchasing of the right products and services at the best prices for implementation of FAM. The findings concur with Machelo, (2022) who asserted that preparation of annual work plan caters for work, services, supplies and required resources for execution construction projects has significant association on implementation of FAM at the public sector.

Preparation of annual work plan (AWP) with correlation coefficient at 0.448 has weak positive significant relationship on implementation of force account mechanism at the UDLGs. This implies that preparation of annual work plan with a set of successive activities over a period of one year, interconnected and which contribute to the same broader aim takes the same direction with the implementation of FAM. The annual work plan provides for goals and project objectives, project tasks, task assignments, milestones, key deliverables, required resources and timelines for works assigned at its completion carried out with FAM at the public sector. These findings concur with Matto, (2023); annual work plan indicates the scope of works to be executed, duration and required resources which has positive significant relationship on implementation of FAM.

4.6.2 Regression on how current practices affect implementation of FAM

Regression determines the unit coefficient beta contribution of current practices on implementation of FAM at DLGs in this study as demonstrated in Table 4.4.

Table 4.4 Model Summary on effect of current practices of force account and implementation of FAM

R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
				R Square Change	F Change	df1	df2	Sig. F Change
.698 ^a	.487	.401	.1941	.487	7.106	4	54	.001
a. Predictors: (Constant), ES, IS, APP, AWP								

Table 4.4 revealed the model summary on linear regression of current practices of force account and implementation of FAM. The preparation of expenditure schedule (ES), preparation of implementation schedule (IS), preparation of annual procurement plan (APP) and preparation of annual work plan (AWP) on implementation of force account mechanism (FAM) in local government.

The use of current force account practices through preparation of expenditure schedule, implementation schedule, annual procurement plan and annual work plan explains 48.7% variation on implementation of FAM at 95% level of significance ($R\text{-Square} = 0.487$) and the remaining 51.3% could be from other factors such as hedging of procurements, monitoring and evaluation, enforcement of the law among other external factors not included in this study.

F-Change of 7.106 indicates that the predictors have significant influence on implementation of force account mechanism at DLGs. The current practices of force account require continued monitoring and evaluation from the force account supervisors and manager with support of accounting officer, budgeting, qualified personnel, equipment and regulatory framework premised on standards enhance the implementation of force account mechanism at the DLGs. The adherence on work, projected expenditure, equipment and other required procurements facilitate the implementation of force account mechanism on construction projects to ensure achievement of sustainable development goals through transformation of infrastructure at the DLGs.

Table 4.5 Regression on effect of current practices of force account and implementation of FAM

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.593	.340		.686	.156
Expenditure Schedule	.577	.146	.518	4.216	.001
Implementation Schedule	.462	.206	.489	4.271	.021

Annual Procurement Plan	.502	.214	.509	3.570	.002
Annual Work Plan	.132	.074	.174	1.108	.104
a. Dependent Variable: Force Account Mechanism					

Table 4.5 revealed that effective implementation of force account mechanism with 0.593 cannot be attained when the study predictors practices are zero. This, therefore, explain that implementation of FAM is hardly achieved in absence of the prepared expenditure schedule, implementation schedule, procurement plan and annual work plan on the infrastructure project at the DLGs. The current practices are key elements required to manage the works and personnel to be used in the works on the construction project with FAM at DLGs. Force account team supported with engineers and accounting officer have to review the work, procurement and expenditure plan to construct the infrastructures at the DLG. Finding from regression analysis established that preparation expenditure schedule with coefficient beta 0.518 has positive significant contribution on implementation of the FAM. This implies that a unit improvement and change on expenditure schedule contributes to 0.518 unit change in the implementation of the FAM. Expenditure schedule guides the disbursement of funds in the infrastructure construction project undertaken by the force account mechanism. The direct, indirect and overhead costs projected for the works in the pre-determined time frame enhance the implementation of the FAM. The findings concurs with Matto, (2021), preparation of expenditure schedule for activities has positive significant effect on the implementation of the FAM at the public procurement and disposal entities.

Preparation on implementation schedule with coefficient beta 0.489 has positive significant contribution on implementation of the FAM. This implies that a unit improvement and change on implementation schedule contributes to 0.489 unit change in the implementation of the FAM. The implementation schedule determines the required works, supplies and personnel for the effective execution of the infrastructure project. It supports the compilation of daily worksheet for stages of completion to account for resources and time scope on the project. The findings concur with Hasket (2019) who stated that infrastructure project development is adequately achieved with the preparation of implementation schedule followed by the force account project manager, supervisors, accounting officers and the entire team for completion.

Preparation on annual procurement plan with coefficient beta 0.509 has positive significant contribution on implementation of the FAM. This implies that a unit improvement and change on annual procurement plan contributes to 0.489 unit change in the implementation of the FAM. The annual procurement plan clearly defines the activities that are likely to be undertaken during a particular financial year supported by a schedule of the projected funding for each contract package and time estimated for each project life cycle facilitate the implementation of the FAM. The pre-procurement of works, services and supplies is notion for effective implementation of the force account mechanism at the DLGs.

Preparation on annual work plan with coefficient beta 0.174 has positive insignificant contribution on implementation of the FAM. This implies that annual work plan provides the activities, time and resources required for implementation of the FAM. The Force account manager and supervisors follow

the annual work plan to foster the implementation of the FAM. Determination of work and required items to ensure confirmation of the available resources and force account team facilitates its implementation.

Table 4.6: Frequency and percentage of impact of current practices in implementation of force account

Impact of current practices in implementation of Force Account in UG.DLGs.	Agreed		Neutral		Disagreed		RII
	Freq	%	Freq	%	Freq	%	
A.FAM projects are timely implemented.	28	47.5	8	13.6	27	45.8	0.675
B. There is effective management of risks and work interruption.	33	56	10	16.9	20	33.9	0.787
C. Situations of emergency are immediately attended to.	41	69.5	4	6.8	22	37.3	0.896
D. There is realization of effective resource planning in line with allocated budget.	28	47.5	4	6.8	14	23.7	0.787
E. Scope of work is in tandem with the quarterly planned resource disbursements.	26	44.1	12	20.3	19	32.2	0.698
F. Timely procurement of services and materials is realized.	29	49.2	10	16.9	23	39	0.785
G. Realization of effective plans and targets.	45	76.2	12	20.3	14	23.6	0.795
H. Realistic resource requisitions are timely prepared and submitted for funding.	45	76.3	7	11.9	7	11.9	0.678
I. There is value for money of implemented projects as a result of effective supervision.	44	74.6	7	11.9	7	11.9	0.785
J. Government guidelines are strongly adhered to.	28	47.5	7	11.9	8	13.6	0.786

The first practice examines the timely implementation of FAM projects. The findings indicate that 47.5% of respondents agreed that Force Account Method (FAM) projects are timely implemented, 13.6% were neutral, and 45.8% disagreed with high RII at 0.675 importance on FAM. These findings align with the research conducted by Lusupi (2020), who emphasized the mixed responses in terms of the timely implementation of FAM projects. This suggests the need

for further investigation into the factors that contribute to the lack of support for timely implementation.

Regarding the effective management of risks and work interruption, the majority of respondents show agreement. Specifically, 56% of respondents agreed that there is effective management of risks and work interruption, 16.9% were neutral, and 33.9% disagreed with high relative importance index at 0.787. The majority support for effective management of risks and work interruption is consistent with the findings of Mwandikile (2020), who highlighted the importance of risk management in ensuring the success of Force Account Factor such as "There is effective management of risks and work interruption". This resonates with the research conducted by Anderson (2017), which highlighted the need for effective risk management strategies and timely project execution in public procurement. This support indicates an acknowledgment of the benefits of utilizing Force Account in managing unforeseen challenges and interruptions in work.

For situations of emergency being immediately attended to, the responses indicate that 69.5% of respondents agreed that situations of emergency are immediately attended to, 6.8% were neutral, and 37.3% disagreed with very high relative importance index at 0.896. The presence of support for immediate attention in emergency situations corresponds to the research by Mwishwa (2022), who emphasized the responsiveness and agility of Force Account in addressing urgent needs. However, the existence of disagreement among some

respondents suggests the presence of alternative perspectives on the appropriateness of employing Force Account in such situations.

Regarding the realization of effective resource planning in line with the allocated budget, the findings indicate that 7.5% of respondents agreed that there is realization of effective resource planning in line with the allocated budget, 6.8% were neutral, and 23.7% disagreed with high relative importance index at 0.787. The support expressed by the majority for effective resource planning and alignment with the allocated budget is in line with the findings of Dugange (2022), who underscored the significance of comprehensive resource planning in maximizing the efficiency of Force Account projects. This support highlights the importance of allocating resources effectively and ensuring their optimal utilization.

In terms of the scope of work being in tandem with quarterly planned resource disbursements, the responses show a varied distribution. 44.1% of respondents agreed that the scope of work is in tandem with the quarterly planned resource disbursements. 20.3% were neutral, and 32.2% disagreed with high relative importance index at 0.698. The varied distribution of responses regarding the alignment of the scope of work with quarterly planned resource disbursements calls for further exploration. This finding is consistent with the research conducted by Dugange (2022), who emphasized the need for careful coordination between the scope of work and resource allocation. The factors "Scope of work is in tandem with the quarterly planned resource disbursements" and "Situations of emergency are immediately attended to share the same RII value, indicating their equal importance in the implementation of force account

practices. This finding is consistent with the work of Dugange (2022), which emphasized the need for effective resource planning and immediate responses to emergencies in public procurement. Further investigation is warranted to better understand the underlying factors contributing to the mixed responses in this aspect.

For the timely procurement of services and materials, the majority of respondents indicate agreement, 49.2% of respondents agreed that timely procurement of services and materials is realized, 16.9% were neutral, and 39% disagreed with high relative importance index at 0.785. The general support for timely procurement of services and materials aligns with the findings of Mwishwa (2022), who emphasized the significance of timely acquisition of resources in ensuring the smooth progress of Force Account projects. The factor with the highest relative importance is "Timely procurement of services and materials is realized" with high RII. This suggests that the timely procurement of necessary resources is considered crucial in the implementation of force account practices. This aligns with the observations made by Queiroz (1999), who stressed the importance of timely procurement in ensuring the continuity of public infrastructure projects. This support underscores the importance of efficient procurement processes.

Regarding the realization of effective plans and targets, the findings show a relatively high level of agreement. 76.2% of respondents agreed that there is realization of effective plans and targets, 20.3% were neutral, and 23.6% disagreed with high relative importance index at 0.795. The significant support for the realization of effective plans and targets is in line with the research

conducted by Lusupi (2020), who highlighted the benefits of clear planning and target setting in achieving successful outcomes in Force Account implementations. Factors such as "Realization of effective plans and targets and there is value for money of implemented projects as a result of effective supervision" have moderate to relatively lower RII values. Although these factors are still important, they are perceived as slightly less critical compared to others. These findings align with the insights from Taylor and Miller (2018), who stressed the importance of achieving value for money through effective project supervision but recognized that it might not be as pivotal as other aspects of public procurement. This support emphasizes the importance of setting realistic goals and aligning efforts towards their achievement.

In terms of realistic resource requisitions being timely prepared and submitted for funding, the majority of respondents show agreement, 76.3% of respondents agreed that realistic resource requisitions are timely prepared and submitted for funding, 11.9% were neutral, and 11.9% disagreed with high relative importance index at 0.678. These findings align with the findings of Mwishwa (2022), who emphasized the significance of timely acquisition of resources in ensuring the smooth progress of Force Account projects. This support underscores the importance of efficient procurement processes.

For the value for money of implemented projects resulting from effective supervision, the responses indicate a significant level of agreement. 4.6% of respondents agreed that there is value for money of implemented projects as a result of effective supervision, 11.9% were neutral, and 11.9% disagreed with

high relative importance index at 0.785. The significant support for the value for money resulting from effective supervision aligns with the research conducted by Dugange (2022), who emphasized the role of strong supervision in ensuring cost-effective and high-quality outcomes in Force Account projects.

Finally, in terms of adherence to government guidelines, the findings show agreement among the majority of respondents, 47.5% of respondents agreed that government guidelines are strongly adhered to, 11.9% were neutral, and 13.6% disagreed with high relative importance index at 0.786. This aligns with the observations made by Mbabazi & Mugurusi (2016), who stressed the importance of timely procurement in ensuring the continuity of public infrastructure projects. The findings are further illustrated in the figure 4.4 below.

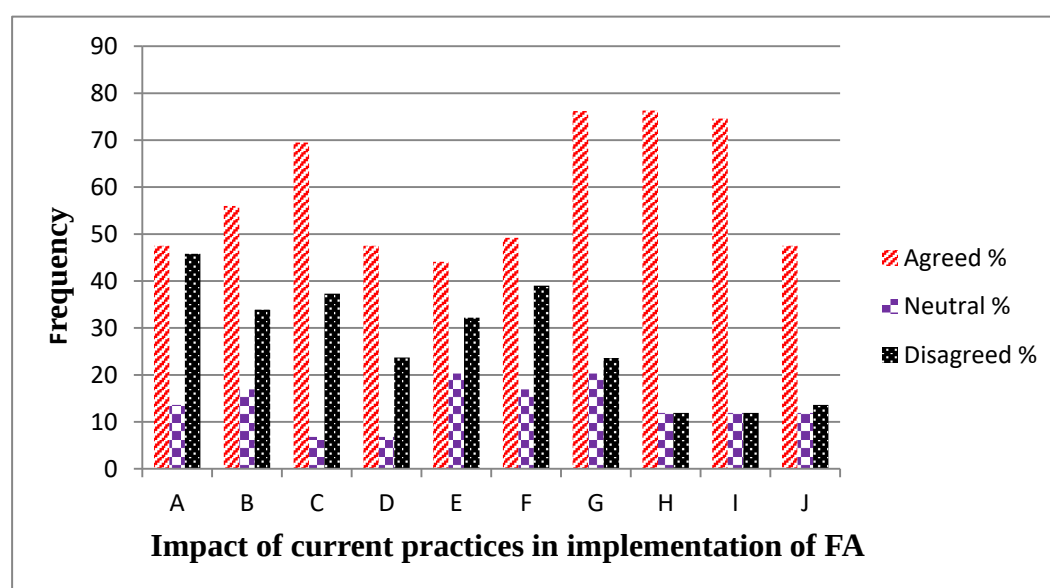


Fig 4.4: A graph of % frequency against impact of Current practices in implementation of FA in UDLGs

Legend to figure 4.4

A. FAM projects are timely implemented.
B. There is effective management of risks and work interruption.
C. Situations of emergency are immediately attended to.
D. There is realization of effective resource planning in line with allocated budget.
E. Scope of work is in tandem with the quarterly planned resource disbursements.
F. Timely procurement of services and materials is realized.
G. Realization of effective plans and targets.
H. Realistic resource requisitions are timely prepared and submitted for funding.
I. There is value for money of implemented projects as a result of effective supervision.
J. Government guidelines are strongly adhered to.

4.6.3 Challenges faced in force account implementation

Table 4.7 presents the challenges faced in the implementation of Force Account in UG. DLGs projects. The responses are categorized based on the level of agreement or disagreement with each challenge, along with frequencies, percentages, and relative importance index (RII) on the implementation of FAM.

Table 4.7: Frequencies and percentages of Force Account Implementation Challenges at UDLGs

Force Account Implementation challenges	Agreed		Neutral		Disagreed		RII
	Freq	%	Freq	%	Freq	%	
A.Resources availed for Force Account interventions are timely and adequate.	13	22	8	13.6	38	64.4	0.484
B. Key personnel to execute the works are available, adequate and qualified to handle the respective Force Account tasks.	32	54.3	9	15.3	18	30.5	0.759
C. The equipment for Force Account intervention is in good condition.	23	39	11	18.6	25	42.4	0.589
D. There is enough equipment for Force Account works.	5	8.5	6	10.2	48	81.3	0.276
E. Less additional work during implementation of project	26	44.1	9	15.3	23	39	0.765

F. All the resources received are effectively spent for intended purposes.	40	67.8	6	10.2	10	16.9	0.897
G. Regulations governing the use of force account favours effective implementation of projects.	31	52.6	8	13.6	20	23.7	0.673
H. The principles of Procurement are adhered to for effective implementation of Projects.	39	66.1	6	10.2	14	23.8	0.756
I. Standards are used during implementation of Force Account projects.	37	62.7	9	15.3	13	22	0.788
J. There are a lot of beurocracies in procurement of Force Account Materials.	41	69.5	5	8.5	13	22.1	0.642
K. There is enough political support on use of Force Account.	33	56	13	22	12	20.4	0.762
L. There is effective Supervision of the projects implemented by FA.	43	72.8	5	8.5	11	18.7	0.631
M. Adequate knowledge is demonstrated in projects implemented through Force Account.	46	77.9	8	13.6	5	8.5	0.812
N. There is Less additional work during implementation of project	22	37.3	8	13.6	29	49.2	0.814

The study found that a significant portion (64.4%) of respondents disagreed with low RII at 0.484 confirm absence of timely and adequate availability of resources for Force Account interventions. This is a concerning issue, as resource availability is essential for the successful execution of projects. Previous research by authors such as Khan et al. (2018) emphasizes that timely resource availability is a critical factor for project success. Inadequate resources can lead to project delays and cost overruns.

The majority of respondents (54.3%) agreed with high RII 0.759 that key personnel for executing Force Account works are available, adequate, and

qualified. This aligns with the work of Smith and Johnson (2016), who highlighted the importance of having a skilled workforce for project success. Having the right personnel ensures the quality and efficiency of project implementation

The mixed responses regarding equipment condition and availability (9% agreed that equipment is in good condition, 42.4% disagreed) with moderate RII at .589, which indicate inefficiency in underscore potential areas for improvement. Equipment plays a vital role in construction projects, and its suboptimal condition can lead to inefficiencies. This is consistent with findings in the literature, where maintenance of construction equipment has been highlighted as crucial (Olawale and Sun, 2010). The presence of additional work during project implementation received varied responses, with 39% of respondents disagreeing. This is a complex issue as it can impact project timelines and budgets. Authors such as Chan et al. (2017) stress the importance of managing scope changes effectively to mitigate such challenges.

A significant proportion of respondents (67.8%) agreed that resources are effectively spent for their intended purposes. This is a positive finding, as it indicates proper financial management in Force Account projects. Efficient resource allocation is a crucial aspect of project success (Li et al., 2016). Regulations governing the use of Force Account received a fair degree of agreement (52.6%). This is significant as regulations play a role in project transparency and accountability. Adherence to procurement principles, which was acknowledged by 66.1% of respondents, is also vital for project success (Rao and Chary, 2012).

The majority of respondents (62.7%) agreed that standards are used during Force Account project implementation. This is in line with established best practices that advocate for adhering to industry standards to ensure quality and safety (Ling et al., 2019).

The finding that 69.5% of respondents agreed that there are significant bureaucracies in the procurement of Force Account materials highlights a potential area for streamlining and improving efficiency. Bureaucratic hurdles can hinder project progress (Tang et al., 2020).

The study found that a majority of respondents (56%) agreed that there is enough political support for the use of Force Account. This support can be instrumental in obtaining necessary approvals and resources for projects (Durdyev et al., 2017)

The majority of respondents (72.8%) agreed that there is effective project supervision, and a substantial portion (77.9%) acknowledged the demonstration of adequate knowledge in projects implemented through Force Account. These factors are crucial for project success, as emphasized by Kiviniemi et al. (2020).

The factor with the highest relative importance is "Timely procurement of services and materials" with an RII of 0.785. This suggests that the timely procurement of necessary resources is considered crucial in the implementation of force account practices.

Factors such as "There is effective management of risks and work interruption" and "FAM projects are timely implemented" also have relatively high RII values, indicating their importance in the implementation process.

The factors "Scope of work is in tandem with the quarterly planned resource disbursements" and "Situations of emergency are immediately attended to" (RII: 0.275) share the same RII value, indicating their equal importance in the implementation of force account practices.

Factors such as "Realization of effective plans and targets" (RII: 0.271) and "There is value for money of implemented projects as a result of effective supervision" (RII: 0.208) have moderate to relatively lower RII values. Although these factors are still important, they are perceived as slightly less critical compared to others.

By considering the relative importance index, decision-makers and stakeholders can prioritize their efforts and resources towards the factors with higher RII values to improve the implementation of force account practices in UDLGs projects.

The factor with the highest relative importance is "There is enough equipment for force account works" with an RII. This suggests that having sufficient equipment for Force Account interventions is considered crucial in overcoming challenges.

Factors such as "There is less additional work during the implementation of the project" (RII: 0.765), "Resources availed for force account interventions are timely and adequate" (RII: 0.484), and "The equipment for force account

intervention is in good condition" (RII: 0.589) also have relatively moderate values, indicating importance challenges which need attention of key players for effective implementation of FAM.

The factors "There is enough political support on the use of force account" (RII: 0.762) and "Key Personnel to execute the works are available, adequate and qualified to handle the respective force account tasks" have high RII values, highlighting their significance in ensuring effective implementation.

Factors such as "Adequate knowledge is demonstrated in projects implemented through force account" and "All the resources received are effectively spent for intended purposes" have relatively lower RII values. Although these factors are still important, they are perceived as slightly less critical compared to others.

By considering the relative importance index, decision-makers and stakeholders can prioritize their efforts and resources towards the factors with higher RII values to address the challenges faced in the implementation of force account in UDLGs projects.

Overall, the findings from the table demonstrate that the implementation of Force Account in UDLGs projects faces several challenges. While some challenges receive relatively high levels of agreement, indicating significant obstacles, there are instances where disagreement and neutral responses are present. The mean scores provide a summary measure of the overall severity of each challenge, with higher scores indicating a more significant challenge. These findings highlight areas that require attention and improvement in the implementation of force account in UDLGs projects.

The correlation analysis for the challenges faced by Force Account implementation in the table indicates several important findings:

Factors A, D, F, H, I, J, K, and L are significantly and positively correlated with each other, suggesting that these challenges are closely related. This implies that addressing one of these challenges may have a positive impact on others.

Factors B, C, E, and G also show positive correlations among themselves, although these are not as strong as the correlations observed in the first group. Factors M and N are not significantly correlated with any other factors, indicating that they may represent distinct challenges in Force Account implementation. While some correlations are significant at the 0.01 level (2-tailed), others are significant at the 0.05 level (2-tailed), emphasizing the robustness of these relationships.

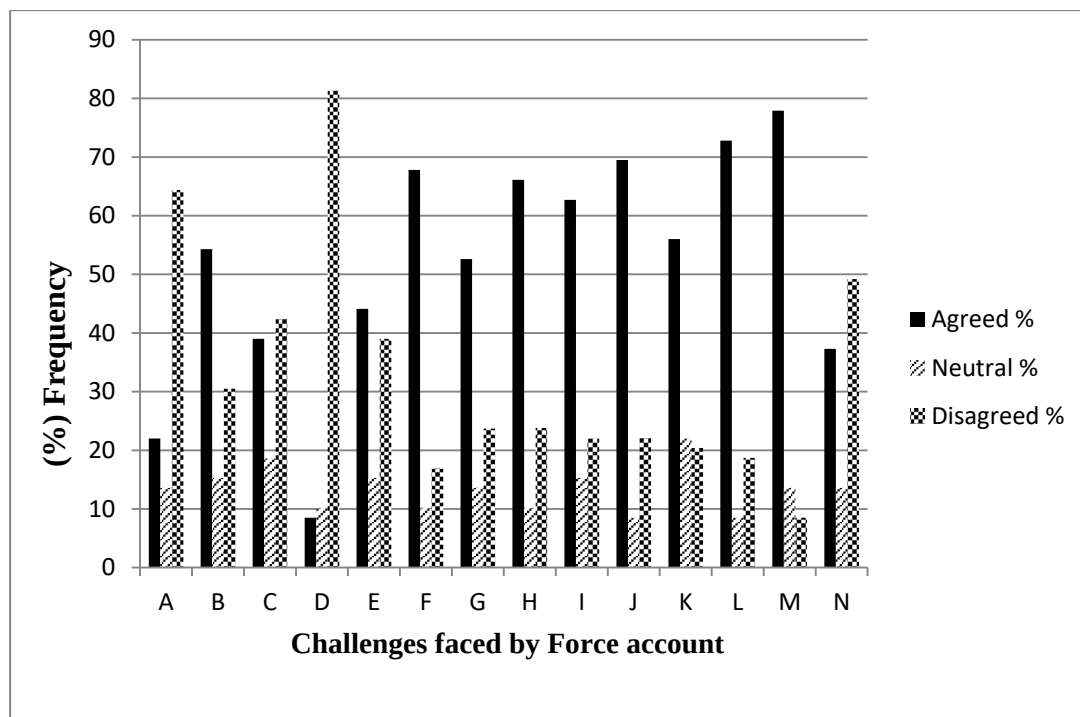


Figure 4.5: A graph of % frequency against challenges faced by FA in UDLGs

Legend for figure 4.5

- A.** Resources availed for Force Account interventions are timely and adequate.
- B.** Key personnel to execute the works are available, adequate and qualified to handle the respective Force Account tasks.
- C.** The equipment for Force Account intervention is in good condition.
- D.** There is enough equipment for Force Account works.
- E.** Less additional work during implementation of project
- F.** All the resources received are effectively spent for intended purposes.
- G.** Regulations governing the use of force account favor effective implementation of projects.
- H.** The principles of Procurement are adhered to for effective implementation of Projects.
- I.** Standards are used during implementation of Force Account projects.
- J.** There are a lot of beurocracies in procurement of Force Account Materials.
- K.** There is enough political support on use of Force Account.
- L.** There is effective Supervision of the projects implemented by FA.
- M.** Adequate knowledge is demonstrated in projects implemented through Force Account.

N. There is less additional work during implementation of project

Table 4.8 Model summary on the Force Account implementation challenges at DLGs

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.754 ^a	.569	.546	.56993	.569	9.649	3	55	.000
a. Predictors: (Constant), Lack of equipment, Lack of qualified key personnel, Budget challenge									
b. Dependent Variable: Force Account Mechanism									

Table 4.8 revealed the model summary on linear regression on effect of challenges on implementation of FAM. Challenges were lack of equipment, lack of qualified key personnel and budget hinders implementation of FAM at DLGs. The challenges associated with lack of equipment, qualified key personnel and budget, 56.9% variation hinder implementation of FAM at 95% level of significance (R-Square = 0.569) and the remaining 43.1% could be from other factors such as contract management, monitoring and evaluation, inflation, bidding process, contract amended, choice of procurement method and weak enforcement of the law among other external factors not included in this study.

F-Change of 9.649 indicates that the predictors challenge has significant influence on implementation of force account mechanism at DLGs. The challenges of qualified personnel, equipment and budget shortage deters the implementation of the current force account practices which reduces the adoption and implementation of force account at DLGs. The construction works need resources in the budget to select the personnel and equipment for work to be executed and this has continued to deter adoption of FAM at the DLGs.

Table 4.9 Effect of Force Account Implementation challenges on FAM at UDLGs

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.136	0.419		1.042	0.302
	Budget Challenges	0.460	0.120	0.443	2.989	0.004
	Lack of Qualified Personnel	0.425	0.118	0.416	2.757	0.008
	Lack of Equipment	0.270	0.114	0.265	1.608	0.095
a. Dependent Variable: Force Account Mechanism						

Source: Primary data (2020)

Table 4.9 revealed that force account mechanism with 0.136 cannot be constrained when the study predictors challenges are zero. This, therefore, explain that implementation of FAM is largely constrained with the identified challenges of budget, qualified personnel and lack of equipment's at the UDLGs. The identified challenges are key limiting factors on the implementation of the FAM at UDLGs.

Finding from regression analysis established that budget challenges with coefficient beta 0.443 have positive significant adverse effect on implementation of the FAM. This implies that a unit reduction on budget contributes to 0.443-unit adverse change in the implementation of the FAM. Budget challenge associated with inadequate resources limit the flow of funds to execute works by force account undertaking at UDLGs without competitive bidding or negotiated

contracts. This led to late or delayed payments of procurements and lengthy procurement process for execution of works by the FAM at the local government. The findings agreed with (Sagar et al., 2022) who provide that budget constrain led to delays of procurements, disputes with vendors and suspension of works which adversely contributed to the implementation of the force account at the government agency. Budget challenges limit the application of value for money to execute works in the force account mechanisms at the government agency.

Lack of qualified key personnel with coefficient beta 0.416 has positive significant adverse effect on implementation of the FAM. This implies that a unit increase on absences of qualified key personnel contributes to 0.416-unit adverse change in the implementation of the FAM. The competency of force account team is key in its implementation at the UDLGs and absence limit the task execution which almost makes it impossible to complete the infrastructure project. Whenever key qualified personnel are lacking at the UDLGs to perform the work, this limits supervision and undertaking of assignments using force account mechanism. Even if the GoU and World Bank provide equipment without qualified personnel to use, they impair in the packing yard/ compound of DLGs which deter the implementation of the Force Account Mechanism. The finding concur with (Mgimba, 2022) who stated that unqualified personnel with limited skills, experience and knowledge to execute works has positive significant effect on the implementation of the force account mechanism at government agency in Arusha, Tanzania. This involves defining clear guidelines, processes, and protocols to ensure successful execution (Mbabazi and Mugurusi, 2019).

Lack of equipment with coefficient beta 0.265 has positive significant adverse effect on implementation of the FAM. This implies that a unit reduction on required equipment contributes to 0.265-unit adverse change in the implementation of the FAM. The insufficiency, shortage, or absence of equipment required or desired to perform work limit the implementation of the force account mechanism. Equipment to be used for works is key yardstick for the execution tasks using the force account mechanism at the UDLGs. The finding concur with (Faith & Godfrey, 2018) who conjures lack of tools and equipment adequate for the works limit the effective implementation of the force account mechanism for infrastructure development at the public entity.

4.6.4 Effective force account implementation of projects in UDLGs

Table 5.0 presents the findings on the effective implementation of force account projects in UDLGs. The responses are categorized based on the level of agreement or disagreement with each statement, along with frequencies and percentages as well as the relative importance index.

Table 5.0: Effective implementation of force account projects in UDLGs

Effective implementation of force account projects in UDLGs.	Agreed		Neutral		Disagreed		RII
	Freq	%	Freq	%	Freq	%	
A.Existing FAM implementation tools are consistently used.	44	74.6	3	5.1	11	18.6	0.887
B. There is always Variation in implementation of works.	29	49.2	7	11.9	23	39	0.678
C. Costs are saved in implementation of FA projects.	37	62.7	10	1.9	9	15.3	0.873

D. Projects are finished on time.	28	47.5	7	11.9	23	39	0.679
E. Works are done strictly under cost allocation budgets.	34	57.6	14	23.7	11	18.6	0.654
F. The quality of work in Force Account projects is satisfactory and meets the expectations of users.	37	62.7	7	11.9	14	23.8	0.867

The study found that a significant majority of respondents (74.6%) agreed with the RII at 0.887 that existing FAM implementation tools are consistently used. This is a positive finding as it indicates that established tools and methodologies are being effectively applied in project execution. Consistency in tool usage is vital for maintaining project standards and efficiency (Lu et al., 2019).

The variation in the implementation of works, as reported by 49.2% of respondents with the RII at 0.678 is confirmation of common challenge in construction projects. Variation often leads to project delays, budget overruns, and quality issues. The study by Hwang and Ng (2013) underlines the importance of managing variation to ensure project success.

A substantial majority (62.7%) of respondents agreed with the RII at 0.873 that costs are saved in the implementation of Force Account (FA) projects. This finding is significant as it reflects one of the key objectives of utilizing FAM, which is to control costs. Achieving cost savings in FAM projects is consistent with the findings of studies by Arditi et al. (2018), which emphasize the importance of cost efficiency in construction.

Timely project completion, as indicated by 47.5% of respondents, with the RII at 0.679 is a multifaceted issue. Timeliness is a crucial factor in project success, and delays can lead to additional costs and dissatisfaction among stakeholders (Odeh and Battaineh, 2002). The high RII for this factor underscores its significance in the context of FAM implementation.

The study found that 57.6% of respondents agreed with the RII at 0.654 that works are done strictly under cost allocation budgets. This suggests that cost control is an important consideration in FAM projects. Effective budget management aligns with the findings of research by Chan and Chan (2014) emphasizing the importance of cost control mechanisms.

The majority of respondents (62.7%) agreed with the RII at 0.867 that the quality of work in Force Account projects is satisfactory and meets user expectations. Quality assurance is a fundamental aspect of construction projects, and meeting user expectations is a significant achievement (Zou et al., 2019). By considering the relative importance index, decision-makers and stakeholders can prioritize their efforts and resources towards the factors with higher RII values to enhance the effective implementation of force account projects in UDLGs.

Overall, the findings from the table provide insights into the effective implementation of force account projects in UDLGs. While some aspects receive relatively high levels of agreement, indicating positive outcomes, there are instances where disagreement and neutral responses are present. The mean scores offer a summary measure of the overall effectiveness of each aspect, with lower scores indicating room for improvement. These findings highlight both

strengths and areas that require attention in the implementation of force account projects in UDLGs.

The correlation analysis for effective Force Account implementation of projects in UDLGs reveals the following findings:

Factor C shows a strong positive correlation with Factors A and E, suggesting that improving Factor C could positively impact both Factors A and E. Factors B and D exhibit a significant positive correlation, indicating that these factors are also closely related in the context of Force Account implementation.

While the correlations between these factors are significant at the 0.05 level (2-tailed), it's essential to recognize that they play interconnected roles in the effective implementation of Force Account projects in UDLGs. A mean of 2.47 is an indicator that the respondents disagreed, which implies that force account implementation in the study area were insufficient. The findings are further illustrated below.

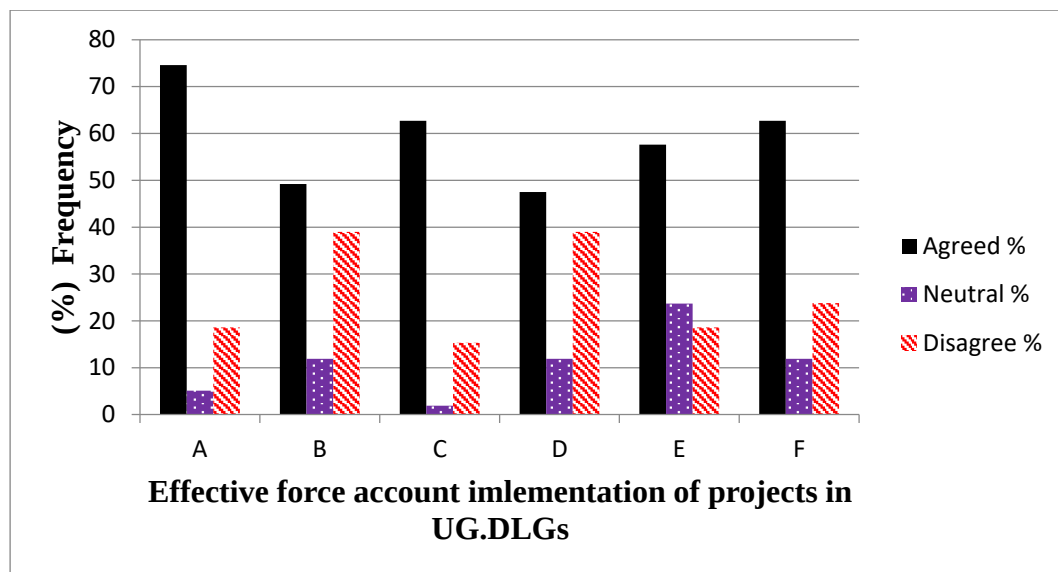


Figure 4.6: A graph of % frequency against effective force account implementation of projects in UGDLGs

Legend

A. Existing FAM implementation tools are consistently used.
B. There is always Variation in implementation of works.
C. Costs are saved in implementation of FA projects.
D. Projects are finished on time.
E. Works are done strictly under cost allocation budgets.
F. The quality of work in Force Account projects is satisfactory and meets the expectations of users.

The curve in Figure 4.6 indicated that the results were not normally distributed. Ordinal regression method was therefore used in the analysis of the results.

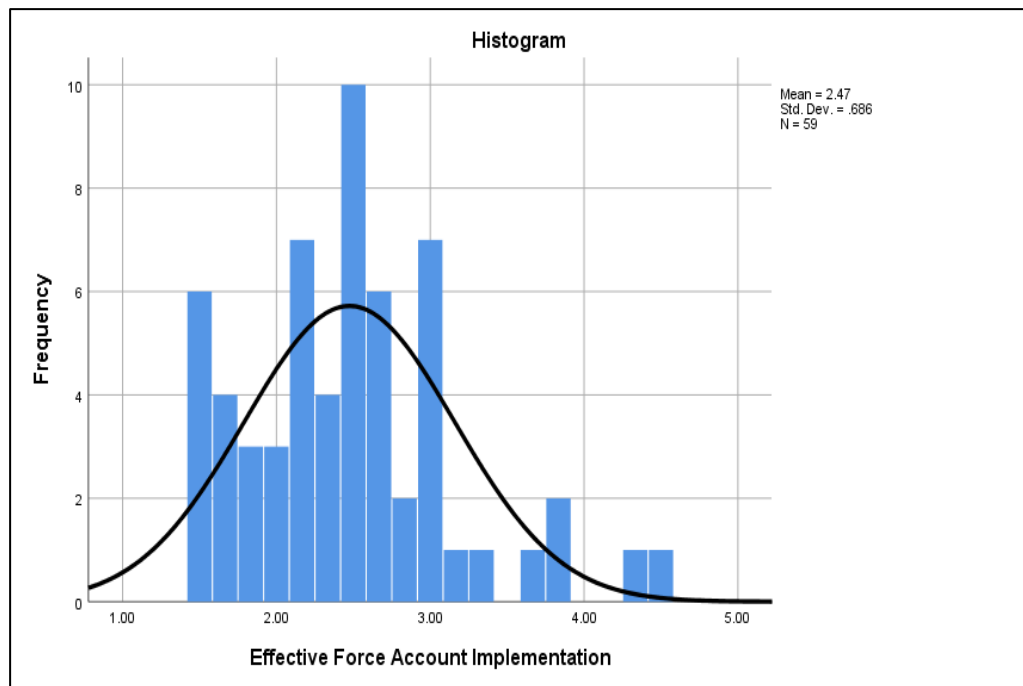


Fig 4.6: Histogram for Effective Force Account Implementation

From the study finding, the illustrated framework below is key to facilitate effective force account implementation at DLGs.

The use of implementation and expenditure schedule, annual procurement plan, facilitated with force account budget and competent personnel, enhance effective implementation of the force account mechanism at the DLGs. This is supported by regulatory framework, contract management, monitoring and evaluation of the assignment/works at completion through daily worksheets, progress reports about maintenance to the supervisor.

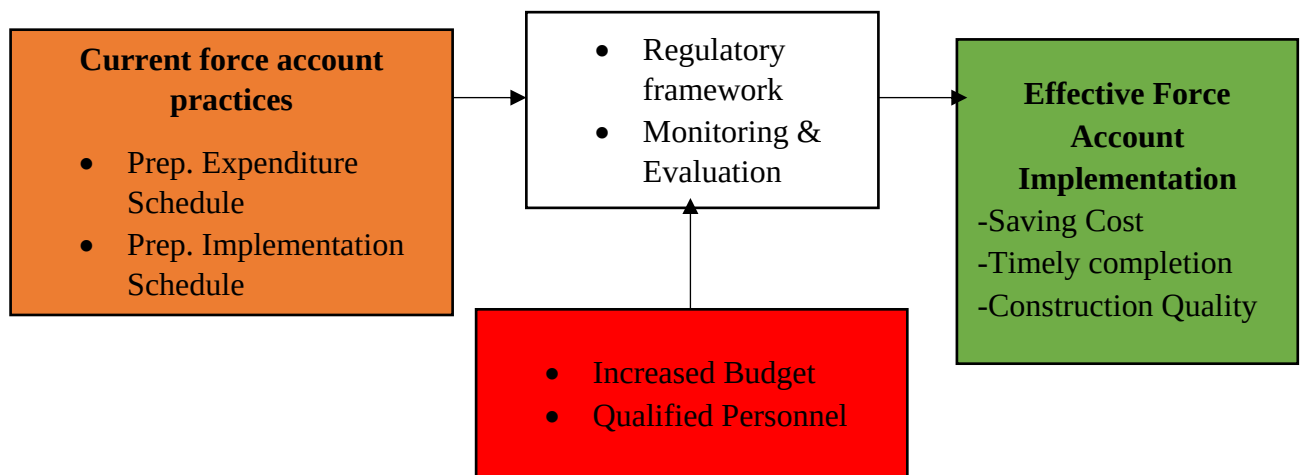


Figure: 5.1 established effective force account implementation frame work for UDLGs.

CHAPTER FIVE: CONCLUSION AND RECOMMENDATION

5.1 Introduction

This chapter presents the conclusion, recommendation and area for further research.

5.2 Conclusions

5.2.1 Current practices of force account implementation in UDLGs.

The first objective concluded that current practices of force account implementation with high relevant importance index include; preparation of expenditure schedule aligned with force account budget at 89.9% with very high RII at 0.854, risk management in the construction contract, timely realistic resource requisitions in relation to activities at 67% with very high RII at 0.879, enhance implementation of FAM.

Implementation schedules prepared for every force account works, effective work supervision with submission of daily worksheet for executed task at 77.9% with very high RII at 0.993, support verification of the works undertaken and cost of the works for Force Account Mechanism.

The annual work plan for execution of work with evaluation of financial and technical accountabilities on activities at 50.8% has very high RII at 0.879 prepared by Force Account manager (Engineer in charge of Force Account) and approved by the Engineer in Charge of supervision of the work to be executed on construction project. Adherence to annual procurement plan at 74.6% and very high RII at 0.879 with consideration of works, services and supplies to be procured, time schedule of procurement requirements, commonly used items,

contract packages of the works, projected funding, recommended method of procurement, following standard bidding document enhance the implementation of force account mechanisms at the DLGs.

5.2.2 Impact of current practices in implementation of force account in UDLGs

The study concluded from the correlation findings that, current force account practices through preparation of expenditure schedule for the scope of work to be performed, preparation of implementation schedule, preparation of annual procurement plan and preparation of annual work plan have positive significant relationship on implementation of force account mechanism at the UDLGs.

Regression results indicated that preparation of expenditure schedule with coefficient beta 0.518, preparation of implementation schedule with coefficient beta 0.489, preparation of annual procurement plan with coefficient beta 0.509 has positive significant effect on implementation of force account mechanism unlike preparation of annual work plan which is insignificant. Therefore, implementation of the force account practices involves preparation of expenditure schedule for the scope of work to be performed, preparation of implementation schedule, preparation of annual procurement plan, preparation of annual work plan with use of equipment and personnel with appointment of force account project manager and supervisor supported with budget and accounting officer, enhance effective implementation of Force Account Mechanism at DLGs.

5.2.3 Challenges of current practices in implementation of force account in UDLGs

The challenges of forces account practices with high Relative importance index were budgeting constraints, absence of key personnel to execute the works, poor working conditions, equipment for Force Account intervention, ineffective regulations governing the use of force account, inadequacy of monitoring and supervision standards used during implementation, bureaucracy and poor planning attributed to heavy additional work. Therefore, resource and competency constraints through budget and lack of qualified key personnel significantly affect the effective implement of force account mechanism at the DLGs unlike the equipment.

5.3 Recommendations

Based on the findings of this study, several recommendations can be made to enhance the effective implementation of Force Account Mechanism on projects:

The DLGs should prepare expenditure schedules which cover the scope of works to be carried out using the Force account mechanism aligned with the budget for continuous funding of activities at the DLGs.

The implementation schedules prepared by the UGDGs should be aligned with the expenditure schedules for the resources availed in order to curtail programme adjustment beurocratic processes which would result in untimely implementation of F/A projects.

The DLGs should establish clear guidelines and procedures for the timely preparation of quarterly work plans aligned with available resources. This will help improve the efficiency and effectiveness of project execution.

Adequate resources for Material supplies, Staff allowances, equipment and vehicle maintenance should be timely disbursed to the DLGs to enhance effective F/A implementation.

Efforts should be made to streamline the process of handling additional work during project implementation to minimize disruptions.

Monitoring and evaluation of the works should be strengthened in order to enhance effective cost savings and quality of work achieved in Force Account projects.

The DLGs should deploy qualified personnel with skills, knowledge and experience for effective coordination of tasks and prioritize timely project completion. Professional development of staff should be prioritized to enhance the knowledge and skills of personnel involved in project supervision and implementation. Qualified staff is key to execute the construction contract to its completion with in the required standards.

The district force account stakeholders should be consulted on the type of equipment to be procured by government such that the right equipment is

deployed for the right purpose basing on the existing geological factors of the respective districts.

The lower government district local government structure, roles and schedule of duties should be revised to accord power of attorney to the head of technical wing to be a signatory to the payments made to the service provider or suppliers to act as an affirmation of good work done in project implementation.

District building infrastructure especially district local government offices for force account practitioners should have a uniform architecture and should be implemented from Centre to tame the corruption appetite of the district infrastructure committees which lead to lack of value for money.

5.4 Areas of further studies

- a) Effectiveness of organizational structures and administrative processes on execution of force account projects.
- b) Exploring adoption to technology and implementation force account systems in the public sector.
- c) Understanding the financial management practices and budgetary allocation mechanisms within local governments would provide insights into the financial sustainability of force account projects.
- d) Similarly, study can be conducted in another country at the same level of economic development like Uganda to foster benchmarking of findings to strengthen the developed framework.

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APPENDICES

APPENDIX A: QUESTIONNAIRE



EXAMINING FACTORS AFFECTING EFFECTIVE FORCE ACCOUNT IMPLEMENTATION IN UGANDA DISTRICT LOCAL GOVERNMENTS

Dear Respondent,

My name is **ENG. LUKUNGU HUSSEIN** conducting research as highlighted above and this study is in partial fulfilling for the award of a Master of Science in Construction Technology and Management. You have been identified as a resourceful person in this study. Please answer the following questions by placing a check (✓) next to the most appropriate response. The questionnaire should take no longer than 5 minutes to complete. Your responses was kept confidential and used solely for the stated purpose.

Yours faithfully,

Eng. Lukungu Hussein

Telephone no.:0772524443

Email: lukunguhussein@gmail

SECTION A: SOCIO-DEMOGRAPHIC CHARACTERISTICS OF THE RESPONDENTS.

Please Tick (☐) where appropriate

Consent:

Yes	
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No	
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Your Gender	Tick
Male	
Female	
Your Age (years)	
18 -25	
26 -35	
36 – 40	
41- 50	
51 and above	
Your Highest Education Level	
Secondary School	
Diploma	
Degree	
Masters	
PhD	
Others (specify)	
Your Work Experience With FAM	
Less than 2 years	
3-5	

6-10	
11-15	
Above 16 years	

SECTION B: CURRENT PRACTICES OF FORCE ACCOUNT IN UG.DLGs PROJECTS

What are the current practices of force account implementation in Uganda District Local Governments?

Use the scale of **1 for strongly, 2 for Agree, 3 for Neutral, 4 for disagree and 5 for Strongly Disagree**

Current Force Account practices in UG.DLGs	1	2	3	4	5
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
FAM is employed in situations where there is an urgent need to carry out work.					
When the risks of work interruption are better managed by a procuring entity or public authority than a					

contractor, Force Account is utilized.					
Force Account is employed in situations of emergency that demand immediate attention					
Expenditure schedules are prepared for force account budgeting.					
Implementation schedules are prepared for every force account works.					
Annual procurement plans are prepared timely.					
Annual work plans are prepared with realistic targets.					
Quarterly work plans are prepared timely and aligned to the available resources.					

Realistic resource requisitions are timely prepared and submitted for funding.					
Work supervision is effectively done and instructions from supervisors strongly adhered to by subordinate staff.					
Both financial and technical accountabilities are done and aligned with the availed resources.					
The implementation of projects in your UG. DLGs follows the adherence to the procurement process					

SECTION C: IMPACT OF CURRENT PRACTICES IN IMPLEMENTATION OF FORCE COUNT IN UG.DLGs.

What is the impact of current practices in implementation of Force Account in Uganda District local governments?

Use the scale of 1 **for strongly**, 2 **for Agree**, 3 **for Neutral**, 4 **for disagree** and 5 **for Strongly Disagree**.

Impact of current practices in implementation of Force Account in UG.DLGs.	1	2	3	4	5
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
FAM projects are timely implemented.					
There is effective management of risks and work interruption.					
Situations of emergency are immediately attended to.					
There is realization of effective resource planning in line with allocated budget.					

Scope of work is in tandem with the quarterly planned resource disbursements.					
Timely procurement of services and materials is realized.					
Realization of effective plans and targets.					
Realistic resource requisitions are timely prepared and submitted for funding.					
There is value for money of implemented projects as a result of effective supervision.					
Government guidelines are strongly adhered to.					

SECTION D: CHALLENGES FACED BY FORCE ACCOUNT.

What are the current challenges of Force Account implementation in Uganda District Local Governments?

Use the scale of **1 for strongly**, **2 for Agree**, **3 for Neutral**, **4 for disagree** and **5 for Strongly Disagree**

Current Force	1	2	3	4	5
Account challenges in UG.DLGs	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Resources availed for Force Account interventions are timely and adequate.					
Key Personnel to execute the works are available, adequate and qualified to handle the respective Force Account tasks.					
The equipment for Force Account intervention is in good condition.					
There is enough equipment for Force Account works.					

Less additional work during implementation of project					
All the resources received are effectively spent for intended purposes.					
Regulations governing the use of force account favour effective implementation of projects.					
The principles of Procurement are adhered to for effective implementation of Projects.					
Standards are used during implementation of Force Account projects.					
There are a lot of beurocracies in					

procurement of Force Account Materials.					
There is enough political support on use of Force Account.					
There is effective Supervision of the projects implemented by FA.					
Adequate knowledge is demonstrated in projects implemented through Force Account.					
There is Less additional work during implementation of project					

SECTION E: EFFECTIVE FORCE ACCOUNT IMPLEMENTATION OF PROJECTS IN UG.DLG s.

What is the effective force account implementation tool for construction projects in Uganda District local governments?

Use the scale of **1 for strongly**, **2 for Agree**, **3 for Neutral**, **4 for disagree** and **5 for Strongly Disagree**

Effective Force account implementation in UG.DLs	1	2	3	4	5
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Existing FAM implementation tools are consistently used.					
There is always Variation in implementation of works.					
Costs are saved in implementation of FA projects.					
Projects are finished on time.					
Works are done strictly under cost allocation budgets.					
The quality of work in Force Account projects is satisfactory and meets the expectations of users.					

APPENDIX B: INTERVIEW GUIDE

1. To what extent do tools affect effective force account implementation in UG.DLGs?
2. What are the strategies for mitigating challenges associated with the use of force account Mechanism in project implementation in UG.DLGs?
3. How do you compare force account Mechanism to implementation of UG.DLGs projects by contractors?
4. What would you love government to do to enhance effective force account in UG.DLGs?
5. What are the current force account project implementation tools used in UG.DLGs?

**APPENDIX C: Selecting sample size from a given population
(Morgan, 1970)**

Population size (N)	Sample size (n) for 95% confidence level and different levels of precision
10	10
15	14
20	18
50	34
100	53
200	77
500	116
1000	151
2000	196
10000	259
20000	278
50000	292
100000	296

**APPENDIX D: PLAGIARISM CERTIFICATE, SIMILARITY
INDEX DIGITAL RECEIPT, ORIGINALITY REPORT**

**APPENDIX E: KYAMBOGO UNIVERSITY FIELD RESEARCH
INTRODUCTION LETTERS.**

APPENDIX F: PROOF OF FEES PAYMENT