

**STAKEHOLDER ENGAGEMENT AND PERFORMANCE OF THE
ANTIRETROVIRAL THERAPY SUPPLY CHAIN PROJECT BY NATIONAL AIDS
AND SEXUALLY TRANSMITTED INFECTIONS CONTROL PROGRAM IN
HEALTH FACILITIES, KENYA**

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**A RESEARCH PROJECT SUBMITTED TO THE SCHOOL OF BUSINESS IN
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DECLARATION

This project is my original work and has not been presented for a degree in any other university for any other award. No part of this research should be produced without authority of the author and Kenyatta University.

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I confirm that the work reported in this research project was carried out by a student under my supervision.

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DEDICATION

I dedicate this work to my beloved parents; Mr. and Mrs. Nashon Olwande, the entire Olwande family and my family of friends, for the constant motivation and support in my pursuit of a bright future.

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My sincerest gratitude to everyone who supported me through this process of pursuing this Master degree. I wholeheartedly thank the Lord Almighty for His divine intervention and guidance in giving me health, zeal, patience and commitment in developing this piece of work. Additionally, I appreciate Kenyatta University for the opportunity to pursue not only a postgraduate degree but the chance to refine my skills and expertise in a bid to become a more productive citizen of Kenya. I am also indebted to my supervisor Dr. Joshua Tumuti for his counsel and constructive criticism in ascertaining that a quality and purposeful research project is developed.

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ABBREVIATIONS AND ACRONYMS

AIDS	Acquired Immunodeficiency Disease Syndrome
ART	Antiretroviral Therapy
ARV	Antiretroviral Drugs
AVU	African Virtual University
CDF	Constituency Development Funds
DHIS2	District Health Information System version 2
ECM	End Child Marriage
GEF	Global Environment Facility
GOK	Government of Kenya
GSCA	Generalized Structured Component Analysis
HIV	Human Immunodeficiency Virus
HRM	Human Resource Management
IT	International technology
KeNHA	Kenya National Highways Authority
M&E	Monitoring and Evaluation
MNP	Multinational Project
NACOSTI	National Commission for Science Technology and Innovation
NASCOP	National Aids and Sexually Transmitted Infections Control Program
NEMA	National Environment Management Authority of Kenya

NGO	Non-Governmental Organizations
PBO	Project Based Organization
PLHIV	People Living with Human Immunodeficiency Virus
PMBOK	Project Management Body of Knowledge
RBV	Resource Based View theory
SPSS	Statistical Package for Social Sciences
ToP	Theory of Performance
U.S	United States
UNEP	United Nations Environment Programme
USAID	United States Agency for International Development
VIF	Variance Inflation Factor
VUCCnet	Virtual University for Cancer Control Network

OPERATIONAL DEFINITION OF TERMS

- Monitoring and Evaluation:** Use of reporting tools, M&E personnel and information systems to meet set objectives.
- Stakeholder Engagement:** The involvement of stakeholders in a firm's strategic planning, organizing, coordinating and strategizing routines in executing its objectives.
- Project Performance:** Determination of a project's outcome in correspondence to time, commodity security, patient satisfaction, and process sustainability.
- Stakeholder:** Individuals or organizations with an invested interest in a project.
- Stakeholder Capacity Building:** Facilitate the ability to carry out inventory management, access internet connectivity and training on ARV management.
- Stakeholder Communication Management:** It is defined by communication channels, dissemination of information and use of a multidisciplinary team.
- Stakeholder Human Resource Management:** Involves staffing, staff qualifications and staff turnover in the health facilities.

ABSTRACT

Cases of antiretroviral drugs stock outs, untimely deliveries, shortages and expiries continue to emanate from healthcare workers particularly in the pharmacy departments of antiretroviral therapy health facilities across Kenya. Every stock out of these drugs possibly contributes to the unnecessary and premature death of a child, woman or man somewhere in Kenya. Additionally, this brings about negative public opinion and image to the National Aids and Sexually Transmitted Infections Control Program, consequently lowering patient's confidence in the program, that may affect their treatment. The current study therefore sought to examine the effect of stakeholder engagement on performance of the antiretroviral supply chain project by National Aids and Sexually Transmitted Infections Control Program in antiretroviral therapy health facilities in Kenya. The set objectives were: to examine the effect of stakeholder capacity building, human resource management, monitoring & evaluation and communication management on project performance. In guiding the study, three theories were utilized, namely; stakeholder theory, resource-based view theory and theory of performance. Both descriptive and explanatory research designs were employed to allow the data collection to respond to research questions, describe characteristics of study population and establish the causal relationship between the variables, respectively. A population of 541 pharmacists and pharmaceutical technologists across Kenya was targeted, out of which 229 were sampled using stratified proportional sampling. For efficiency and ease in data collection, an electronic questionnaire was used to collect primary data that was then analyzed using descriptive statistics like percentage, means and standard deviation. Inferential statistics including correlation and regression were used to test the relationship between the variables. Results revealed that stakeholder capacity building, human resource management, monitoring and evaluation, and communication management all had a positive and significant effect on project performance. It also implied that engaging the stakeholders by building their capacity to manage inventory, staffing, enhancing their use of appropriate monitoring and evaluation tools and systems and managing their communication, positively affects the overall performance of the drug supply chain in the health facility. The study therefore concluded that stakeholder's engagement had a significant effect on performance of the antiretroviral supply chain project by National Aids and Sexually Transmitted Infections Control Program in health facilities in Kenya. Based on the findings, the study recommends that the National Aids and Sexually Transmitted Infections Control Program management should strengthen the aspects of capacity building, human resource management, monitoring & evaluation and communication management in antiretroviral therapy health facilities, particularly in the pharmacies, to improve the performance of its drug supply in Kenya.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The total number of people living with Human Immunodeficiency Virus (PLHIV) in Kenya is estimated at roughly 1.5 million as at 2017. In terms of incidence, new HIV infections among all ages decreased from 77,200 in 2010 to 52,800 in 2017, showing a 32 percent decrease in the number of new annual HIV infections at domestic level despite population growth (Kenya HIV estimates report 2018). Although the decrease in HIV incidence is encouraging, it is necessary to capitalize on the gains. Kenya must continue its attempts to achieve domestic and global goals, to achieve zero new infections and to free future generations from AIDS.

Approximately 28,200 individuals died of AIDS-related causes in 2017 compared to 53,900 in 2010, a 48% decrease in the number of national-level AIDS-related fatalities. The decrease is immediately attributable to broader access to Antiretroviral Therapy (ART), which was made accessible with the 2003 roll-out of free (ART) and the capacity of National Aids and Sexually Transmitted Infections Control Program (NASCOP) to cover HIV and AIDS therapy requirements, co-infection, and care services (Kenya HIV estimates report 2018). For this reason, health facilities providing ART services need to put in place processes to guarantee uninterrupted therapy, to improve viral suppression to produce zero fresh infections.

The performance of a project or a program can be attributed to the inputs, processes, outputs and outcome indicators depending on organizational structures and goals. This can be influenced by several stakeholder factors like leadership skills, decision making capacity,

monitoring and feedback systems, competence of the project manager, social conditions and top management support (Zhu & Mostafavi, 2017). As such, stakeholder roles and engagements pertaining to these factors need to be well managed through proper planning and monitoring if project objectives are to be attained to enhance performance.

Globally, Standing and Cripps (2015) evaluated the critical performance factors required to successfully implement electronic health records in Australia and Slovenia. It was noted that project implementation is influenced by a myriad of critical success factors determined by the context, environment, and changes occurring overtime. In particular, engagement of stakeholders was identified as critical in e-health implementation and performance of the project. Moreover, Van Offenbeek and Vos (2016) addressed management of project issues across varying stakeholder groups in e-health record projects in Netherlands. It was cited that trade-offs between stakeholders, issue-stakeholder connections, effective communication, and differentiating stakeholder legitimacies are effective in enhancing the projects performance.

Freire, Batista and Martinez (2016) in Brazil looked at project performance management accreditation with reference to the Project Management Body of Knowledge (PMBOK). The research focused on ten knowledge areas of PMBOK including risk and stakeholder management. Notably, stakeholder identification is considered a significant factor of performance. Furthermore, stakeholder communications planning was identified as critical performance factor with emphasis being laid on the importance of identifying the best channels of communication for different stakeholders, as well as determining the person responsible for disseminating information.

Regionally, project performance in the health sector has been addressed by Odugbemi et al. (2018) who investigated the role stakeholder play in malaria Rapid Diagnostics Test (RDT) projects within the private health sector in Nigeria. The research enlightens on key stakeholder management factors that positively influence project performance, which are;

effective communication, organization, use of plenary presentations, stakeholder engagement meetings and nominal group techniques. In South Africa, Staunton et al. (2018) identifies three layers of stakeholder, and emphasizes the importance of stakeholder education, building of trust-based relationships and increase of consent processes in enhancing performance of a project. Alignment of stakeholder values and roles, effective communication, stakeholder involvement, effective stakeholder identification, and stakeholder interest management are key determinants of performance of their medical projects.

In Kenya, various surveys have been carried out assessing the relationship between stakeholder engagement and project performance. Ochieng (2016) in his work looked at the determinants of health project sustainability across public hospitals in Nairobi, Kenya. Interaction with stakeholders, stakeholder availability, proactive stakeholder, formal communication, and involvement of stakeholders in evaluation and monitoring were identified as critical factors for project performance. In a similar line of thought, Abuya, Maina and Chuma (2015) identify that stakeholder involvement in health projects is critical in determining project success.

NASCOP's health initiatives in HIV and Aids management include the running of an uninterrupted and coherent supply of antiretroviral (ARV) drugs that should not be negotiable as the lives of over 1.5 million patients are at risk (NASCOP website). This supply chain is considered a project as it is executed as a HIV Global Fund entity, which has a 3- year definite support timeline.

NASCOP's supply chain project performance has been framed on the ability to consistently supply sufficient stocks of Antiretroviral drugs countrywide. This should meet the patient's treatment needs, thus ensuring commodity security. However, challenges of stock shortage, expiries and untimely deliveries have been emanating from health care workers through the different media channels. This has created gaps in the ARV supply chain thus placing its

performance at below average in the current HIV grant cycle 2018/2019-2020/2021, owing to insufficient stock levels, below the preferred 3 months stock levels in the health facilities (commodity security reports on NASCOP website).

Health facility stakeholders like pharmacy staff have a responsibility for implementing a correct Antiretroviral (ARV) management process, enhancing inventory management and warehousing procedures, enhancing supply chain coordination and general communication (Health SA Gesundheit, 2017). By so doing, ARVs can be used for patients whenever required.

1.1.1 Stakeholder Engagement

Stakeholder engagement is a vital aspect of any project, activity or program being executed successfully. A stakeholder is any individual, group or organization that may be influenced, influence or feel influenced by a program. Stakeholders may include customers, project managers, developers, subcontractors, vendors, financing agencies, customers, owners, staff and local communities (Jason, 2016). Stakeholder engagement is the procedural identification, evaluation and planning of actions to interact with, negotiates and impact stakeholders, according to the Project Management Institute (2008). Homthong and Mounгноi (2016) describe project stakeholder engagement as the ongoing commitment and growth of stakeholder interactions to achieve a good project or program. In planning, implementing, managing and tracking project operations, stakeholders can usually be engaged.

There are varied stakeholders in NASCOP's ART supply chain ranging from manufacturers, suppliers, government, health facilities and patients. This study focused on engagement of health facilities, since it is the point at which the primary stakeholder, the patients, come into contact with the supply chain. Also, this is the source of the complaints on stock outs and

untimely delivery of ARV drugs. The stakeholders of focus in this study were the pharmacy staff, who are external stakeholders of the ART supply chain project by NASCOP.

In the current study, stakeholder engagement was described using stakeholder capacity building, stakeholder human resource management, monitoring and Evaluation and stakeholder communication management approaches. This was arrived at by reference to past studies, the PMBOK guide, literature review and feedback from the affected stakeholders, ART pharmacy personnel, through different media channels. Capacity building is defined as obtaining or improvement of an organizations or individual's skills, knowledge, tools, equipment and other resources needed to enable them execute their tasks competently (Ahmad, Farrukh & Nazir, 2015). Koonyo (2017) linked capacity building to enhance project performance. Monitoring and evaluation refers to periodic and continuous assessment of a project and its stakeholders to provide information on status and progress, flag out possible risks and propose possible mitigating measures (Abrahams, 2015). According to Jamaal (2018) and Kihuha (2018), monitoring & evaluation is essential in successful completion of projects.

Communication management refers to the systematic planning, implementing, control and monitoring of the execution of information exchange in a timely manner between a sender and a receiver, through an appropriate channel, with an expected feedback (Mihai, 2017). Hung-Baesecke and Men (2015) and Markiz, Margono, Wirawan and Ainur (2017) supported the role of communication management in enhancing performance. Stewart and Brown (2019) defined human resource management as the strategic approach of planning, organizing and development of an organization's work force, who collectively contribute to the achievement of a project's objective. Khan and Rasheed (2015) and Keegan, Ringhofer and Huemann (2018) established that human resource management was critical in determining performance of projects.

1.1.2 Performance of Supply Chain Projects

Budget, time and deliverables describe project efficiency (Shenhar, Dvir, Levy & Maltz, 2010). Project output is the general quality in terms of value to beneficiaries, effect, efficiency, effectiveness of execution and sustainability (IBBS & Kwak, 2000). Additionally, project performance is derived from avoidance of cost budget mistakes, erroneous design, unmet quality standards, and erroneous occupancy. Project performance is achieved by ensuring enterprises maximize realized profits, minimize uncertainties and risks, and realize project goals and objectives (Kululanga & Kuotcha, 2010).

Indicators of project performance differ from project to project and different variables, including the context and nature of a project and influence. Notably, Banda and Pretorius (2016) highlight quality and cost as key dimensions of measuring project success. In essence, quality performance can be measured depending on whether a project outputs or delivers the predetermined technical performance parameter. Secondly, a cost success is another dynamic which is determined by the percentage difference between original project budget and budget overruns or under runs. A different study assessing project performance of HIV/AIDs project implemented by NGOs identifies various indicators as important in measuring project performance (Nyaga, 2018). The study identifies that timeliness; within budget expenses and contribution to shareholder value are indicators of performance.

According to Truchil et al. (2018) inappropriate or insufficient project performance measures can lead to deterioration in overall performance. An effective approach to identifying performance indicators helps to make effective decisions on the standards of performance to be established. The adoption of performance measures is an effective way to increase the profitability of a project and competitiveness of an organization. Well-designed performance indicators in the health sector should enable decision makers to establish baseline information such as current performance (Gomes & Romão, 2018). Furthermore, decision makers should

be able to benchmark performance against international and regional counterparts. Effective performance indicators should allow for independent assessment of health sector performance. The current study measured performance of NASCOP's ARV supply chain project using approaches like determining ARV commodity security in terms of sufficiency of drug stocks, resupply lead time and patient satisfaction at health facility level.

NASCOP is authorized with spearheading programming of HIV&AIDs in Kenya. Its core responsibilities include care and treatment, offering strategic technical support and information, formulation of treatment policies and guidelines, coordination of partners and other stakeholders and management of the ARV supply chain countrywide (NASCOP https://www.nascop.or.ke/?page_id=868, 2nd October 2019). This is achieved with support and funding from Government of Kenya, Global Fund and United States Agency for International Development (USAID) amongst other donors. With an aim of managing HIV in Kenya, NASCOP in close collaboration with Kenya Medical Supplies Agency (KEMSA) uses this funding to quantify, procure and distribute ARV's to the 541 ART health facilities across the country, the point at which the PLHIV receive medication for HIV care and treatment.

Despite many efforts put in place by NASCOP to ensure ART service delivery is streamlined through implementation of a solid supply chain project, instances of ARV shortages and crises continue to crop up from health facilities across the country. Every gap in the ARV supply chain puts a newborn, infant, man or woman somewhere in Kenya at risk of infection or probable death. As such, it is mandatory for the program to ensure a maximized commodity security status at the point of care if the zero new infections target is to be attained. This therefore called for the need to determine how the aspects that affect the availability of drugs at the health facilities affect NASCOP's supply chain project performance.

1.2 Statement of the Problem

The aim of NASCOP is to manage HIV in Kenya through distribution of ARV to ART health facilities across the country. This is particularly possible due to support and funding from Government of Kenya, Global Fund and United States Agency for International Development (USAID) amongst other donors. However, one of the challenges for NASCOP in the implementation of the ARV supply chain project has been to ensure that the treatment requirements of all PLHIV are fully met without sacrificing the needs of prevention or the quality of treatment (Kenya HIV estimates report, 2018). The ART supply chain performance measured in commodity security has over the years been below average owing to a number of challenges that put stocks below 3 months of preferred stock level, in the health facilities.

Cases of ARV stock outs, untimely deliveries, shortages and expiries continue to emanate from healthcare workers particularly in the pharmacy departments of ART health facilities across Kenya. Every stock out of ARV drugs contributes to the unnecessary and premature death of a child, woman or man somewhere in Kenya. Additionally, this brings about low public opinion and a negative public image of NASCOP, which would ultimately lower patients' confidence in the program and may hinder treatment. The management of ARVS at facility level is a role assigned to the pharmacy staff whose engagement is pivotal in measuring NASCOP's supply chain performance. Aspects like their capacity to manage stocks, their use of monitoring and evaluation tools and systems, staffing and communication are linked to availing ARVs to patients, thus linked to performance of the ART supply chain.

Previous studies attempted to link stakeholder engagement with project performance both at international and local level. Studies (Khan & Rasheed, 2015; Shams, 2016; Nwankwo et al., 2017) were conducted in other regions that are different from Kenya, thus making it impractical to adapt their findings to fit the local context. Furthermore, local studies including Mutua et al. (2014), Gitau (2014), and Mutuku and Mathooko (2014) revealed conceptual

gaps since they did not focus on concepts as used in the current study. The current research therefore, sought to fill the knowledge gap by investigating the effect of stakeholder engagement on performance of the antiretroviral therapy supply chain project by NASCOP in health facilities in Kenya.

1.3 Objectives of the Study

1.3.1 General Objective

The study's main objective was to investigate the effect of stakeholder engagement on performance of the antiretroviral therapy supply chain project by NASCOP in health facilities in Kenya.

1.3.2 Specific Objectives

The specific objectives of the study were:

- i. To examine the effect of stakeholder capacity building on performance of the ARV supply chain project by NASCOP in Kenya.
- ii. To determine the effect of stakeholder human resource management on performance the ARV supply chain project by NASCOP in Kenya.
- iii. To evaluate the effect of monitoring and evaluation on performance of the ARV supply chain project by NASCOP in Kenya.
- iv. To assess the effect of stakeholder communication management on performance of ARV supply chain project by NASCOP in Kenya.

1.4 Research Questions

The study's research questions were:

- i. What is the effect of stakeholder capacity building on performance of the ARV supply chain project by NASCOP in Kenya?

- ii. What is the effect of stakeholder human resource management on performance of the ARV supply chain project by NASCOP in Kenya?
- iii. What is the effect of monitoring and evaluation on performance of the ARV supply chain project by NASCOP in Kenya?
- iv. What is the effect of stakeholder communication management on performance of the ARV supply chain project by NASCOP in Kenya?

1.5 Significance of Study

In different respects, the research may be of significance. This research may benefit NASCOP management as it provides suggestions that can assist them improve their project and process efficiency. The research may also benefit policy makers as it provides policy suggestions on stakeholder engagement and efficiency of the project. The study also provides the basis for future researchers to undertake further studies in comparable field of study. Further, the study makes contribution to theory and knowledge by providing findings on the connection between stakeholder engagement and project performance.

1.6 Scope of the Study

The research concentrated on stakeholder engagement and ARV supply chain project performance by NASCOP in Kenya. The research covered four stakeholder engagement aspects: capacity building, human resource management by stakeholders, monitoring & evaluation, and communication management by stakeholders. The research targeted health employees from 541 ART health centers (pharmacists and pharmaceutical technologists) across the 47 Kenyan counties. The study period was from January 2019 to May 2021.

1.7 Limitations of the study

The most prevalent restriction in the collection of primary data for this research was the attitude of participants towards the questionnaire. Some of the participants were unwilling to

disclose the real data required for the research owing to suspicion about the real purpose for which the data would be used. The investigator, however, tackled this challenge by ensuring that their answers would be used exclusively for educational reasons and that the answers would be handled with utmost confidentiality.

1.8 Organization of the study

The study comprises of five chapters. Chapter One presented the background of the study, research objectives, study importance, scope and study constraints. Chapter Two presented a review of the literature. That is, the study's theoretical examination and empirical assessment. Chapter Three provided the methodology adopted by the research. Chapter Four detailed the research findings and discussions. Chapter Five presented conclusions and recommendations based on the study findings.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This section provides the study's theoretical and empirical review. The overview of literature review and study gaps is also presented in this chapter. The chapter further encompasses the conceptual framework of the study.

2.2 Theoretical Review

This research was guided by three theories namely; resource-based theory, stakeholder theory and theory of performance. The theories are favorable and provide insight and a foundation for the research objectives discussed.

2.2.1 Stakeholder Theory

Edward Freeman (1984) introduced the theory that considers a stakeholder as a group or individual with an impact on or is affected by an organization's performance and goal attainment. The stakeholder theory holds that organizational management should identify persons of interest or groups that are affected by an organization or project, understand their needs, and stipulate measures necessary to cater for the needs of the interest groups and persons (Bonnafous-Boucher & Rendtorff, 2016). Highlighted responsibilities towards stakeholders include efficient use of capital, timely provision of accurate information, and effective business management. Taking Freeman's definition of stakeholders, internal and external stakeholders, based on their level of power and interest, unilaterally determine the strategy of an organization.

Notably, stakeholders play a crucial role in strategy implementation and influence the success of an organization. Freeman, Harrison and Zyglidopoulos (2018), highlight that effective stakeholder management involves proper management of the relationship between an organization and its stakeholder. In particular, it's essential for an organization to focus on proper contracting, communication, motivation, and management of partnerships. According to (Al-Nasser & Muhammed, 2017) organization's that address the needs and interests of stakeholders perform better than organization's that fail to pay attention to stakeholders.

The instrumental perspective of stakeholder management posits that maintaining healthy relationships between stakeholders and an organization increases the firm's value, which has a positive implication on a firm's performance (Bonnafous-Boucher & Rendtorff, 2016). Effective management of performance drives favorable interest by stakeholders towards the organization. Notably, stakeholders have a perceived stake and expectations in an organization or project, and the perception often influences behaviors, which could be destructive or constructive for an organization. In essence, maintaining open and effective communication with stakeholders, whether direct or indirect, influences their perceptions toward the firm, which affects their response and behavior.

Stakeholder engagement is favorable in this study as it lays a foundation for stakeholder human resource and communication management. In essence, addressing stakeholder human resource and communication management needs in an organization directly fulfills the premise of catering for the needs of the stakeholders. Furthermore, proper engagement of internal stakeholders informs the objective of stakeholder capacity building particularly in the case of empowering internal stakeholders. In turn, it is possible to analyze the effect of the study objective and stakeholder engagement to project performance. The theory therefore anchored the stakeholder human resource and communication management variables in this study.

2.2.2 Resource-based View Theory

Barney's Resource-Based View (RBV) theory of 1991 stipulates that an organization's resources include financial, natural, capital and intangible assets. The theory argues that, given that resources are common, valuable, inimitable, and non-replaceable, it's possible for a firm to become competitive. The advocates of RBV theory emphasize maximizing the use of available funds in all new enterprises as opposed to acquiring new resources (Biggs, 2016). An organization's resources can be categorized into intangible and tangible assets. The intangible assets include; intellectual property, brand reputation, patents and trademarks. Constructions, land, capital and equipment are tangible resources.

According to Kull, Mena and Korschun (2016), ownership of distinctive capacities and inputs influences the difference in performance of one company from the other. For example, funds with an expanded learning cycle or curve that is not simple to transfer offer a company important market leverage. RBV theory is basically an efficiency-based explanation of variations in performance, (Hoskisson, Gambeta, Green & Li, 2018). The performance variances are considered to occur from resources with intrinsically distinct levels of efficacy meaning that a company can give clients higher advantages at the same or lower profit.

The RBV theory is relevant in this research because it promotes the evaluation of the study's goals. In particular, the monitoring and assessment capacities taken in a project provide an organization with a platform to effectively evaluate the effectiveness, efficiency and effect of its operations. In addition, acquiring and allocating the correct resources to support stakeholder capacity building further affects efficiency. Also noteworthy is the role played by stakeholders in managing human resources as an organization or project's critical resource or asset. The theory therefore anchored the stakeholder capacity building and monitoring & evaluation variables in this study.

2.2.3 Theory of Performance

The Theory of Performance (ToP) pioneered by Don Elger in 2006 highlights six basic attributes that form a framework for describing performance and its measurement. Attributes adopted in the framework are the level of knowledge, level of identity, context of performance, skill level, fixed factors and personal factors. In addition, the theory provides three axioms these are; immersion, performer's mindset, and reflective practice as elements that further guide the assessment of performance. The rationale of ToP is based on the premise that people can attain extraordinary accomplishments, and worthy accomplishments are obtained in high-levels of performance. This supports this study by building the Stakeholder Human resource management and Stakeholder capacity building ideologies.

Performance as a noun refers to a complex series of activities and actions that entail integration of knowledge and skill that produce valuable results. A performer can be a group or individual engaging in collaborative effort. Performance development is a process with dividers referred to as levels of performers, which determine the positions in the process. Obegi and Kimutai (2017) elaborate that performing at higher performance levels can be put into different categories. For instance, a quality improvement shows that products or results are more effective in meeting stakeholders' expectations. Other levels of performance usable in measurement include knowledge increase, capability increase, cost decrease, and capacity increases. This builds on this study in the knowledge that human resource management and capacity building variables have an influence on performance. Elger's six proposed measures of performance largely address the needs of most performers. Therefore, the theory supports the dependent variable in this study that is project performance.

2.3 Empirical Review

2.3.1 Stakeholder Capacity Building and Projects Performance

Mutua, Waiganjo and Oteyo (2014) evaluated the impact of contract management on the outcomes of outsourced projects in Nairobi, Kenya, medium-sized production companies. The study obtained its data from representatives from the 22 firms targeted. A cross-sectional survey was adopted, and structured questionnaires were used. The results of the research disclosed a beneficial effect of contract management on project results. Fixed-price contracts, project acceptance criteria, dispute resolution, and project management training are all fundamental contract management factors identified as having an impact on project performance. Although this study focuses on project performance, a conceptual gap as it focuses on contract management and not stakeholder engagement. The two concepts are different and this explains the need for the current research.

Shams (2016) assessed capacity building as a component of sustained competitiveness in organizations. The study sought to provide insight on capacity building attributes that can be adopted and implemented so as to attain a sustainable competitiveness. The study employed an inductive constructivist approach intended on developing a synthesis from relevant literature. Study results indicated that relationship management offers a competitive advantage in terms of strategic dynamic organizational capacity. This study provides insight on capacity building, but a methodological gap exists as it adopts content analysis of secondary data to cater for its inductive constructivist approach. Furthermore, a conceptual gap arises in that it focuses on competitive advantage as opposed to project performance.

Study by Nwankwo, Olabisi and Onwuchekwa (2017) focused on effect of capacity building on firms' output. The study narrowed its focus to the multipurpose cooperative societies in Nigeria. Study objectives aimed at assessing the impact of capacity building activities,

identifying indicators of measuring cooperative performance, and identifying constraints that arise. The study carried a survey and obtained 529 responses from management committee members and used descriptive and inferential statistics for analysis. Study results indicate that building capacity has a powerful beneficial impact on cooperative performance. The study captures capacity building but doesn't focus on human resource, M&E, and Communication management and it's also based in Nigeria. The two attributes create a conceptual and contextual gap respectively. Factors that affect project performance in Nigeria are different from those in Kenya. This is because the two countries operate in different environments and have different economic capabilities.

In the situation of Maasai Hiv / Aids awareness and preventive initiatives in Kajiado, Kenya, Koonyo (2017) evaluated the role of capacity building on output from project in Kenya. The specific objectives of the study are project design capacity building, project leadership capacity building, financial management capacity building, and project implementation capacity building. A survey was conducted, and descriptive analysis, inferential analysis, and document analysis used to analyze the data collected from 126 respondents. The results show that capacity building influences project performance. The study contributes significantly to this research; however, a contextual gap exists given that the study focused on Maasai Kajiado sub-county in Kenya and not NASCOP.

2.3.2 Stakeholder Human Resource Management and Projects Performance

Gitau (2014) study assessed the role of strategic HRM in developing a competitive advantage within the telecommunication industry in Kenya. The study sought to narrow down and identify specific HRM practices that enable companies gain a competitive advantage in the market. The study obtained its data from four telecommunication companies. The study findings stipulate that HRM practices should be developed at the strategy and implementation level of a project. Compensation and staffing create a competitive advantage. The study

recommends that the most appropriate practices should be analyzed and adopted on a per project basis. Although, this study focuses of HRM practices, a conceptual gap exists in that it focused on competitive advantage and not project performance.

The impacts of environmental pressures and organizational culture on the performance of IT projects were explored by Gu et al. (2014). In the case of organizational culture, the research concentrated on four aspects: favorable job environment, institutional collectivism, outcome orientation and risk tolerance for management. A descriptive research design has been adopted and information from 459 United States. The research results indicate that the connection between organizational culture and IT project efficiency is moderated by environmental pressures. Notably, although the study focuses on project performance, contextual and conceptual gaps exists in that it focuses on organizational culture as opposed to stakeholder engagement and the study used data from the United States and China. These are two developed countries while Kenya is a developing country and therefore, it would impractical to generalize their findings to the Kenya context.

Khan and Rasheed (2015) research concentrated on the connection between methods of HRM and perceived achievement of projects in Pakistan. Employee preparation and growth, recruitment and choice of employees, employee compensation scheme and employee performance assessments were the primary goals of the research. A study was performed and information from a sample size of 270 participants from project-based organizations across four main towns in Pakistan was collected. Study results indicated that, with the exception of staff training and growth, recruitment and choice of employees, employee compensation scheme and employee performance assessments affect project success. This study assesses HRM practices and project success; however, a contextual gap exists given that the study was limited to Pakistan, which is a different environment from Kenya in terms of project management.

Keegan, Ringhofer and Huemann (2018) evaluated the connection between HRM practices and Project Based Organization (PBO). The study narrows down to specific objectives, which are employee participation, project level careers, and employment relations. The study used content analysis and analyzed secondary data, with the focus narrowed down to theoretical and empirical contributions focusing of HRM-PBO link. The study findings depicted that employee participation, employee relations, and project level careers contribute to the success of project-based organizations. This study provides insight on HRM practices and project performance. However, a methodology gap exists because this study uses secondary data and adopts content analysis. Application of different research methods may result to different results.

2.3.3 Monitoring & Evaluation and Projects Performance

Phiri (2015) researched how project efficiency is influenced by M&E plans. Two effectively implemented projects by African Virtual University (AVU), the Virtual University for Cancer Control Network (VUCCnet) and the Multinational Project (MNP) were evaluated using a blended ex-post-facto research design and survey to identify a potential M&E-project results connection. Results indicate that surveillance and assessment as a function of leadership does indeed affect the efficiency of the project. The research evaluated presents a contextual gap as it has not focused on NASCOP projects.

Ouma and Kamaara (2018) examined the determinants used to ensure successful implementation of Pathfinder International projects in Kenya. The primary factors were resource allocation, instruments for project planning, teamwork, tracking & assessment. The research took a quantitative approach. The findings of the study revealed that the four variables positively and significantly influenced implementation of the Pathfinder International projects in Kenya. The research found that improving the indices of all the factors examined would significantly improve the execution of donor-funded projects in

Kenya. The reviewed study presents a contextual gap since it focused on Pathfinder International and not NASCOP projects.

At the Kenya Marine and Fisheries Research Institute, Jamaal (2018) evaluated the impacts of participatory surveillance and assessment on project results. The study used as descriptive survey design. The research population was 144 Kenya Marine and Fisheries Research Institute workers and a census was carried out. The research found that participatory surveillance and assessment involves stakeholders in joint planning and assessment of progress, leads to effective completion of projects, financial capital is often related to project viability, participatory M&E provides community-based economic mobilization methods that lead to project achievement and complete performance management initiatives. The reviewed work presents a contextual gap since it did not focus on projects in NASCOP.

Kihuha (2018) evaluated the impact of M&E approaches on UNEP GEF Kenyan chapter projects execution. There were 15 project managers, 32 support employees, 5 surveillance and assessment employees in the study population. The research created adaptability of scheduling method and technical knowledge on allocating M&E resources, developing clear M&E plans/tools, regularly collecting and analyzing M&E data, training M&E staff and attracting qualified M&E staff with average flexibility on M&E needs evaluation. The research found that the scheduling process and the methods of technical professionals were implemented optimally while low-level applications were applied to stakeholder involvement and participation in leadership. The study recommends establishment of strategic plans to define internal process of carrying out M & E, strengthening organizational M & E capacity, structuring stakeholder involvement and management participation.

2.3.4 Stakeholder Communication management and Projects Performance

Mutuku and Mathooko (2014) explored the impact of communication on staff motivation. The research embraced the technique of descriptive survey and targeted 287 participants at Nokia Siemens Networks, including senior executives, middle-level executives and support employees. The research discovered that sharing data had the biggest impact on employee motivation, followed by employee participation in decision making, then communication channels, while communication channels of the 7 C's had the least impact on employee motivation. The research proposes that the executives of the company should involve the staff of all executives in order to allow them to have expertise in the complexity of the business. Even though the reviewed research looked at communication in an organization, it did not assess project performance. Instead, the study focused on employee motivation, thus a conceptual gap exists, which the current study sought to address.

Hung-Baesecke and Men (2015) evaluated the impact of communication channels and communication characteristics of authenticity and transparency on employee engagement in China. Findings indicate that face-to-face interactions and social media are the most efficient ways to build transparency, authenticity, and employee engagement in China. Organizational transparency and authenticity have powerful beneficial impacts on the commitment of employees. Even though the reviewed research looked at communication, but it was carried out in China, thus presents a contextual gap. Projects in China and Kenya operate in different environments and therefore, it would be impractical to generalize the findings to fit the Kenyan context.

Markiz, Margono, Wirawan and Ainur (2017) evaluated the impact of leadership styles, organizational communication and job satisfaction on the performance of employees in Jakarta's construction firms. Generalized Structured Component Analysis (GSCA) was used to evaluate the outcomes of this research showing that organizational communication

influences the efficiency of staff. Job satisfaction was also found to be a mediating variable between the organizational communication and the construction job performance. However, the reviewed paper reveals a contextual gap since it was conducted in Indonesia. Further, there exists a methodological gap since the reviewed study employed Generalized Structured Component Analysis while the current study used linear regression analysis to analyze the data. The use of different methods of analysis may result to different findings, hence the need to conduct this study using linear regression analysis.

Njeri and Were (2019) researched project efficiency determinants among Kenya's NGOs. The key aspects included; top management support, project scheduling, project team commitment and project culture. The study employed a descriptive research design with a target population of 304 respondents comprising of senior managers, branch managers, field officers and accountants. Findings showed that top management support, project culture, project scheduling and project team engagement had a significant impact on project performance in NGOs in Kenya. However, the reviewed study reveals a conceptual gap since it did not focus on organizational communication as a variable. Instead, it focused on top management support, project culture, project scheduling and project team commitment.

2.4 Summary of Literature and Research gaps

Review of previous studies showed several gaps in research. For example, some of the studies reviewed had been done in other countries such as China, Indonesia, Zimbabwe, among others, some of the research reviewed have been performed. These countries operate in different environment from Kenya and thus it would be impractical to generalize their findings to the Kenyan context. Also, majority of reviewed studies done in Kenya had focused on other projects and organizations and not NASCOP, thus presented a contextual gap. Further, there exists a conceptual gap since some of the studies have not focused on the main concepts under this study, that is, stakeholder engagement and project performance.

Table 2.1: Literature Review and Research gaps

Author	Study	Study Research Gap	Focus of Current Study
Njeri and Were (2019)	Determinants of project performance in NGO's in Kenya. The study looked at top management support, project culture, project scheduling and project team commitment as the independent variables.	Study reveals a conceptual gap since it did not focus on HRM, M&E, capacity building and communication management.	Current study will focus on HRM, M&E, capacity building and communication management as independent variables.
Mutuku and Mathooko (2014)	Effects of communication on employee motivation in Nokia Siemens Networks Kenya.	Study focused on employee motivation and not project performance creating a conceptual gap.	Focuses on project performance
Markiz, Margono, Wirawan and Ainur (2017)	Influence of leadership styles, organizational communication and job satisfaction toward workers' performance in doing construction jobs in three different construction companies in Jakarta.	There exists a methodological gap since the reviewed study employed Generalized Structured Component Analysis	Current study will use linear regression analysis to analyze the data.
Men and Hung-Baesecke (2015)	Effect of communication channels and communication attributes of transparency and authenticity on employee engagement in China.	Even though the reviewed research looked at communication, but it was carried out in China, thus presents a contextual gap.	Focuses on Kenyan context
Ouma and Kamaara (2018)	The determinants used to ensure successful implementation of donor funded projects in Kenya by focusing on the Pathfinder International Project.Resource allocation, instruments for project planning, teamwork,	Study presents both a conceptual and contextual gap as it did not focus on Capacity building, HRM and communication and was based in a private organization-Pathfinder.	Current study will focus on Capacity building, HRM and communication and will focus on a project in NASCOP a public organization.

	tracking & assessment were the key factors studied.		
Jamaal (2018)	Effects of participatory monitoring and evaluation on project performance at Kenya Marine and Fisheries Research Institute	Study only focused on participatory surveillance and assessment on project performance at Kenya Marine and Fisheries Research Institute, showing both conceptual and contextual gaps.	Current study will focus on Capacity building, HRM and communication management on project performance at NASCOP.
Phiri (2015)	M&E plans influence project performance.	Study only focused on M&E and not HRM, capacity building and communication management variables rendering a conceptual gap.	Current study will focus on HRM, capacity building communication management and M&E in a NASCOP project.
Kihuha (2018)	Influence of the practices of monitoring and evaluation on the performance of UNEP GEF Kenyan chapter projects.	Study only focused M&E and not HRM, capacity building and communication management on UNEP GEF Kenyan chapter projects presenting both conceptual and contextual gaps.	Current study will focus HRM, M&E, capacity building and communication management on a NASCOP project.
Keegan, Ringhofer and Huemann (2018)	Human resource management and project based organizing; Fertile ground, missed opportunities and prospects for closer connections.	This project presents a methodology gap as it adopts content analysis to analyze secondary data.	Study will adopt descriptive survey research design and use primary data.
Khan and Rasheed (2015)	Human resource management practices and project success, a moderating role of Islamic Work Ethics in Pakistani project-based organizations	This study investigated HRM practices in the context of Pakistan project-based organizations, which presents a contextual gap as the study did not focus on NASCOP	The current study will focus on NASCOP projects
Gitau (2014)	The Role of HRM in Developing Competitive Advantage in the Telecommunication Industry in Kenya.	A conceptual gap exists since the study focuses on competitive advantage.	The current study focuses on project performance.

Gu et al., (2014)	The effects of organizational culture and environmental pressures on IT project performance: A moderation perspective.	Contextual and conceptual gaps exist in that it focuses on organizational culture as opposed to HRM and the study used data from the US and China.	Study will focus on stakeholder engagement and NASCOP's project.
Nwankwo, Olabisi and Onwuchekwa (2017)	Effect of capacity building on organizational performance of multipurpose cooperative societies	This study captures capacity building but doesn't focus on HRM, M&E and communication management rendering a conceptual gap.	This current study will focus on other aspects other than capacity building that affect project performance.
Mutua, Waiganjo and Oteyo (2014)	The influence of contract management on performance of outsourced projects in medium manufacturing enterprises.	Conceptual gap as it focuses on contract management and not HRM, M&E, capacity building or communication management.	The current study will focus on HRM, M&E, capacity building and communication management.
Koonyo (2017)	Effect of Capacity Building on Program Performance: A Case of Maasai Hiv/Aids Awareness and Preventive Projects	Both conceptual and contextual gaps exist given that the study only focused on capacity building and not HRM, M&E, or communication management. Maasai Kajiado sub-county in Kenya and not NASCOP creates a contextual gap.	The current study will focus on HRM, M&E and communication management at a NASCOP project.
Shams (2016)	Capacity building for sustained competitive advantage: a conceptual framework	A methodological gap exists as this study adopts content analysis. A conceptual gap arises as well. The study focuses on competitive advantage.	The current study adopts descriptive survey design and looks at project performance.

2.5 Conceptual Framework

The conceptual framework is a research tool intended to assist a researcher to develop awareness and understanding of the variables under scrutiny (Smith, 2004). Figure 2.1 shows the conceptual framework for the current study.

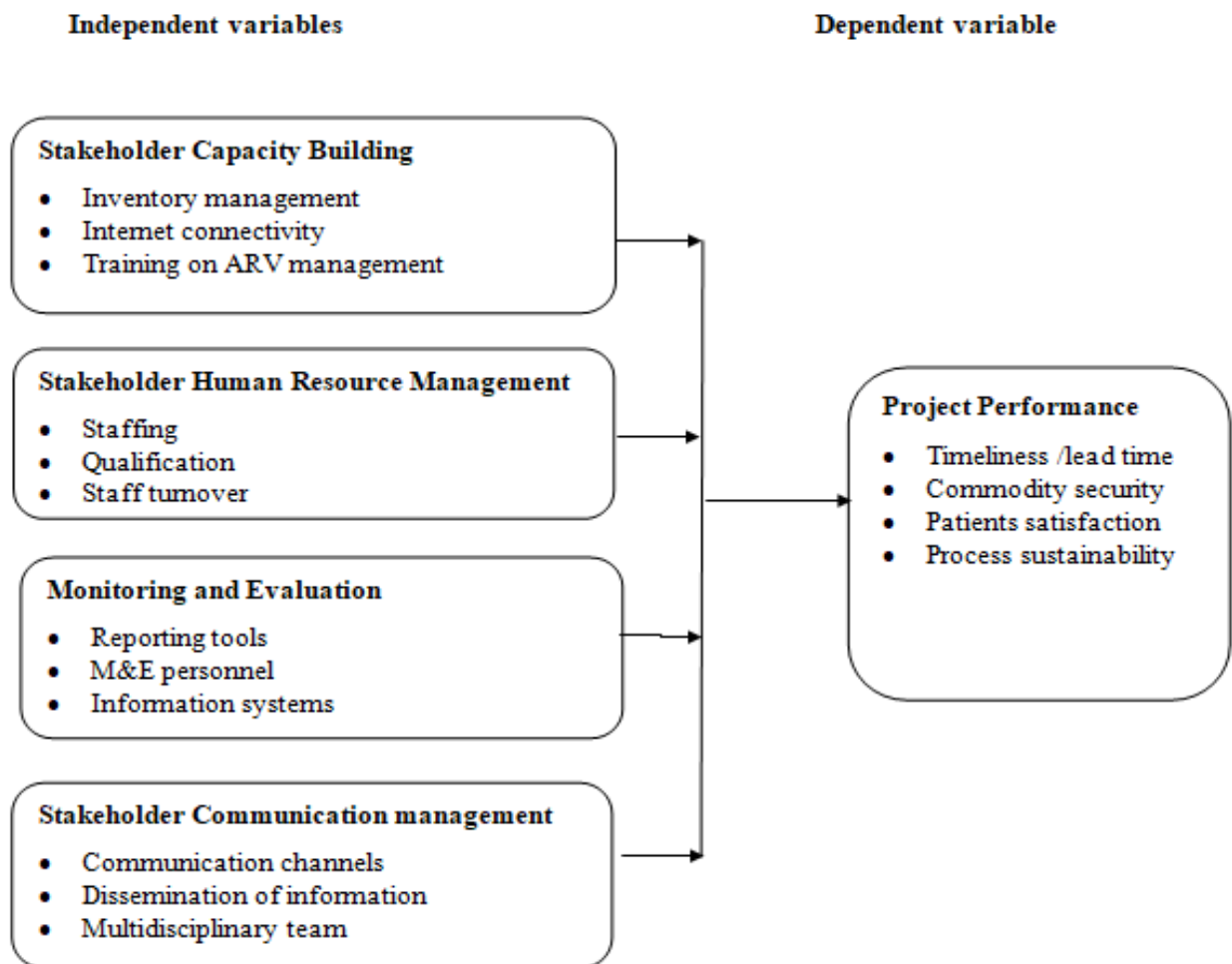


Figure 2.1 Conceptual Framework

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The section comprises of the methods used in the research. These include: research design, target population, sample design, data collection, analysis and presentation, and ethical considerations.

3.2 Research Design

According to Mugenda and Mugenda (2003) the research design refers to the set rules for collecting and analyzing appropriate study information. The study adopted both descriptive and explanatory research designs. Descriptive design was appropriate as it allows for data collection to respond to research questions and describe the characteristics of the study population. As such, the research was able to bring out the characteristics of the study variables in terms of percentages, frequencies and means. Further, the explanatory research design was suitable because it allowed for establishment of the causal relationship between the variables. The current study sought to determine the causal connection between stakeholder engagement and project performance.

3.3 Target Population

Target population refers to a group of people who have common characteristics of interest to researchers (Mugenda & Mugenda, 2003). This study target population comprised of pharmacists and pharmaceutical technologists from the 541 NASCOP-supported ART health facilities across the 47 Kenyan counties. Appendix III shows the list of target population.

3.4 Sampling Design

Stratified sampling was used by dividing Kenya into strata (47 counties) where there were health facilities for ART. The choice of stratified sampling method was justified because it helps to improve the accuracy and representation of the results by reducing sampling bias. Proportional sampling was then applied by distributing the sample size proportionally amongst the 47 counties based on number of ART facilities per county, to minimize bias. The study used Slovin (1960) method to determine the sample size. The confidence level is 95% and margin error is 0.05.

Slovin's formula is written as:

$$n = \frac{N}{1 + Ne^2}$$

Where:

n = sample size,

N= population

e = margin error

$$n = \frac{541}{1 + 541(0.05)^2}$$

$$n = 229$$

The sample size was therefore 229 pharmacists and pharmaceutical technologists from ART health facilities across the country. The sample size distribution in the respective strata is indicated in appendix III.

3.5 Diagnostic Tests

Diagnostic tests were performed before running the regression model. The purpose of these tests was to ensure that there were no inaccurate results generated by the study data.

3.5.1 Testing for Normality

Normality testing improves the regression model. Data normality was tested using Shapiro-Wilk tests. If the probability exceeds 0.05, the data is said to be normally distributed (Saunders & Thornhill, 2012).

3.5.2 Multicollinearity

High degree of correlation between variables leads to the problem of multicollinearity (Kothari, 2004), as such, independent variables should not be highly correlated. Multicollinearity was evaluated using Variance Inflation Factor (VIF) and Tolerance values. Tolerance values above 0.1 and VIF values less than 10 indicate absence of multicollinearity (Ramakrishnan, 2013).

3.6 Model Specification

In this study, a multiple regression model was estimated to establish the relationship between the independent variable (stakeholder engagement) and dependent variable (project performance). The model is presented below:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where:

Y = Project Performance

X₁ = Stakeholder Capacity building

X₂ = Stakeholder Human Resource management

X₃ = Monitoring and Evaluation

X₄ = Stakeholder Communication Management

β₁, β₂, β₃, β₄ = Regression Coefficients

ε = Error term

3.7 Measurement of Variables

This section provides information on measurement of the study variables.

Table 3.1: Measurement of Study Variables

Variables	Category	Measurement	Indicators
Project Performance	Dependent	5 point Likert scale - Ordinal	Timeliness, commodity security, patient satisfaction, process sustainability.
Stakeholder Capacity building	Independent	5 point Likert scale - Ordinal	Inventory management, internet connectivity, training on ARV management.
Stakeholder Human Resource management	Independent	5 point Likert scale - Ordinal	Staffing, qualification, staff turnover.
Monitoring and Evaluation	Independent	5 point Likert scale - Ordinal	Reporting tools, M&E personnel, Information systems.
Stakeholder Communication Management	Independent	5 point Likert scale - Ordinal	Communication channels, dissemination of information, multidisciplinary team.

Source: Researcher (2020)

3.8 Data Collection Instrument

Primary data was collected using questionnaires attached in appendix II. Questionnaires were chosen because most individuals are acquainted with them. Furthermore, compared to interviews, electronic questionnaires are simpler and quicker to use and evaluate. The questions in the instrument were closed. The questionnaires were based on a likert scale of 1 to 5 (Mugenda & Mugenda, 2003). The questionnaire had two parts. The first part captured

respondents' personal data. The second part provided questions relating to the study variables. The questionnaire unveils information on both dependent and independent variables which gives answers to research questions.

3.9 Data Collection Procedure

Data collection is the systematic method to collect and measure data from different sources in order to obtain a clear picture of the phenomenon under study. Data collection allows an individual or organization to answer appropriate questions, assess results, and predict future probabilities and trends (Maclaughlin, 2016). In administering the questionnaires, a link was sent through email to the target population. Information entered in the electronic questionnaire was automatically pulled and summarized at a central server. The researcher was assisted by two research assistants for the purposes of data collection.

3.10 Validity and Reliability of Research Instruments

3.10.1 Validity of Research Instrument

Kothari (2004) describes validity as the degree to which a tool measures what it should measure. Construct validity was accomplished by analyzing different theoretical and empirical literature to provide more insight into the study's appropriate ideas. The objects of the study tool were thus built on the basis of current studies. Furthermore, content validity was achieved through recommendations from the research supervisor.

3.10.2 Reliability of Research Instrument

A pilot survey was performed to check the authenticity and consistency of the questionnaire. The pilot survey was based on ten ART health facilities participants. The pilot study participants were not included in the main research. A pilot survey is intended to detect and correct any mistakes in the questionnaire before collecting information (Brotherton, 2008).

Cronbach Alpha was used to test the reliability of the questionnaire. A Cronbach alpha above 0.7 shows a high degree of internal consistency in the questionnaire. The results are as presented in Table 3.2.

Table 3.2: Reliability Results

Variable	No of Items	α=Alpha	Comment
Capacity Building	7	0.975	Reliable
Human Resource Management	5	0.965	Reliable
Monitoring & Evaluation	6	0.953	Reliable
Communication Management	8	0.957	Reliable
Project Performance	6	0.943	Reliable
Overall		0.959	Reliable

Source; Research data (2020)

From the findings, all the variables had alpha values greater than 0.7. Further, results indicate an overall alpha value of $0.959 > 0.7$. This means that all the items in the questionnaire were reliable and thus were adopted in the subsequent analysis.

3.11 Data Analysis and Presentation

The data was edited to remove mistakes and detect any inconsistencies and any issues. Further, data was uploaded into Statistical Package for Social Sciences (SPSS version 21), for coding and generation of output. Descriptive statistics (means and standard deviation) were generated to describe the attributes of the study variables. Inferential statistics (correlation and regression) were utilized to establish the relationship between the study variables. Findings were presented using tables and charts.

3.12 Ethical Consideration

This involves adherence to study standards. The researcher sought approval from Kenyatta university Master of Business Administration graduate school and the National Commission for Science Technology and Innovation (NACOSTI) before heading to the field to begin data

collection. Further, the researcher assured the participants that information they provided would be utilized for educational purposes only. In addition, the researcher did not coerce any person to participate in the survey and only those willing were included. Finally, all participants were treated with respect.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSION

4.1 Introduction

This chapter presents research findings, analysis, interpretation and discussions of the results, presented in line with the objectives. The chapter also refers to other study materials to support the study's findings.

4.2 Response Rate

The targeted 229 Pharmacy staff from ART health facilities across Kenya were administered with the electronic questionnaire, out of which, 185 were properly filled and submitted. This represented a response rate of 80.8% which was sufficient to inform this study.

4.3 Demographic Information Results

This section provides results on the participants' demographic characteristics. It briefly describes characteristics of the respondents, important in comprehending the findings as well as making comparisons with other similar studies.

4.3.1 Gender

Gender information was collected from the respondents to better impart the study. The gender proportion found is graphically shown in Figure 4.1.

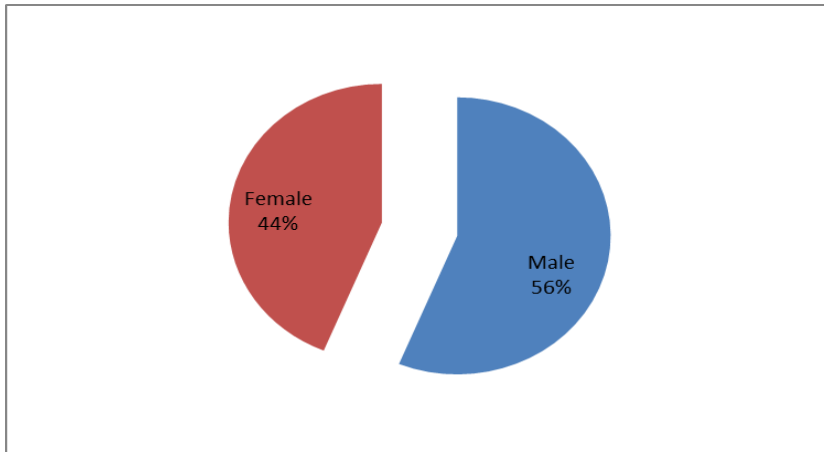


Figure 4.1: Gender of the respondents

Source: Research data (2020)

The findings revealed that most of the participants in this study were male (56%), while female participants were 44%. The gender composition implies that there is no gender bias in employment of the workers at the pharmacies by the counties.

4.3.2 Age of the Respondents

Data on the age of the sampled respondents was collected to study the notions of different age categories. Age findings were as presented in Figure 4.2.

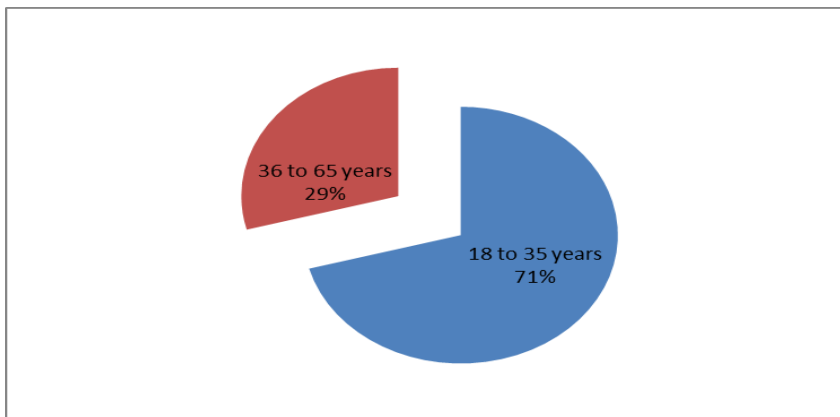


Figure 4.2: Age of the Respondents

Source: Research data (2020)

From the findings, majority of the respondent's (71%) were aged 18 to 35 years, representing the youthful population while 29% were aged 36 to 65 years representing the experienced and

strategic population. This gave the implication of a blend of youthful and experienced adult composition that's eligible for employment thus confidence in decision making and service delivery in the pharmacies, plus provision of reliable information to this study.

4.3.3 Period worked in the Organization

The period worked in the health facility was paramount in portraying work experience and subsequently reliability of the information relayed to this study. The respondents were asked to indicate the years they had worked in the organization. Findings were as presented in Figure 4.3.

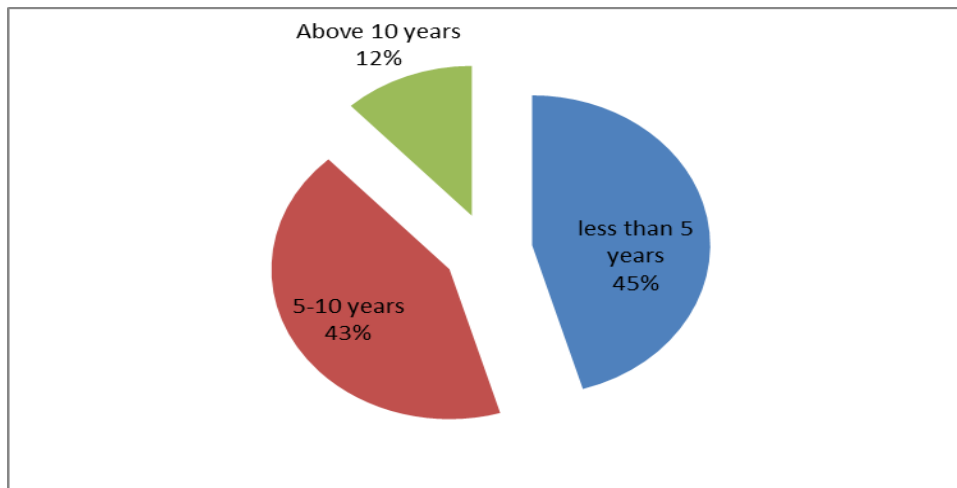


Figure 4.3: Period Worked in the Organization

Source: Research data (2020)

The results showed that 45% of the respondents had worked in the organization for less than 5 years, 43% had worked for 5 to 10 years, while those who had worked for more than 10 years were 12%. The finding implies that over fifty percent of the respondents been in the organization for over five years. The insinuation is that they have accumulated adequate experience and information about the organization and therefore they provided reliable

information in regard to stakeholder engagement and performance of ARV supply chain project by NASCOP in Kenya.

4.3.4 Highest Level of Education

By evaluating the level of education of the study's respondents, the researcher was aiming at determining the ability of the respondents to provide ART pharmacy services in the health facilities since education is a major determinant of how staff is able to execute their duties and responsibilities. Results are shown in Figure 4.4.

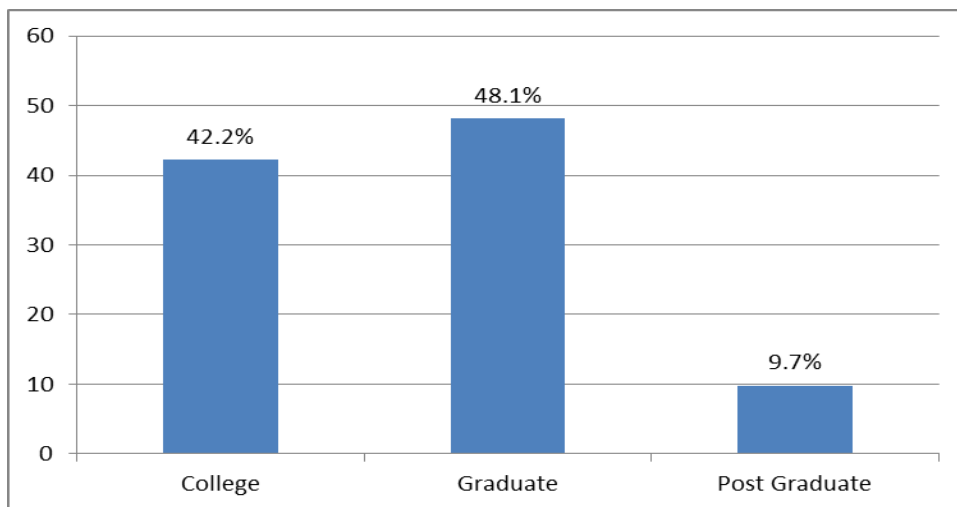


Figure 4.4: Highest Level of Education

Source: Research data (2020)

It was observed that most of the respondents were graduates. Further, all the respondents had a minimum of college level education, a minimum requirement for employment in the ART pharmacies. This therefore suggested that the respondents possessed adequate knowledge and skills and consequently provided the information that was relevant and well-informed.

4.3.5 Employment Term

Employment term was incorporated in the study to aim at establishing staffs length of stay and sustainability of ART pharmacy service provision thus professional capabilities of staff. Employment term was categorized into: Permanent; employed by national Government and

deemed as permanent and pensionable, Temporary; employed by county government with a 4 to 5 years term, contract; employed by implementing partners whose term depends on availability of project funds and Internship that entails students incorporated in the facility to train in service delivery. Staffs with longer terms are considered to have had a longer stay thus gained more experience. Results are illustrated in Table 4.1

Table 4.1: Employment Term

Employment Term	Percentage %
Permanent	49.2
Temporary	7.6
Contract	28.6
Internship	14.6
Total	100

Source: Research data (2020)

The findings indicated that most of the respondents were under permanent employment, followed by contract employment, then internship and lastly temporary employment. Majority of the respondents had a form of employment term commitment to their facility as either permanent, temporary or contracted that could inform their longer stay and experience in the pharmacy compared to the ones on internship. This therefore instills confidence in their productivity as well as perceptions in this study.

4.3.6 Job Title

The study sought to determine the job title in bid to know the position and role of the respondent in relation to the job description and duties assigned at the pharmacy as per NASCOP's policies. Figure 4.5 relays the findings on job title of the respondents.

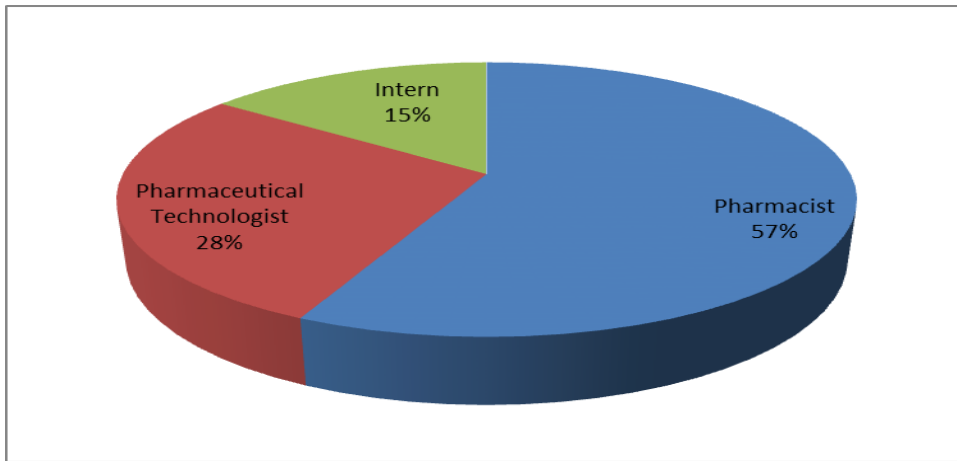


Figure 4.5: Job Title

Source: Research data (2019)

The findings revealed that majority of the respondents, 57% were pharmacist, 28% were pharmaceutical technologist while 15% were interns in the pharmacy. This reflected on the confidence the supply chain and the study can have in them given they all had a pharmacy background.

4.4 Descriptive Statistics

This section provides descriptive statistics results in form of percentages, means and standard deviations. The results are presented in line with the study variables.

4.4.1 Stakeholder Capacity Building

The study sought to determine the influence of capacity building on the performance of the ARV supply chain by focusing on aspects that are considered to equip the health workers in carrying out their day to day tasks. Scale; 1 strongly disagree; 2 Disagree; 3 Neutral; 4 Agree; 5 strongly agree.

Table 4.2: Stakeholder Capacity Building

Statements N=185	1	2	3	4	5	Mean	Std. Dev.
Training on ARV management has been carried out to personnel	5.4%	18.6%	10.8%	40.5%	34.6%	3.90	1.13
Training on DHIS2 has been carried out to personnel	11.4%	7.0%	26.5%	48.6%	6.5%	3.32	1.08
There is provision of reliable internet	15.7%	22.2%)	15.7%	45.4%	1.1%	2.94	1.16
Sensitization on inventory management is adequately done	23.8%	16.8%	5.9%	43.8%	9.7%	2.99	1.40
Sensitization on record keeping and documentation is done	20.0%	26.5%	8.6%	44.9%	0.0%	2.78	1.21
There is proper management of ARVs in the pharmacy stores	9.2%	15.1%	2.7%	30.3%	42.7%	3.82	1.37
Personnel are conversant with dispensing system	2.2%	8.1%	4.9%	70.3%	14.6%	3.87	0.84
Aggregate Mean						3.4	1.17

Source: Research data (2020)

The results on table 4.2 revealed that most (75%) of the respondents agreed that training on ARV management had been carried out to personnel, supported by a mean of 3.9 out of 5. On sensitization on record keeping and documentation, 46.5% of the respondents disagreed that this aspect had been effected, portrayed by a mean of 2.78.

The findings further indicated that majority of respondents, in their view, agreed on the following assertions: training on DHIS2 had been carried out to personnel (mean=3.32), there is proper management of ARVs in the pharmacy stores (3.82) and personnel are conversant with dispensing system (3.87).

The aggregate mean of 3.4 with a standard deviation of 1.17 revealed that, although the respondents tend to be of a neutral opinion, they leaned on the agreeing perspective of the

ideology that the statements on stakeholder capacity building influenced the performance of the supply chain project by NASCOP and very few diverted with the majority's opinion. The implication is that stakeholder capacity building has a role in determining performance of the ARV supply chain project by NASCOP. The study findings agreed with those of Koonyo (2017) who concluded that capacity building has an influence on project performance.

4.4.2 Stakeholder Human Resource Management

Human resource management was observed to influence performance of the ARV supply chain project mostly through aspects like; adherence of staff to terms of reference (4.2), staff role assignment (4.1) and personnel recruitment (4.1). The findings also illustrated that staff turnover has an impact on ARV management (4.0) as much as there is adequate personnel for ARV management (3.8) in the pharmacies. By and large, majority of the respondents seemed to agree with the concept of stakeholder engagement having an influence on the performance of the ARV supply chain, supported by the average mean of 4.0 and standard deviation of 1.1

Table 4.3: Stakeholder Human Resource Management

Statements N=185	1	2	3	4	5	Mean	Std. Dev
There is adequate personnel for managing ARV management	7.0%	15.7%	3.8%	42.2%	31.4%	3.8	1.2
Staff turnover impacts on ARV management	5.4%	10.8%	2.2%	38.9%	42.7%	4.0	1.2
Each staff is assigned a designated role in the facility	5.9%	7.0%	1.1%	47.0%	38.9%	4.1	1.1
Terms of reference are adhered to	3.2%	7.6%	0.5%	43.2%	45.4%	4.2	1.0
Recruitment of personnel is efficient	2.2%	11.4%	2.2%	41.6%	42.7%	4.1	1.0
Aggregate mean						4.0	1.1

Source: Research data (2020)

The study findings implied that stakeholder human resource is highly likely to influence the performance of ARV supply chain project by NASCOP. This concurred with the work of Khan and Rasheed (2015) that focused on determining the connection between methods of HRM and perceived achievement of projects in Pakistan and found that HRM affects project success.

4.4.3 Monitoring and Evaluation

The study sought to determine the influence of monitoring and evaluation on performance of the ARV supply chain projects. Table 4.4 provides descriptive statistic results that include percentages, means and standard deviations for the variable monitoring and evaluation. Scale; 1 strongly disagree; 2 Disagree; 3 Neutral; 4 Agree; 5 strongly agree.

Table 4.4: Monitoring and Evaluation

Statements N=185						Mean	Std. Dev
	1	2	3	4	5		
The organization allocates sufficient funds for monitoring and evaluation	19.5%	10.3%	4.3%	42.7%	23.2%	3.4	1.4
The organization has a well-developed M&E mechanism/system	11.4%	11.9%	7.6%	46.5%	22.7%	3.6	1.2
The organization has M&E personnel	2.2%	22.2%	20.5%	29.7%	25.4%	3.5	1.2
Staff have been trained on DHIS2 reporting	4.3%	3.8%	8.1%	64.3%	19.5%	3.9	0.9
There are sufficient ART reporting tools	22.2%	6.5%	9.2%	55.1%	7.0%	3.2	1.3
There is a reliable electronic dispensing system in place	5.4%	11.4%	0.5%	68.1%	14.6%	3.8	1.0
Aggregate mean						3.6	1.2

Source: Research data (2020)

A good number of the respondents (83.8%) acknowledged that staff in the pharmacies had been trained on the DHIS2 reporting system that facilitates ARV logistics. About 62.1% of the respondents admitted that there is sufficient reporting ART registers in their facilities.

The findings basically infer that M&E plays a role in the performance of the ARV supply chain project by NASCOP in ART health facilities in Kenya. Majority of the respondents gravitated towards agreeing with the notion that M&E affects the performance of a project, evidenced by an average mean of 3.6 and standard deviation of 1.2. The finding was consistent with Phiri (2015) assertion that M&E influences project efficiency.

4.4.4 Stakeholder Communication Management

Stakeholder communication management was observed to be influential on the performance of the ARV supply chain project as per the findings illustrated on table 4.7. Scale; 1 strongly disagree; 2 Disagree; 3 Neutral; 4 Agree; 5 strongly agree.

Table 4.5: Communication Management

Statements (N=185)	1	2	3	4	5	Mean	Std. Deviation
Facility has a well-defined communication plan	30.3%	43.8%	7.6%	16.2%	2.2%	2.16	1.10
Facility has a reliable communication channel	9.7%	20.0%	8.6%	47.0%	14.6%	3.37	1.23
There is a reliable information system in use in the facility	9.2%	20.5%	7.6%	48.1%	14.6%	3.38	1.22
Meetings are regularly held to give departmental updates	11.9%	9.7%	0.0%	32.4%	45.9%	3.91	1.39
Facility uses various means of communication including face-to-face and social media	6.5%	9.2%	5.9%	68.1%	10.3%	3.66	1.00
Facilities pharmacy and ART clinic have a communication linkage	5.9%	60.0%	0.0%	18.9%	15.1%	2.77	1.26
There is reliable communication between facility and Sub-county level	70.3%	6.5%	0.5%	16.2%	6.5%	1.82	1.39
There is reliable communication between facility and NASCOP.	10.8%	9.7%	0.0%	25.9%	53.5%	4.02	1.38
Aggregate mean						3.3	1.27

Source: Research data (2020)

Respondents (79.4%) agreed that there is reliable communication between their facilities and NASCOP. The element of reliable communication between facility and sub-county was disagreed upon by majority of the respondents as supported by a mean of 1.82 and standard deviation of 1.27. In addition, the study disclosed that most respondents agreed that there is use of varied means of communication like social media (3.66), regular holding of meetings (3.91), availability of a reliable system of communication in the facility (3.38) and presence of a reliable communication channel in the facility (3.37).

In general, the average mean of 3.3, with a standard deviation of 1.27 showed that even though the respondents seemed to be aligned on a neutral stand point, they were mainly inclined towards agreeing with the conviction that the aspects on stakeholder communication management, influence performance of the ARV supply chain project by NASCOP. The findings concur with those of Markiz, Margono, Wirawan and Ainur (2017) whose study concluded that organizational communication influences efficiency and performance.

4.4.5 ARV Supply Chain Project Performance

Research on the ARV supply chain project performance focused on lead time, adequacy of ARV quantity supplied and patient satisfaction as per availability and adequacy of drugs at the pharmacies for dispensing. The studied variables all had a mean above 3 which alluded to the fact that the respondents believed that the study variables influence the ARV supply chain project performance. Research findings on table 4.6 showed the respondents opinions on the statements pertaining to the performance of the ARV supply chain project by NASCOP in their facilities. Scale; 1 strongly disagree; 2 Disagree; 3 Neutral; 4 Agree; 5 strongly agree.

Table 4.6: ARV Supply Chain Project Performance

Statements N=185	1	2	3	4	5	Mean	Std. Deviation
Drugs are delivered within stipulated 2 weeks lead time	8.6%	11.9%	5.4%	48.1%	25.9%	3.7	1.2
Drugs are supplied in required quantities	3.2%	28.1%	3.8%	37.8%	27.0%	3.6	1.2
Patients receive sufficient drugs during their appointments	4.3%	10.8%	10.8%	62.7%	11.4%	3.7	1.0
Patients are satisfied with ART services offered	11.9%	6.5%	7.6%	64.9%	9.2%	3.5	1.1
Facility has adequate stocks of ARVs as per monthly consumption	2.7%	18.4%	2.2%	64.3%	12.4%	3.7	1.0
ARV management process is sustainable in the facility	10.8%	15.1%	3.2%	53.0%	17.8%	3.5	1.3
Aggregate mean						3.6	1.1

Source: Research data (2020)

A greater part of the respondents agreed that their facilities had adequate ARV stocks as per monthly consumption (76.7%), patients received sufficient drugs (74%) and that drugs were delivered within the stipulated lead time (74.1%). This implies that the respondents were comfortable with the amount of stocks of ARVs supplied as per their patients' monthly consumption.

Additionally, the respondents agreed that their patients are satisfied with the ART services offered (mean=3.5) and that commodity management is sustainable in the health facilities (mean=3.5). The average mean of 3.6, with a standard deviation of 1.1 revealed that majority of the respondents were in agreement with the statements on project performance with minimal deviation from the majority's opinion. The project performance indicators in this study were based on elements like; timeliness as in agreement with Shenhar, Dvir, Levy and

Maltz (2010) and Nyaga (2018) and sustainability of commodity management as supported by IBBS and Kwak (2000).

4.5 Diagnostic Tests

This section provides results on the following diagnostic tests: normality and multicollinearity. The aim was to ensure that the variable data was free from bias and therefore it would generate accurate findings.

4.5.1 Normality Test

Normality of the data was conducted using Shapiro-Wilk test. The results are illustrated in Table 4.7.

Table 4.7: Shapiro-Wilk Test

Variables	Statistic	Df	Sig.
Project Performance	0.935	185	0.122
Capacity Building	0.892	185	0.061
HRM	0.916	185	0.155
M&E	0.954	185	0.132
Communication Management	0.956	185	0.073
a Lilliefors Significance Correction			

Source: Research data (2020)

The findings indicated Significance values greater than 0.05 at 95% confidence level for all the variables. This implied that the null hypothesis of normal distribution was accepted and as such, the variable data was normally distributed.

4.5.2 Multicollinearity Test

Variance Inflation Factor was used in testing for multicollinearity. Results were as shown in Table 4.8.

Table 4.8: Multicollinearity Test Using VIF

Variables	Tolerance	VIF
Capacity Building	0.365	2.739
HRM	0.313	3.194
M&E	0.152	6.57
Communication Management	0.209	4.777

Source: Research data (2020)

Hair, Black and Babin (2010) affirmed that VIF value of less than 10 and tolerance of more than 0.1 indicates no multi-collinearity. The research findings established that the independent variables had no multicollinearity as indicated by the tolerance of more than 0.1 and VIF value of less than 10 in all the variables.

4.6 Inferential Statistics

This section provides findings on the relationship between stakeholder engagement aspects and project performance in terms of correlation and regression analysis.

4.6.1 Correlation Analysis

This study also aimed at determining how the independent variables affecting the performance of ARV supply chain project were correlated. This was executed using the Pearson correlation at 0.01 significance level. Table 4.9 shows correlation of the variables.

Table 4.9: Correlation of Variables

Variable		Project Performance	Capacity Building	HRM	M&E	Communication Management
Project Performance	Pearson Correlation	1				
	Sig. (2-tailed)					
Capacity Building	Pearson Correlation	.711**	1			
	Sig. (2-tailed)	0.000				
HRM	Pearson Correlation	.623**	.469**	1		
	Sig. (2-tailed)	0.000	0.000			
M&E	Pearson Correlation	.686**	.775**	.746*	1	
	Sig. (2-tailed)	0.000	0.000	0.000		
Communication Management	Pearson Correlation	.690**	.567**	.716*	.740*	1
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	

** Correlation is significant at the 0.01 level (2-tailed).

Source: Research data (2020)

The findings indicated that the variables were all significant at $p=0.000$ determined at 0.01 significance level. Capacity building had the strongest correlation to project performance at 0.711 while HRM had the least correlation to project performance at 0.623. Generally, all the independent variables were significant at 0.01 level and were correlated.

4.6.2 Regression Analysis

This sub-section provides regression results that establish the effect of stakeholder engagement on performance of the ARV supply chain project by NASCOP in ART health facilities in Kenya. Results on model summary, ANOVA and regression coefficients are presented in Tables 4.10, 4.11 and 4.12 respectively.

Table 4.10: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.806a	0.65	0.642	0.58243
a. Predictors: (Constant), communication management, capacity building, human resource management, monitoring & evaluation				

The findings indicated an R square of 0.65, which meant that jointly, stakeholder capacity building, HRM, M&E and communication management accounts for 65 percent of variations in performance of the ARV supply chain project by NASCOP in Kenya. This implies that the studied stakeholder engagement aspects are important influencers of the supply chain project performance.

Table 4.11: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	113.357	4	28.339	83.543	.000b
	Residual	61.06	180	0.339		
	Total	174.417	184			
a. Dependent Variable: Project Performance						
b. Predictors: (Constant), communication management, capacity building, human resource management, monitoring & evaluation						

Analysis of Variance (ANOVA) test was carried out to determine the significance of variables in the study model. The study findings reported a p value of $0.000 < 0.05$ at F statistic of 83.543, thereby implying that the study model was significant. That is, stakeholder capacity building, Human resource management, M&E and communication management are all significant influencers and predictors of performance of the ARV supply chain project.

Table 4.12: Regression Coefficients

Model		Unstandardized Coefficients			
		B	Std. Error	t	Sig.
1	(Constant)	0.298	0.157	1.896	0.06
	Capacity Building	0.527	0.064	8.183	0.000
	Human Resource Management	0.165	0.059	2.791	0.006
	Monitoring & Evaluation	0.257	0.099	2.58	0.011
	Communication Management	0.370	0.085	4.332	0.000
a. Dependent Variable: Project Performance					

Source; Research data (2020)

$$Y = 0.298 + 0.527X_1 + 0.165X_2 + 0.257X_3 + 0.37X_4$$

Where:

Y = Project Performance

X₁ = Stakeholder Capacity building

X₂ = Stakeholder Human Resource management

X₃ = Monitoring and Evaluation

X₄ = Stakeholder Communication Management

The constant 0.298 is a reflection of the fact that if capacity building, HRM, M&E and communication management are valued at zero, then the performance of the ARV supply chain project would in turn be valued at 0.298.

Capacity building was found to be the greatest influencer, by 0.527, thereby declaring that stakeholder capacity building has a positive and significant influence on project performance. This notion is supported by a study done by Nwankwo et al. (2017) that concluded that capacity building has a beneficial impact on a firms' performance. Improvement in stakeholder capacity building is therefore expected to enhance the ARV supply chain project performance by NASCOP.

Results also revealed that stakeholder HRM had a positive and significant effect on project performance by 0.165 times. The findings agree with a study by Keegan, Ringhofer and Huemann (2018) who evaluated the connection between HRM practices and performance of Project Based Organizations (PBO) and concluded that stakeholder HRM practices contribute to the success of PBO. Improvement in stakeholder HRM is therefore expected to enhance the ARV supply chain project performance by NASCOP.

Monitoring & evaluation was found to be a positive and significant factor of project performance by 0.257 times. Jamaal (2018) in his study concluded that M&E leads to an effective completion of a project. Monitoring & evaluation is a positive and significant determinant of project performance. Improvement in monitoring & evaluation is therefore expected to enhance the ARV supply chain project performance by NASCOP.

In addition, the results revealed that stakeholder communication management had a positive and significant effect on project performance by 0.37 times. The findings imply that stakeholder communication management is a significant determinant of performance just as in Markiz, Margono, Wirawan and Ainur (2017) that evaluated the impact of organizational communication on the performance of employees in Jakarta's construction firms and concluded that organizational communication influences efficiency and performance. Improvement in stakeholder communication management is therefore expected to enhance the ARV supply chain project performance by NASCOP.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The chapter conveys the summary of the study findings, the conclusion and recommendations. This is done in line with the objectives of the study. It also provides suggestions for further studies.

5.2 Summary

The research problem was shortage, stock out and expiries of ARV drugs in ART sites in Kenya, which in turn impacted NASCOP's supply chain performance negatively, hence low public and media opinion. Respondents of the study comprised of pharmacy staff in the health facilities sampled from the 47 counties in Kenya. The study primarily sought to determine how stakeholder engagement affect the performance of the ARV supply chain project by NASCOP in health facilities in Kenya. The study's specific objectives were to examine the effect of capacity building, HRM, M&E and communication management on performance of the ARV supply chain by NASCOP in health facilities. Consequently, the study findings conveyed that stakeholder engagement aspects positively and significantly influenced project performance. In particular, capacity building had the greatest influence, followed by stakeholder communication management, then M&E and lastly HRM, as per the study findings.

Based on the findings, Capacity building was realized to be the most influential determinant of the supply chain performance. Most of the respondents noted that training on the DHIS2, drug dispensing system and ARV management had been conducted to the pharmacy staff. However, sensitization on record keeping and documentation had not been done as per the

majority's opinion. This therefore calls for NASCOPs initiative to impact knowledge on the same to the personnel.

Secondly, stakeholder communication management was found to be the second most influential factor of performance of ARV supply chain project by NASCOP in Kenya. A good proportion of the respondents agreed that meetings were regularly held to give departmental updates, there was reliable communication between NASCOP and the facilities and that there was use of varied communication channels including social media. Nevertheless, most of the respondents disagreed that the facility had a well-defined communication plan and there was reliable communication between facility and Sub-county level.

Thirdly, Monitoring and evaluation as an aspect of stakeholder engagement ranked third in its influence on the supply chain project. Most of the respondents agreed that the pharmacy staff had proper understanding of reporting through the dispensing system and subsequently DHIS2. The respondents also agreed that there is a well-developed M&E system with M&E personnel in place to further streamline the reporting. From the findings, NASCOP can however look into provision of adequate reporting tools.

Lastly, Human resource management was reported to have the least influence on performance of the ARV supply chain project by NASCOP in Kenya, though positive and significant. From descriptive data, most of the respondents agreed that there is adequate staff in the pharmacy to enhance ARV management, each staff had a specified role to play thus avoid overwhelming staff and that recruitment of staff in the facility was efficient. Nonetheless, the respondents believed that staff turnover impacts on ARV management. This could create gaps in the supply chain that could eventually eat into the performance of the project.

5.3 Conclusion

The study findings led to the conclusion that pharmacy stakeholder engagement had a positive and significant effect on performance of the ARV supply chain project by NASCOP in ART health facilities in Kenya. Additionally, stakeholder capacity building had the greatest effect, followed by communication management, followed by monitoring and evaluation and lastly human resource management, on the supply chain project. The implication is that improvement in pharmacy stakeholder engagement will improve performance of the ARV supply chain project by NASCOP in ART health facilities in Kenya.

5.4 Recommendations

The findings indicated that capacity building was the greatest influencer of the supply chain project; NASCOP management should prioritize strengthening the capacity of the pharmacy stakeholders in the ART facilities countrywide. In particular, they should provide regular training on DHIS2, ARV records/ documentation and inventory management and can conduct periodic supervision exercises to check on status and progress of ARV management in the pharmacies and stores.

Communication management as the second influencer of project performance as per this study calls for the need for a strong, updated and reliable mechanism of communication if parties involved are to execute their duties efficiently and promptly. The study, therefore, recommended that NASCOP management should strengthen communication management. This can be enhanced by holding regular technical working group meetings to give departmental updates, use of various means of communication media including social media and establishing a reliable communication channel between facilities, sub-county, county and national ARV supply chain stakeholders.

The study established that monitoring & evaluation had a positive and significant influence on project performance. It was therefore recommended that NASCOP should formulate mechanisms of improving M&E as a tool of assessment that enhances tracking, evaluating and monitoring of projects to a success. This can be done through provision of adequate reporting tools to each of the ART sites and regular revision of indicators to ensure that relevant and strategic objectives are being monitored. Allocation of adequate funding in the M&E docket is also mandatory if all M&E activities are to be conducted to achieve set project objectives.

In as much as HRM had the least influence in project performance, it still recommends that NASCOP enhances human resource management in pharmacies in the ART sites. This can be achieved through hiring adequate pharmacy personnel with support from implementing partners so as to minimize staff turnover. NASCOP can also strategize proper allocation of tasks to staff. Proper recruitment protocols and staff tracking systems can also be developed to mitigate service delivery and knowledge gaps. Health facilities should also ensure that their staffs have well defined terms of reference and that they are adhered to. Collectively, NASCOP can improve its ARV supply chain project performance by improving the studied aspects pertaining to stakeholder engagement.

5.5 Suggestions for Further Research

The current study focused on effect of pharmacy stakeholder's engagement on performance of the ARV supply chain project by NASCOP in ART health facilities in Kenya. The stakeholder engagement factors included stakeholder capacity building, human resource management, communication management and M&E, which explained sixty-five per cent of changes in project performance. Future studies can consider other factors that may account for the remaining thirty-five percent not included in this study. In addition, this study focused on the facility level of the ARV supply chain project by NASCOP and particularly

targeted the pharmacy staff as stakeholders, excluding other departments and levels of the supply chain that can be looked into in future studies

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APPENDICES

Appendix I: Introduction Letter

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December 2019

Dear Sir/Madam,

Data collection on “Stakeholder Engagement and Performance of the ARV supply chain project in NASCOP supported health facilities, Kenya”

I am a Master student at Kenyatta University undertaking a research project titled **“Stakeholder engagement and Performance of the ARV supply chain Project in NASCOP supported health facilities in Kenya”**

The purpose of this letter is to kindly request you to spare your time and complete this questionnaire. The information obtained will be purely for this study only and will be treated with utmost confidentiality. Your wealth of knowledge in completing the questionnaire will be of great value and will be highly appreciated.

Thank you for your cooperation and assistance.

Regards,

CYNTHIA JENNIFER OLWANDE

Appendix II: Questionnaire

This questionnaire seeks to investigate the effect of stakeholder engagement on performance of the ARV supply chain project by NASCOP in ART health facilities in Kenya. Kindly give correct responses to the questions.

Section A: Demographic Information

1. What is your Gender?
 - a) Male
 - b) Female

2. Indicate years worked in the organization
 - a) Less than 5 years
 - b) 5-10 years
 - c) Above 10 years

3. Indicate your highest level of Education
 - a) Secondary
 - b) College
 - c) Graduate
 - d) Post Graduate

4. How old are you?
 - a) Below 18
 - b) 18 to 35
 - c) 36 to 65
 - d) Above 65

5. Employment terms
 - a) Permanent
 - b) Temporary
 - c) Contract
 - d) Internship

6. Job Title
 - a) Pharmacist
 - b) Pharmaceutical technologist
 - c) Intern
 - d) Other

Section B: Stakeholder Capacity building

This section seeks answers to questions relating to stakeholder capacity building in your organization/facility.

Please indicate the extent to which you agree with the following statements by ticking on the appropriate box in a scale of 1 Strongly disagree; 2 Disagree; 3 Neutral; 4 Agree and 5 Strongly agree

Statement	1	2	3	4	5
Training on ARV management has been carried out to personnel					
Training on DHIS2 has been carried out to personnel					
There is provision of reliable internet					
Sensitization on inventory management is adequately done					
Sensitization on record keeping and documentation is done					
There is proper management of ARVs in the pharmacy stores					
Personnel are conversant with dispensing system					

Section C: Stakeholder Human resource management.

This section seeks answers to questions relating to stakeholder human resource management in your organization.

Please indicate the extent to which you agree with the following statements by ticking on the appropriate box in a scale of 1 Strongly disagree; 2 Disagree; 3 Neutral; 4 Agree and 5 Strongly agree

Statement	1	2	3	4	5
There is adequate personnel for managing ARV management					
Staff turnover impacts on ARV management					
Each staff is assigned a designated role in the facility					
Terms of reference are adhered to					
Recruitment of personnel is efficient					

Section D: Monitoring and Evaluation

This section seeks answers to questions relating to monitoring and evaluation in your organization.

Please mark (x) in the box which best describes your agreement on each of the following statements. Scale; 1 strongly disagree; 2 Disagree; 3 Neutral; 4 Agree; 5 strongly agree.

Statement	1	2	3	4	5
The organization allocates sufficient funds for monitoring and evaluation					
The organization has a well-developed M&E mechanism/system					
The organization has M&E personnel					

Staff have been trained on DHIS2 reporting					
There are sufficient ART reporting tools					
There is a reliable electronic dispensing system in place					

Section E: Stakeholder Communication management

This section seeks answers to questions relating to stakeholder communication management in your organization.

Please indicate the extent to which you agree with the following statements by ticking on the appropriate box in a scale of 1 Strongly disagree; 2 Disagree; 3 Neutral; 4 Agree and 5 Strongly agree

Statement	1	2	3	4	5
Facility has a well-defined communication plan					
Facility has a reliable communication channel					
There is a reliable information system in use in the facility					
Meetings are regularly held to give departmental updates					
Facility uses various means of communication including face-to-face and social media					
Facilities pharmacy and ART clinic have a communication linkage					
There is reliable communication between facility and Sub-county level					
There is reliable communication between facility and NASCOP.					

Section F: Project Performance

Please indicate the extent to which you agree with the following statements by ticking on the appropriate box in a scale of 1 Strongly disagree; 2 Disagree; 3 Neutral; 4 Agree and 5 Strongly agree

Statement	1	2	3	4	5
Drugs are delivered within stipulated 2 weeks lead time					
Drugs are supplied in required quantities					
Patients receive sufficient drugs during their appointments					
Patients are satisfied with ART services offered					
Facility has adequate stocks of ARVs as per monthly consumption					
ARV management process is sustainable in the facility					

Appendix III: Target Population and Sample Size

Counties	ART facilities	Sampled Respondents
Baringo	6	3
Bungoma	12	5
Bomet	7	3
Busia	12	5
Elgeyo	5	2
Marakwet		
Embu	6	3
Homa-Bay	32	14
Isiolo	4	2
Kajiado	9	4
Kakamega	22	9
Kericho	6	3
Kiambu	11	5
Kilifi	12	5
Kirinyaga	9	4
Kisii	13	6
Kisumu	35	15
Kitui	11	5
Kwale	12	5
Lamu	2	1
Machakos	11	5
Makueni	15	6
Mandera	1	0
Marsabit	5	2
Meru	13	6
Migori	29	12

Counties	ART facilities	Sampled Respondents
Mombasa	21	9
Muranga	8	3
Nairobi	64	27
Nakuru	22	9
Nandi	8	3
Narok	5	2
Nyamira	5	2
Nyandarua	6	3
Nyeri	11	5
Samburu	3	1
Siaya	16	7
Taita	5	2
Taveta		
Tana river	4	2
Tharaka	8	3
Niithi		
TransNzoia	6	3
Uasin	12	5
Gishu		
Vihiga	7	3
Wajir	1	0
West Pokot	1	0
Turkana	12	5
Laikipia	9	4
Garissa	7	3
Total	541	229

Appendix IV: Research Approval



KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke

Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 8710901 Ext. 57530

Our Ref: D56/CTV/PT/38721/2017

DATE: 19th November, 2019

Director General,
National Commission for Science, Technology
and Innovation
P.O. Box 30623-00100
NAIROBI

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION FOR CYNTHIA JENNIFER OLWANDE – REG. NO. D56/CTV/PT/38721/2017.

I write to introduce Cynthia Jennifer Olwande who is a Postgraduate Student of this University. The student is registered for M.B.A degree programme in the Department of Management Science.

Cynthia intends to conduct research for a M.B.A Project Proposal entitled, "Stakeholder Engagement and Performance of the ARV Supply Chain Project by NASCOP in Antiretroviral Therapy Health Facilities in Kenya".

Any assistance given will be highly appreciated.




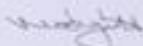

Yours faithfully,

A handwritten signature in black ink, appearing to be 'E. Kimani'.

PROF. ELISHIBA KIMANI
AG. DEAN, GRADUATE SCHOOL

EM/2019

Appendix V: NACOSTI Research Permit

 REPUBLIC OF KENYA	 NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
Ref No: 847745	Date of Issue: 15/January/2020
RESEARCH LICENSE	
	
<p>This is to Certify that Ma. Cynthia Jennifer of Kenyatta University, has been licensed to conduct research in Baringo, Bomet, Bungoma, Busia, Elgeyo-Marakwet, Embu, Garissa, Homa Bay, Isiolo, Kajiado, Kakamega, Kericho, Kiambu, Kilifi, Kirinyaga, Kisumu, Kitui, Kwale, Laikipia, Lamu, Machakos, Makueni, Mandera, Marsabit, Meru, Migori, Mombasa, Muranga, Nairobi, Nakuru, Nandi, Narok, Nyamira, Nyandarua, Nyeri, Samburu, Siaya, Taita-Taveta, Tana River, Tharaka-Nithi, Trans-Nzoia, Turkana, Uasin-Gishu, Vihiga, Wajir, Westpoko on the topic: STAKEHOLDER ENGAGEMENT AND PERFORMANCE OF THE ARV SUPPLY CHAIN PROJECT BY NASCOP IN ANTIRETROVIRAL THERAPY HEALTH FACILITIES IN KENYA for the period ending : 15/January/2021.</p>	
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