

## **Stakeholder Capacity Building and Performance of the ARV Supply Chain system by NASCOP in Kenya**

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### **Abstract**

The study aimed at determining the effect of stakeholder capacity building on performance of the ARV supply chain system by NASCOP in Kenya. A combination of descriptive and explanatory research designs was employed in studying a target group comprising 541 pharmacists and pharmaceutical technologists across Kenya. From these, 229 pharmacists and pharmaceutical technologists were selected by use of stratified proportional sampling. An electronic questionnaire was used to collect primary data that was then analyzed using descriptive statistics such as percentage, means, and standard deviation to draw insightful findings. To test the relationship and magnitude of relation between the variables, inferential statistics including correlation was used. The study realized that stakeholder capacity building is important at  $p=0.000$  determined at 0.01 significance level. Of note was that capacity building correlated with project performance at 0.711. The study, therefore, recommended that 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, strengthen ARV records/ documentation and inventory management, and can conduct periodic supervision initiatives to track and assess the progress of ARV management in the pharmacies and stores across Kenya.

**Keywords:** *Stakeholder capacity building, performance, ARV supply chain*

### **1.0 Introduction**

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. Budget, time, and deliverables describe project efficiency (Shenhar, Dvir, Levy & Maltz, 2001). 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). This can be influenced by several 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 of these engagements if objectives of a project are to be attained. Capacity building is defined as obtaining or improving organizations' or individuals' skills, knowledge, tools, equipment, and other resources needed

to enable them to execute their tasks competently (Ahmad, Farrukh & Nazir, 2015). Koonyo (2017) linked capacity building to enhance project performance.

Internationally, Standing and Cripps (2015) evaluated the critical success factors required in Australia and Slovenia to successfully implement electronic health records. It was noted that project implementation is influenced by a myriad of critical success factors determined by the context, environment, and changes occurring over time. In particular, engagement of stakeholders was identified as critical in e-health implementation projects. 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 those trade-offs between stakeholders, issue-stakeholder connections, effective communication, and differentiating stakeholder legitimacies are effective.

Stakeholder engagement with regard to project performance in the health sector has also been addressed regionally. Odugbemi et al. (2018) 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 emphasize the importance of stakeholder education, building trust-based relationships, and increase of consent processes. Diverse expectations and interests of different stakeholders have significant implications for the successful implementation of projects (Zigiriadis & Nicolaidis, 2014). Alignment of stakeholder values and roles, effective communication, stakeholder involvement, effective stakeholder identification, and stakeholder interest management are key determinants of medical projects.

Stakeholder engagement across health programs is evident not only internationally and regionally, but also nationally. In Kenya, various surveys have been carried out to assess 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 the same breadth, Abuya, Maina and Chuma (2015) identified that stakeholder involvement in health initiatives is critical in determining their success. This study evaluated the effect of stakeholder capacity building on performance of the ARV supply chain by NASCOP in Kenya.

## **2.0 Literature Review**

### ***Theoretical Review***

The Resource-Based View Theory was introduced by Barney in 1991 and 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, a firm can 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 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.

### *Empirical Review*

Mutua, Waiganjo and Oteyo (2014) evaluated the impact of contract management on the outcomes of outsourced projects in Nairobi, Kenya. 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 into capacity-building attributes that can be adopted and implemented to attain 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 into capacity building, but a methodological gap exists as it adopts content analysis of secondary data to cater to its inductive constructivist approach. Furthermore, a conceptual gap arises in that it focuses on competitive advantage as opposed to project performance.

A 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 out 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 resources, 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 Maasai HIV / Awareness Raising and Prevention Initiatives situation in Kajiado, Kenya, Koonyo (2017) assesses the role of capacity building based on project results in Kenya. The specific objectives of this study are capacity building for project design, capacity building for project management, capacity building for financial management, and capacity building for project implementation. A survey was conducted, and descriptive analysis, inferential analysis, and document analysis were 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.

### 3.0 Methodology

Both descriptive and explanatory research designs were employed. The study target population comprised 541 pharmacists and pharmaceutical technologists across Kenya. A sample size of 229 pharmacists and pharmaceutical technologists was used. Stratified proportional sampling was applied. An electronic questionnaire was used to collect primary data that was then analyzed using descriptive statistics such as percentage, means, and standard deviation to draw insights. Inferential statistics including correlation and regression were used to test the relationship and magnitude of relation between the variables.

### 4.0 Results and Discussion

#### *Descriptive Statistics of 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 health workers in carrying out their day-to-day tasks. Scale; 1 strongly disagree; 2 Disagree; 3 Neutral; 4 Agree; 5 strongly agree.

**Table 1: Stakeholder Capacity Building**

Statements N=185	1	2	3	4	5	Mean	Std. Dev.
Training on ARV management has been carried out for personnel	5.4%	18.6%	10.8%	40.5%	34.6%	3.90	1.13
Training on DHIS2 has been carried out for 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
<b>Aggregate Mean</b>						<b>3.4</b>	<b>1.17</b>

The results in table 1 revealed that most (75%) of the participants 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 brought to effect, 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 is 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 system in NASCOP. The study findings agreed with those of Koonyo (2017) who concluded that capacity building influences performance.

### *Descriptive Statistics of Project Performance*

Research on the ARV supply chain performance focused on lead time, adequacy of ARV quantity supplied, and patient satisfaction based on 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 performance. Research findings in table 2 showed the respondents' opinions on the statements pertaining to the performance of the ARV supply chain by NASCOP in their facilities. Scale; 1 strongly disagree; 2 Disagree; 3 Neutral; 4 Agree; 5 strongly agree.

**Table 2: ARV Supply Chain Performance**

<b>Statements N=185</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>Mean</b>	<b>Std. Deviation</b>
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
The 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
<b>Aggregate mean</b>						<b>3.6</b>	<b>1.1</b>

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 number 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 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).

***Correlation between stakeholder capacity building and performance of the ARV supply chain***

The survey also aimed at establishing how stakeholder capacity building affects the performance of the ARV supply chain. This was executed using the Pearson correlation at a 0.01 significance level. Table 3 shows a relationship between stakeholder capacity building and ARV supply chain project performance.

**Table 3: Correlation of Variables**

Variable	Project Performance	Capacity Building
Project Performance	Pearson Correlation 1 Sig. (2-tailed)	
Capacity Building	Pearson Correlation .711** Sig. (2-tailed) 0.000	1

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

The findings indicated that stakeholder capacity building is important at p=0.000 determined at 0.01significance level. Capacity building had a relationship with project performance at 0.711.

**5.0 Conclusion**

The findings led to the conclusion that capacity building of the pharmacy stakeholders had a positive and significant effect on performance of the ARV supply chain by NASCOP in ART health facilities in Kenya.

**6.0 Recommendations**

The study recommends that 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 across Kenya.

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