

On-Job Training and Quality Service Delivery: Experience from the National Food Reserve Agency in Tanzania

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Abstract

On-job training and quality service delivery in contemporary organizational settings are crucial for ensuring effective operations and achieving organizational goals. This study assesses the influence of on-job training on quality service delivery at the National Food Reserve Agency (NFRA) in Tanzania. Utilizing a quantitative approach with a cross-sectional design. Data were collected using structured questionnaire, covering on-job training and quality service delivery variables. Descriptive statistics and multiple linear regression analysis were employed to assess the data. The findings revealed a significant positive relationship between on-job training and quality service delivery. Specifically, skill mastery (Beta = 0.596, $p < 0.001$) exhibited the strongest influence, followed by task efficiency (Beta = 0.156, $p = 0.005$), workforce competency (Beta = 0.116, $p = 0.039$), and adaptability (Beta = 0.113, $p = 0.041$). The findings underscore the importance of effective training programs in improving organizational performance and service quality. Thus, it is recommended that NFRA implement comprehensive on-job training programs focusing on skill mastery, adaptability, and task efficiency that will ensure that employees remain competent of delivering high-quality services.

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1. Introduction

On-job training (OJT) encompasses various learning and development activities that employees undergo while performing their job roles. These activities aim to enhance employees' skills, adaptability, workforce competency, and task efficiency. OJT is designed to provide employees with practical, hands-on experience, enabling them to apply theoretical knowledge in real-world scenarios (Nguyen & Lee, 2023). Skill mastery, adaptability, workforce competency, and task efficiency are crucial indicators of effective OJT, as they directly contribute to employees' capability to perform their roles proficiently (Smith & Brown, 2022). In contemporary organizational settings, the relationship between on-job training and quality service delivery is crucial for ensuring effective operations and achieving organizational goals.

The significance of OJT is underscored by its ability to bridge the gap between theoretical knowledge and practical application. Employees who undergo effective OJT are better equipped to handle their job responsibilities, respond to dynamic work environments, and improve their performance. This practical approach to training ensures that employees are not only familiar with their tasks but also proficient in executing them efficiently (Jones & Patel, 2024). Furthermore, OJT supports continuous learning and professional development, aligning with organizational goals and enhancing overall productivity.

Quality service delivery is evaluated based on several key indicators: efficiency, timeliness, and satisfaction. Efficiency refers to the ability to perform tasks and deliver services with optimal resource use, minimizing waste and maximizing output (Taylor, 2022). Timeliness involves delivering services within agreed-upon timeframes, ensuring that processes are completed promptly and deadlines are met (Nguyen & Lee, 2023). In the service delivery context, quality pertains to the overall standard of the services provided, including their reliability, accuracy, and effectiveness (Smith & Brown, 2022). In the context of the National Food Reserve Agency (NFRA) Tanzania, these indicators are particularly relevant as they reflect the agency's capability to manage and deliver food reserves efficiently and effectively. The NFRA is critical in ensuring food security and managing food reserves across Tanzania. Therefore, the quality of service delivery within this agency has far-reaching implications for the nation's food security and public welfare.

The relationship between OJT and quality service delivery is pivotal for understanding how training impacts performance outcomes. OJT is believed to enhance service delivery by improving employees' skills and competencies. For instance, skill mastery achieved through targeted OJT can lead to higher efficiency in task performance as employees become more adept at handling their responsibilities (Jones & Patel, 2024). Similarly, improved adaptability gained through training enables employees to respond more effectively to changing work conditions, enhancing timeliness and overall service quality (Smith & Brown, 2022).

Moreover, workforce competency and task efficiency are essential to high-quality service delivery. Well-trained and competent employees are more likely to deliver services that meet or exceed quality standards, contributing to better organisational outcomes (Nguyen & Lee, 2023). Task efficiency, another indicator of effective OJT, ensures that employees complete their tasks promptly and accurately, further supporting timely and efficient service delivery (Taylor, 2022). In NFRA, effective OJT can lead to significant improvements in service delivery by addressing areas such as efficiency, timeliness, and quality (URT, 2023). By equipping employees with the

necessary skills and knowledge, OJT can help the agency meet its operational objectives and deliver services that align with national food security goals (URT, 2023). Recent public sector reforms in Tanzania have aimed to enhance quality and on-job training by modernizing training programs and aligning them with organizational goals. For instance, digital platforms and updated curricula have been introduced to address skill gaps and improve competency among employees, including those at the National Food Reserve Agency (Kisanga & Mmbaga, 2021; Mendoza & Ramadhani, 2022). These efforts are part of a broader strategy to improve service delivery and operational effectiveness in the public sector (URT, 2023). Despite OJT's benefits, several challenges may impact its effectiveness in improving quality service delivery. One challenge is ensuring that training programs are designed and implemented to meet the specific needs of employees and the organization (Smith & Brown, 2022). Inadequate training programs may fail to address critical skill gaps, resulting in suboptimal performance and service delivery outcomes. Moreover, scholars in the field of management contend that quality service can be influenced by factors such as leadership, workforce adaptability, workforce competency, task efficiency, the experience of the workforce, and technological requirements (Smith & Jones, 2021; Johnson et al., 2022). Thus, there is no thorough investigation of the influence of on-job training on quality metrics such as efficiency, timeliness, and satisfaction in food reserve management (Mendoza & Ramadhani, 2022). A study in the context of on-job training and quality in food reserve agencies is essential to provide valuable insights into optimizing training strategies and enhancing organizational performance, contributing to more effective management of national resources and improved public service outcomes. Also, this study can aid NFRA in designing and implementing effective training programs to equip their workforce with the necessary skills and competencies, ultimately leading to enhanced service delivery to the public. Moreover, the focus on the National Food Reserve Agency (NFRA) makes this study particularly relevant for stakeholders in the agricultural sector, as it can contribute to better food security and resource management through enhanced service delivery. Therefore, this study is set to assess the influence of on-job training on quality service delivery at the National Food Reserve Agency (NFRA) in Tanzania.

2. Review of Related Literature

2.1 Theoretical Literature Review

Social Learning Theory, formulated by Albert Bandura in 1977, revolutionized the understanding of behavioral acquisition by emphasizing the role of observation and modeling. Bandura's work challenged the traditional behaviorist perspective that focused only on direct reinforcement and punishment (Bandura, 1977). Instead, he proposed that learning occurs through observation of others and the imitation of their behaviors. The theory rests on several key assumptions. Firstly, it posits that people learn by observing others, particularly those who are perceived as role models or influential figures (Bandura, 1977). Secondly, it assumes that cognitive processes such as attention, retention, reproduction, and motivation play crucial roles in learning (Bandura, 2020). Additionally, it suggests that individuals are more likely to imitate behaviors that are rewarded or positively reinforced rather than those that are punished (Bandura, 2020).

Social Learning Theory is praised for its comprehensive approach, incorporating cognitive processes alongside observable behaviors. This provides a richer understanding of how learning occurs compared to more simplistic behaviorist models (Bandura, 2020). However, the theory has been critiqued for its potential oversight of intrinsic motivations and individual differences that

can also influence behavior (Smith & Jones, 2021). Critics argue that it may not fully account for personal agency and internal thought processes that drive behavior (Taylor, 2022). Social Learning Theory is pertinent to this study, as it assesses the influence of on-the-job training on quality service delivery. The theory supports the notion that employees enhance their skills and performance by observing and imitating the behaviors of experienced colleagues or mentors (Bandura, 2020). It also aligns with the study's focus on how different training methods and their reinforcement influence service delivery outcomes. Understanding how employees learn from their environment and role models can provide valuable insights into the effectiveness of various training approaches (Smith & Jones, 2021; Taylor, 2022).

2.2 Empirical Literature Review

Wei (2022) conducted a study based on enhancing service delivery through on-job training in Asian manufacturing companies. The study employed a mixed-methods approach, combining surveys and interviews. Surveys were conducted with 300 employees from various manufacturing companies in Asian countries, followed by in-depth interviews with 20 selected participants. The findings revealed that on-job training significantly improved employees' technical skills, job satisfaction, and overall service delivery in Asian manufacturing companies. The study addressed a gap in the literature by shedding light on the specific impact of on-job training on service delivery in the context of manufacturing industries in Asia. Also, Wang (2020) conducted an investigation into the impact of on-job training on service delivery in Asian customer service centers. The study employed a mixed-methods approach, combining surveys and focus group discussions. Surveys were administered to 250 customer service representatives working in various Asian customer service centers, and focus group discussions were conducted with 3 representative groups. The findings revealed that on-job training significantly improved employees' communication skills, problem-solving abilities, and overall service delivery. The two studies though related to on training and service delivery were done in Asia countries where policies and practices informing human resource and quality standard are different from Tanzania. Thus, there is a need for study about on job training and quality service in the Tanzanian context.

Chibesa, (2023) conducted a study on the role of on-job training in improving service delivery in African public health facilities. The study utilized a qualitative case study design, collecting data through observations and interviews with healthcare professionals in selected public health facilities across African countries. The findings indicated that on-job training contributed to enhanced patient care, reduced medical errors, and improved service quality in African public health facilities. This study focused on health sector outside Tanzania. Thus, there is inadequate of studies from Tanzania focusing on the food reserve agency like NFRA in Tanzania. Likewise, Oluwaseun, (2019) investigated the role of on-job training in enhancing service delivery in Sub-Saharan African retail outlets. The study utilized a qualitative research design, conducting in-depth interviews with 30 retail store employees from various sub-Saharan African countries. The findings indicated that on-job training positively influenced employee knowledge, sales performance, and customer satisfaction in retail outlets. Additionally, the study highlighted the importance of continuous training and development in maintaining high-quality service delivery.

The study by Komba, (2021) examined the effectiveness of on-job training in enhancing service delivery in Tanzanian hospitality industry. The study utilized a quantitative survey design,

collecting data from 150 employees working in hotels and restaurants in Tanzania using structured questionnaires. The findings highlighted that on-job training positively influenced employee performance, customer satisfaction, and service quality in the Tanzanian hospitality industry. Though this study was done in Tanzania, the findings were too general in a way that they focused on all the service delivery outcomes, such as performance, customer satisfaction, and quality. Thus, a study focusing on one service delivery outcome, such as quality, is essential for specific policy advice and recommendations.

3. Material and methods

3.1 Research approach

This study employed a quantitative research approach to assess the influence of on-job training on quality service delivery within the National Food Reserve Agency (NFRA) in Tanzania. This approach is chosen due to its capability to provide objective, measurable insights through statistical analysis, which is essential for examining the precise influence of training on service delivery outcomes. By employing structured questionnaires and statistical methods such as descriptive statistics and multiple linear regression, the study can quantify variables like skill mastery, adaptability, efficiency, and overall service quality (Nguyen & Lee, 2023; Smith & Brown, 2022).

3.2 Research design

This study employed a cross-sectional study design to assess the influence of on-job training on quality service delivery within the National Food Reserve Agency (NFRA) in Tanzania. This design is selected because it allows for examining data at a single point in time, providing a snapshot of the current state of on-job training practices and service delivery outcomes. By analyzing employee data at one specific moment, the study can assess the prevalence and distribution of key variables such as skill mastery, adaptability, efficiency, and overall service quality (Nguyen & Lee, 2023). This approach facilitated the identification of patterns and correlations between on-job training and quality service delivery, offering valuable insights into their relationship without the need for longitudinal data collection (Smith & Brown, 2022). The cross-sectional design is particularly effective for understanding existing conditions and informing immediate improvements within the organisation (Jones & Patel, 2024; Taylor, 2022).

3.3 Study population and sample size

3.3.1 Population

The study population, also known as the target population, refers to the entire group of individuals or elements that the researcher is interested in studying and to which the research findings are intended to be generalized (Hu, 2014). The population of this study was all employees of NFRA, with a total of 210 (URT, 2022). The reason for choosing this study population is that they are considered information-rich cases, meaning they hold valuable and relevant data related to the study's objectives and questions. The selection of the study population was guided by specific criteria such as work experience and job status to ensure that the sample accurately represents the larger employee population. Consequently, the researcher extracted pertinent information from this group during the study.

3.3.2 Sample size

Sample size refers to the number of individual subjects, participants, or data points that are included in a study's sample. In research, a sample is a smaller subset of the entire study population chosen to represent and provide insights into the larger population's characteristics, trends, or behaviors (Sim et al., 2018). The sample size was 194. The sample size was calculated from the Yamane formula presented in Equation 1.

$$\text{Then, } n = \frac{N}{1 + N(e)^2} \dots\dots\dots (1)$$

Where:

n = Sample size

N = Total population size (210)

e = Margin of error (expressed as a decimal) (0.05)

$$\frac{210}{1 + 210(0.05)^2}$$

Therefore, the sample size was 194

3.4 Sampling techniques

Probability sampling was used as a rigorous method for selecting research participants, where each member of the target population had a known and equal chance of being included in the sample (Taherdoost, 2021). This approach ensured that the selected sample was representative of the larger population, allowing for generalizable conclusions to be drawn from the research findings (Cochran, 2019). In this study, simple random sampling was employed to select employees from the National Food Reserve Agency (NFRA) in Tanzania. This method involved assigning a number to each employee in the sampling frame and then using a random number generator to select the desired sample size (Sharma, 2022). The simplicity and unbiased nature of simple random sampling made it a suitable choice for ensuring a representative sample of NFRA employees, thereby enhancing the validity and reliability of the study's results.

3.5 Area of study

According to Ames et al., (2019) the area of study, also known as the setting, refers to the specific location or context in which the research is conducted. It provides the geographical, organizational, or social environment within which the research takes place and where data collection and analysis occur. The National Food Reserve Agency (NFRA), headquartered in Dodoma, Tanzania, is the designated area of study for this research. As a government agency under the Ministry of Agriculture, NFRA plays a pivotal role in ensuring food security within the country. Its primary responsibilities include procuring, storing, and distributing food reserves to mitigate the impact of food shortages and stabilize prices in times of crisis. The agency operates strategically located warehouses across the country to effectively manage and distribute these vital resources.

The choice of NFRA as the research setting is motivated by the documented challenges it has faced in organizational performance, as highlighted in the URT (2022) report. These challenges have implications for the agency's ability to fulfill its core mandate effectively. By focusing on NFRA, this study aims to delve into the specific training-related factors that may contribute to these performance issues. Investigating the impact of different training methods on service delivery within NFRA can shed light on potential areas for improvement and inform targeted interventions to enhance the agency's overall efficiency and effectiveness in ensuring food security for the Tanzanian population.

3.6 Data collection methods

Data were collected using structured questionnaire administered to 194 employees, aimed at gathering comprehensive quantitative data. These questionnaires, featuring closed-ended questions for consistent and measurable responses, focused on two main areas: on-the-job training variables, and quality service delivery. The on-the-job training aspects evaluated included skill mastery, adaptability, workforce competency, and task efficiency, while the quality service delivery aspects assessed were efficiency, timeliness, and satisfaction. The questionnaire was adapted from validated measures in similar studies (Jones & Patel, 2024; Chibesa, 2023; Nguyen & Lee, 2023; Oluwaseun, 2019) ensuring its reliability and relevance to the research objectives.

3.7 Variable measurements and data analysis

3.7.1 Variable measurements

Both dependent and dependent variables were measured in five Likert scale as indicated in Table 1.

Table1: Measurement of variables

Variable	Measurement
On Job Training (Independent Variable)	Five – Point Likert Scale (1 = Strongly agree, 2 = Agree, 3 = Neutral, 4 = Disagree, 5 = Strongly disagree)
• Skill Mastery	
• Adaptability	
• Workforce Competency	
• Task Efficiency	
Quality service delivery (dependent variable)	Five – Point Likert Scale (1 = Strongly agree, 2 = Agree, 3 = Neutral, 4 = Disagree, 5 = Strongly disagree)

Source: (Nguyen & Lee, 2023; Taylor, 2022).

3.7.2 Data analysis

Descriptive statistics were applied to analyze the collected data, summarizing on-the-job training variables, and quality service delivery. This involved calculating measures such as means, frequencies, and percentages to outline the central tendencies and distribution patterns within the data, providing a clear summary of the study's main findings. Additionally, multiple linear regression analysis was utilized to assess the significance of the relationship between the independent variable, on-the-job training, and the dependent variable, quality service delivery,

within the National Food Reserve Agency (NFRA). The equation 2 was used to capture and analyze this relationship;

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon \dots\dots\dots(2)$$

Where:

- Y = the dependent variable (quality service delivery)
- β_0 = the y-intercept
- $\beta_1\dots\beta_4$ = the regression coefficients
- $X_1\dots X_4$ = the independent variables (skill mastery, adaptability, workforce competency, and task efficiency)
- ε = the error term

3.8 Validity and Reliability of Data

To ensure validity, a preliminary study was conducted to enhance the research's credibility by testing the research tools on a small group of participants. This initial evaluation aimed to confirm that the tools effectively measure the intended variables. Data reliability was assessed using Cronbach's Alpha, chosen for its ability to identify and eliminate unreliable elements, thus ensuring data quality prior to in-depth analysis. A higher Cronbach's Alpha (approaching 1) signifies greater reliability. On-the-job training demonstrated strong reliability with a Cronbach's Alpha of 0.898 in Table 2. The quality service delivery measure showed an overall Cronbach's Alpha of 0.809 across its three items in table 2. This high reliability score indicates that the items are well-correlated, providing a dependable assessment of this critical outcome.

Table 2: Reliability of data

On Job Training	4	0.898
Quality service delivery	3	0.809

3.9 Ethical Consideration

Ethical considerations were paramount in this study, ensuring that all participants provided informed consent. They were given thorough information about the study's objectives, data collection methods, and the use of their data, and were assured of their voluntary participation with the right to withdraw at any time without repercussions. Rigorous measures were also implemented to safeguard the privacy and confidentiality of participants' information. These ethical practices not only upheld the research's integrity but also respected participants' rights and well-being, fostering a trustful relationship between researchers and participants. Additionally, the study complied with research guidelines established by the Tanzania Commission for Universities (TCU), the National Council for Technical Education (NACTE), and the College of Business Education (CBE), and obtained the necessary research permit from CBE.

4.0 Results

4.1 Descriptive statistics results for on-job training in NFRA, Dodoma

On-job training in NFRA, Dodoma exhibited varying levels of performance across different dimensions, as indicated by the descriptive statistics presented in Table 3. Among the assessed statements, "Skill Mastery" received the highest mean score of 4.0825 (SD = 0.87178), indicating a relatively high level of proficiency attained by employees in mastering job-related skills. This was followed by "Adaptability" with a mean score of 3.8763 (SD = 1.18065), suggesting a commendable ability to adjust to changing circumstances or tasks. Conversely, "Workforce Competency" and "Task Efficiency" received mean scores of 3.2320 (SD = 1.37815) and 3.4845 (SD = 1.32816) respectively, indicating moderate levels of competency and efficiency among employees in the NFRA. Overall, the average mean score across all dimensions was calculated as 3.6688. These findings imply that there is high on-job training at NFRA, including skill mastery, adaptability, workforce competency, and task efficiency. Such high status of on-job training at NFRA is likely to translate into enhanced quality service delivery, as employees are better equipped to fulfill their roles effectively and efficiently, meeting organizational goals and standards.

Table 3: On-job training in NFRA, Dodoma

Statement	Minimum	Maximum	Mean	Std. Deviation
Skill Mastery	2.00	5.00	4.0825	.87178
Adaptability	1.00	5.00	3.8763	1.18065
Workforce Competency	1.00	5.00	3.2320	1.37815
Task Efficiency	1.00	5.00	3.4845	1.32816
OVERALL MEAN = 3.6688				

Source: Field Data (2024)

4.2 Descriptive statistics results for quality service delivery in NFRA

Quality service delivery within NFRA, Dodoma, is characterized by positive outcomes across multiple dimensions, as outlined in Table 4. Among the assessed statements, "Efficiency" emerged with the highest mean score of 4.2887 (SD = 0.91571), indicating a high level of effectiveness and productivity in delivering services. This was followed by "satisfaction" which attained a mean score of 4.0052 (SD = 1.10813), suggesting commendable standards of service quality maintained by NFRA. Conversely, "Timeliness" received a mean score of 3.7784 (SD = 1.02171), indicating a moderate level of adherence to timelines in service delivery. The overall mean score for quality service delivery across all dimensions was calculated as 4.0241. These findings highlight the organization's strong commitment to deliver high-quality services to its stakeholders. However, attention may be warranted in further improving timeliness to enhance overall service delivery quality.

Table 4: Quality service delivery in NFRA

Statement	Minimum	Maximum	Mean	Std. Deviation
Efficiency	1.00	5.00	4.2887	.91571
Timeliness	1.00	5.00	3.7784	1.02171
Satisfaction	1.00	5.00	4.0052	1.10813
OVERALL MEAN = 4.0241				

Source: Field Data (2024)

4.3 Transformation of quality service delivery

The data on quality service delivery collected using a 5-point Likert scale were converted into an index scale based on overall mean scores. Scores equal to or greater than the overall mean were classified as "good quality," while scores below the mean were classified as "poor quality." This approach is supported by recent research that highlights the benefits of converting Likert scale data into categorical variables for clearer interpretation and analysis (Smith & Brown, 2022). Such transformation provides a more straightforward assessment of quality service delivery levels, enabling easier comparisons across different groups and variables (Nguyen & Lee, 2023). This method has been found to improve the understanding of complex data sets by offering a simplified yet meaningful categorization of responses, which is valuable for decision-making and strategic planning in organizations (Jones & Patel, 2024).

4.4 Tests for assumptions of multiple linear regression

4.4.1 Correlation

The correlation analysis presented in Table 5 reveals several significant relationships between the variables under study. Notably, quality service delivery exhibits a strong positive correlation with Skill Mastery ($r = .624$, $p < .001$), indicating that improvements in skill mastery are closely associated with enhanced quality service delivery. This correlation is statistically significant and suggests that skill mastery plays a crucial role in the effectiveness of service delivery. In addition, quality service delivery shows moderate positive correlations with workforce competency ($r = .251$, $p < .001$) and adaptability ($r = .195$, $p = .006$), though these relationships are weaker compared to the correlation with skill mastery. These findings underscore the importance of skill mastery as a key factor in achieving high-quality service delivery, while also highlighting the relevance of workforce competency and adaptability.

Table 5: Correlations

		Quality service delivery	Skill Mastery	Adaptability	Workforce Competency	Task Efficiency
Quality service delivery	Pearson Correlation	1	.624**	.195**	.251**	.111
	Sig. (2-tailed)		.000	.006	.000	.122
	N	194	194	194	194	194
Skill Mastery	Pearson Correlation	.624**	1	.129	.216**	.075

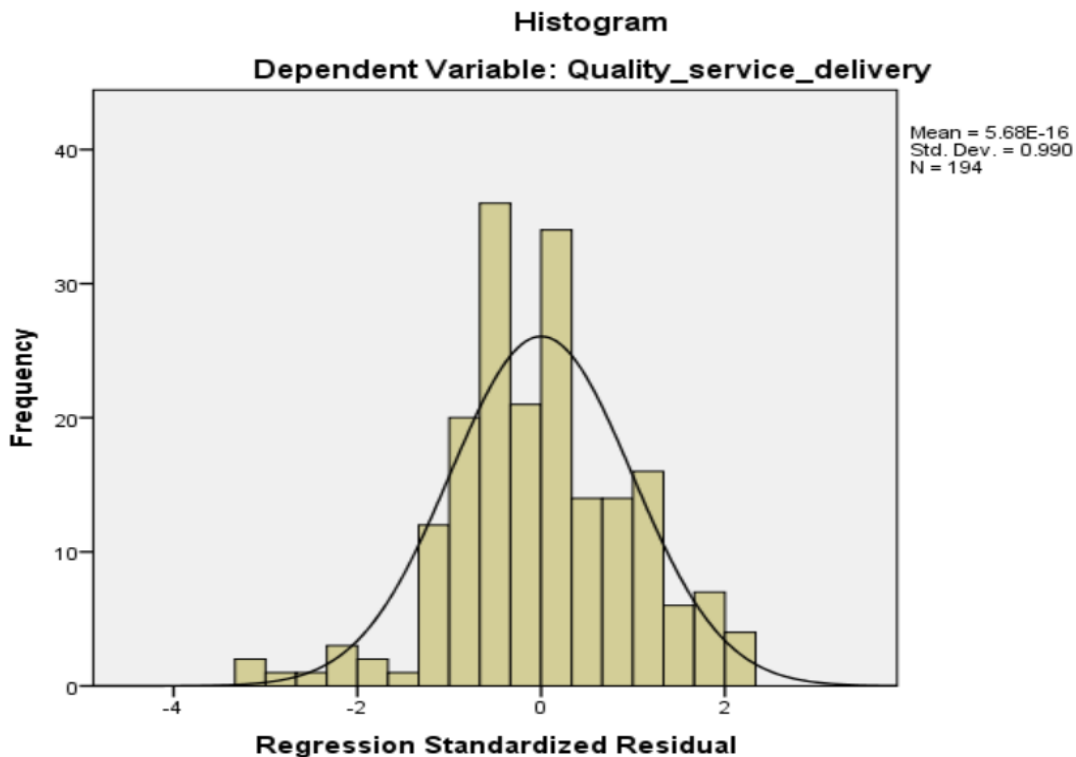
	Sig. (2-tailed)	.000		.073	.003	.297
	N	194	194	194	194	194
Adaptability	Pearson Correlation	.195**	.129	1	.049	-.004
	Sig. (2-tailed)	.006	.073		.499	.961
	N	194	194	194	194	194
Workforce Competency	Pearson Correlation	.251**	.216**	.049	1	.008
	Sig. (2-tailed)	.000	.003	.499		.913
	N	194	194	194	194	194
Task Efficiency	Pearson Correlation	.111	.075	.004	.008	1
	Sig. (2-tailed)	.122	.297	.961	.913	
	N	194	194	194	194	194

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

4.4.2 Normality

In this study, validating the normality assumption of residuals holds significance for ensuring the validity of the regression analysis. To assess this assumption, a histogram of residuals was generated, superimposed with a normal curve to evaluate their distribution. The resulting histogram, depicted in Figure 1, portrays a bell-shaped curve closely matching the red line, indicative of a distribution akin to normality. This finding suggests that the residuals demonstrate traits consistent with a normal distribution, thereby satisfying a fundamental prerequisite for regression analysis.

Figure 1: Normality



4.4.3 Multicollinearity

The Variance Inflation Factor (VIF) analysis presented in Table 6 indicates that multicollinearity is not a concern in this study. All variables exhibit VIF values well below the commonly used threshold of 10, with Skill Mastery having a VIF of 1.071, Adaptability a VIF of 1.017, Workforce Competency a VIF of 1.050, and Task Efficiency a VIF of 1.006. These low VIF values suggest that there is minimal correlation between the predictor variables, thus ensuring that multicollinearity does not significantly affect the regression analysis. The tolerance values are all above 0.1, further supporting the absence of multicollinearity among the variables.

Table 6: Variance Inflation Factor Matrix (VIF)

Variable	Tolerance	VIF
Skill Mastery	.934	1.071
Adaptability	.983	1.017
Workforce Competency	.952	1.050
Task Efficiency	.994	1.006

4.4.4 Model fit results

4.4.4.1 Omnibus tests of model coefficient results

The Omnibus Tests of Model Coefficients results presented in Table 7 demonstrate a strong overall fit for the regression model. The chi-square statistic for the model is 100.573 with a significance level of $p < .001$. This result indicates that the model significantly improves the prediction of the dependent variable, suggesting that the predictors included in the model collectively provide a good fit. The consistent p-value across the step, block, and model tests confirms that the model as a whole is statistically significant, thus validating the effectiveness of the predictors in explaining variations in quality service delivery.

Table 7: Omnibus tests of model coefficient results

		Chi-square	df	Sig.
Step 1	Step	100.573	4	.000
	Block	100.573	4	.000
	Model	100.573	4	.000

4.4.4.2 -2 Log likelihood, Cox & Snell R Square and Nagelkerke R Square results

The results presented in Table 8 provide insight into the model fit through the -2 Log Likelihood, Cox & Snell R Square, and Nagelkerke R Square values. The -2 Log Likelihood value of 85.562 indicates the overall goodness of fit for the model, with lower values suggesting a better fit. The Cox & Snell R Square of 0.405 demonstrates that approximately 40.5% of the variance in the dependent variable is explained by the model, which reflects a moderate level of explanatory power. The Nagelkerke R Square of 0.656 indicates a higher proportion of the variance explained, approximately 65.6%, suggesting a strong fit between the model and the observed data. Together, these statistics highlight that the model provides a robust and substantial explanation of the variations in quality service delivery.

Table 8: -2 Log likelihood, Cox & Snell R Square and Nagelkerke R Square Results

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	85.562	.405	.656

a. Estimation terminated at iteration number 7 because parameter estimates changed by less than .001.

4.4.4.3 Hosmer and Lemeshow test results

The Hosmer and Lemeshow Test results presented in Table 8 indicate a chi-square value of 17.747 with 8 degrees of freedom and a significance level of $p = .223$. This p-value is greater than the commonly used threshold of 0.05, suggesting that there is no significant difference between the observed and expected frequencies of the model. Consequently, the test supports the conclusion that the model provides a good fit to the data, as it fails to reject the null hypothesis that the model fits the data well. This result confirms that the logistic regression model is appropriate and well-suited for the analysis.

Table 8: Hosmer and Lemeshow Test Results

Step	Chi-square	Df	Sig.
1	17.747	8	.223

4.4.4.4 KMO and Bartlett's Test

The results from Table 9 for the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity indicate the appropriateness of the factor analysis for this study. The KMO measure of .635 suggests a moderate level of sampling adequacy, indicating that the sample size is sufficient for factor analysis. The KMO value, typically above 0.5, supports that the data is suitable for this type of analysis (Kaiser, 1974). Bartlett's Test of Sphericity, with an approximate chi-square value of 124.256 and a significance level of $p < .001$, confirms the presence of significant correlations among the variables. This test assesses whether the correlation matrix is significantly different from an identity matrix, where variables are uncorrelated. The significant result indicates that the data is appropriate for factor analysis, as there are meaningful correlations among the variables to explore further (Bartlett, 1954)..

Table 9: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.635
Bartlett's Test of Sphericity	Approx. Chi-Square	124.256
	Df	10
	Sig.	.000

4.5 On-job training and quality service delivery in NFRA

This section focused on assessing the substantial regression between the predictor (On job training) and the outcome variable (Quality service delivery). The connection examined through the application of multiple linear regression analysis.

Model Summary Results

The Model Summary results in Table 9 reveal that the regression model has a strong explanatory power in predicting quality service delivery based on on-job training variables. The model demonstrates a correlation coefficient (R) of 0.664, indicating a substantial relationship between the predictors and the outcome variable. The R Square value of 0.441 signifies that approximately 44.1% of the variance in quality service delivery is explained by the combined effect of skill mastery, adaptability, workforce competency, and task efficiency. The Adjusted R Square of 0.429, which accounts for the number of predictors in the model, further supports the robustness of the model. The significant F Change statistic ($F = 37.229$, $p < .001$) indicates that the model provides a statistically significant improvement over a model with no predictors, affirming its validity and effectiveness in capturing the relationship between on-job training and quality service delivery.

Table 9: Model Summary

Model Summary ^b									
Model	R	R Square	Adjusted Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. Change
1	.664	.441	.429	.65884	.441	37.229	4	189	.000
a. Predictors: (Constant), skill mastery, adaptability, workforce competency, and task efficiency									
b. Dependent Variable: quality service delivery									

a) **Coefficients**

The Coefficients results presented in Table 10 highlight the impact of each predictor on quality service delivery. The constant term is 1.268, with a significance level of $p < .001$, indicating that the model's intercept is statistically significant. Among the predictors, skill mastery has the highest positive influence on quality service delivery, with a standardized coefficient (Beta) of 0.596 and a significance level of $p < .001$, reflecting its strong contribution. Task Efficiency also shows a significant positive effect with a Beta of 0.156 ($p = .005$), suggesting that increased task efficiency improves service delivery. Similarly, workforce competency and adaptability contribute positively as well, with Betas of 0.116 ($p = .039$) and 0.113 ($p = .041$), respectively. These coefficients underscore the importance of on-job training components in enhancing quality service delivery, with all predictors showing statistically significant impacts within the 95% confidence intervals.

Table 10: Coefficients results

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	1.268	.299		4.233	.000	.677	1.858
	Skill Mastery	.440	.042	.596	10.589	.000	.358	.522
	Adaptability	.072	.035	.113	2.063	.041	.003	.140
	Workforce Competency	.096	.046	.116	2.081	.039	.005	.186

Task Efficiency	.119	.042	.156	2.853	.005	.037	.202
a. Dependent Variable: quality service delivery							

b) ANOVA

The ANOVA results presented in Table 11 provide a comprehensive assessment of the regression model's overall significance. The regression model has a sum of squares of 64.640 with 4 degrees of freedom, resulting in a mean square of 16.160. The F-statistic of 37.229, with a significance level of $p < .001$, indicates that the model significantly explains the variance in quality service delivery. This significant F-test confirms that the predictors—skill mastery, adaptability, workforce competency, and task efficiency—collectively contribute to explaining the variability in the dependent variable. The residual sum of squares is 82.040 with 189 degrees of freedom, and the total sum of squares is 146.680 with 193 degrees of freedom. The results collectively demonstrate that the model is statistically significant and effectively captures the relationship between on-job training and quality service delivery.

Table 11: ANOVA Results

ANOVA ^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	64.640	4	16.160	37.229	.000
	Residual	82.040	189	.434		
	Total	146.680	193			
a. Dependent Variable: quality service delivery						
b. Predictors: (Constant), skill mastery, adaptability, workforce competency, and task efficiency						

The summary of the multiple linear regression results indicates that the model effectively explains the relationship between on-job training and quality service delivery. The analysis shows that the overall model is statistically significant, suggesting that the predictors included—such as skill mastery, adaptability, workforce competency, and task efficiency—collectively contribute to variations in quality service delivery. Each predictor has been shown to have a significant impact, with skill mastery emerging as the most influential factor. This model provides a robust framework for understanding how different aspects of on-job training influence service quality, reinforcing the importance of targeted training in improving organizational performance.

5.0 Discussion

The findings from this study on the influence of on-job training and quality service delivery at the National Food Reserve Agency (NFRA) align with recent studies exploring the impact of on-job training across various sectors and countries. Wei (2022) investigated the effects of on-job training in Asian manufacturing companies and found that it significantly enhanced employees' technical skills and overall service delivery. This study's results are consistent with the NFRA findings, where skill mastery and task efficiency were pivotal in improving service delivery. Both studies underscore the critical role of technical and practical training in enhancing job performance and service quality.

Similarly, the findings are in congruence with the study by Wang (2020) that focused on customer service centers in Asia and demonstrated that on-job training improved communication skills and problem-solving abilities, leading to better service delivery. This parallels the NFRA results, where

on-job training aspects like adaptability and workforce competency positively impacted quality service delivery. The emphasis on communication and problem-solving in Wang's study complements the NFRA findings, highlighting that diverse training components contribute to better service outcomes. Likewise, the findings are in harmony with the study by Chibesa (2023) that revealed that on-job training in African public health facilities is significantly associated with improvements in patient care and service quality. The NFRA study's focus on variables such as skill mastery and task efficiency similarly supports the notion that targeted training enhances service delivery. Thus, both studies reveal that on-job training can lead to significant improvements in service quality, whether in healthcare or food reserve management.

Moreover, the findings by Oluwaseun (2019) in sub-Saharan Africa found that on-job training positively impacted employee knowledge, sales performance, and customer satisfaction. Hence, the findings are in agreement with the NFRA findings where task efficiency and workforce competency were crucial for enhancing service delivery. Oluwaseun's emphasis on continuous training aligns with the NFRA results, which highlight the importance of ongoing development to maintain high-quality service. Also, the findings are in agreement with the study by Komba (2021) found that on-job training positively influenced employee performance and service quality in the Tanzanian hospitality industry. This study's results support the NFRA findings, particularly in the areas of skill mastery and quality service delivery. Both studies emphasize the importance of effective training in improving employee performance and service outcomes, reinforcing the value of on-job training across different industries in Tanzania.

Drawing the conclusion and recommendations for this study, it is important to raise some limitations related to the study. The study is limited by its cross-sectional design, capturing data at a single point in time, which may not account for changes in service delivery or training effects over time. Additionally, reliance on self-reported data from employees could introduce bias, potentially affecting the accuracy of the findings. The focus on a specific organization within Tanzania also limits the generalizability of the results to other sectors or agencies. Furthermore, the study employed only one data collection method (questionnaires) restricting the scope of insights and potentially missing out on other relevant dimensions of the training and service delivery relationship.

6.0 Conclusion and recommendations

The findings conclude that NFRA has as strong commitment to deliver high-quality services to its stakeholders. However, attention may be necessary in further improving timeliness to enhance overall service delivery quality. Similarly, the analysis confirms that there is high on-job training experience at NFRA, including skill mastery, adaptability, workforce competency, and task efficiency. Such high status of on-job training at NFRA is translated into enhanced quality service delivery, as employees are better equipped to fulfill their roles effectively and efficiently, meeting organizational goals. Moreover, the study conclusively demonstrates that on-job training has a significant positive influence on quality service delivery at the National Food Reserve Agency (NFRA). The findings underscores the importance of effective training programs in improving organizational performance and service quality.

To optimize service delivery, it is recommended that NFRA implement comprehensive on-job training programs that focus on skill mastery, adaptability, and task efficiency. Investing in continuous training and development will ensure that employees remain competent and capable of delivering high-quality services. Additionally, regular assessments and updates to the training programs should be conducted to align with evolving industry standards and organizational needs.

Future research should consider longitudinal studies to assess the long-term impact of on-job training on service delivery, capturing changes over time. Additionally, expanding the scope to include multiple organizations or sectors could provide a broader understanding of how on-job training influences service delivery across different contexts. Exploring qualitative aspects, such as employee perceptions and experiences with training, could also offer deeper insights into the effectiveness of training programs.

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