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EFFECT OF TOTAL QUALITY MANAGEMENT PRACTICES ON EMPLOYEE PERFORMANCE OF DANGOTE CEMENT, OBAJA, KOGI STATE, NIGERIA

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ABSTRACT: The need for a holistic management practice in every organization cannot be overemphasized. This is because management has realized its need to establish a robust organization. Thus, the study examined the effect of Total Quality Management on the performance of Employees in Dangote Cement, Obajana, Kogi State. A survey research design was adopted for the study. Data were collected using a questionnaire distributed to 401 employees of Dangote Cement Obajana, representing 4.5% of the population of 8,972 employees. Regression analysis of the collected data revealed that Total Quality Management has a positive and significant effect on employee performance at Dangote Cement, Obajana, Kogi State. Specifically, the study revealed that Employee training and employee engagement have a significant, positive effect on employee performance in the organization. The study therefore recommended that Dangote Cement's management improve employee training and engagement to enhance employee performance.

Keywords: Total Quality Management, Employee Training, Employee Engagement, Employee Performance, Effectiveness

INTRODUCTION

Total Quality Management (TQM) has evolved into a comprehensive management philosophy that emphasizes continuous improvement, defect prevention, evidence-based decision-making, and the active involvement of all employees in organizational processes. Contemporary perspectives position TQM not merely as a quality-control tool but as a strategic framework for enhancing organizational effectiveness and employee performance. The ISO 9001:2015 principles of leadership, customer focus, people engagement, process approach, improvement, evidence-based decision-making, and relationship management provide a structured foundation for TQM implementation (Aichouni et al., 2024; Santos, 2024).

In Nigeria, the manufacturing sector plays a pivotal role in driving economic growth and generating employment, with the cement industry being particularly strategic due to its multiplier effect on construction and infrastructure development. Dangote Cement Plc is the largest cement producer in Sub-Saharan Africa, and its Obajana plant in Kogi State, with an installed capacity of 16.25 million tonnes per annum, is the largest cement facility in Africa (Dangote Cement Plc, 2022; Dangote Industries Limited, 2022). Given its size and complexity, sustaining operational excellence at Obajana requires a structured quality management system that aligns people, processes, and technology to deliver consistent performance.

The Nigerian cement sector, however, faces operational challenges, including high energy intensity, process variability, environmental concerns, and cost pressures. These challenges underscore the need for continuous improvement, lean waste reduction, and disciplined process approaches, which are central to TQM practices (Umar & Sule, 2024). In this context, employee performance becomes critical, as employees' adherence to quality standards, problem-solving capacity, and commitment directly affect productivity, cost effectiveness, and safety outcomes.

Empirical evidence consistently links TQM practices to improved organizational and employee outcomes. Recent studies have demonstrated that leadership commitment, employee engagement, training, and continuous improvement have a significant impact on enhancing employee productivity, innovation, and quality compliance (Sweis et al., 2024; Kalu, 2021; Iheanacho, 2021). Santos (2024) further found that TQM practices anchored on ISO 9001:2015 principles positively influenced employee performance indicators such as Effectiveness, adaptability, and teamwork. Similarly, research in Nigerian organizations has shown that TQM practices positively impact performance and innovation, and that employee-centered quality practices enhance retention and engagement (Okongo et al., 2024).

Within Dangote Cement, previous studies also suggest that TQM practices significantly influence workforce performance and organizational Effectiveness (Jimoh, 2020). However, most existing studies have focused on organizational outcomes, with less emphasis on the direct relationship between TQM practices and employee-level performance in the Nigerian cement sector. This study, therefore, seeks to fill that gap by examining the effect of TQM practices such as leadership commitment, training, employee involvement, process control, and continuous improvement on employee performance in Dangote Cement, Obajana Plant, Kogi State.

Employee performance is widely recognized as a critical determinant of organizational competitiveness, particularly in capital-intensive industries such as cement manufacturing, where Effectiveness, quality, and reliability are central to sustainability. In Nigeria, despite the prominence of the cement industry, the sector continues to face performance challenges related to high production costs, process variability, environmental concerns, and workforce-related inefficiencies (Umar & Sule, 2024). These challenges suggest the need for structured management systems such as Total Quality Management (TQM) to ensure continuous improvement, cost effectiveness, and employee effectiveness.

While TQM practices such as leadership commitment, employee training, continuous improvement, and process control have been associated with improved performance in global contexts (Sweis et al., 2024; Santos, 2024), empirical evidence within Nigerian manufacturing remains limited and fragmented. Studies in Nigeria have mostly emphasized the relationship between TQM and organizational outcomes such as profitability, competitiveness, and innovation (Kalu, 2021; Iheanacho, 2021), with less attention given to employee-level performance outcomes such as task Effectiveness, quality compliance, and problem-solving. This gap is significant because TQM's success largely depends on employee engagement and performance, making it necessary to investigate how specific TQM practices influence employees' contributions.

Even within large Nigerian conglomerates, existing studies indicate mixed findings. For instance, Okongo et al. (2024) found that quality practices improved employee retention in Dangote Group, while Jimoh (2020) reported that TQM positively influenced workforce performance in Dangote Cement. However, these studies were limited in scope and did not comprehensively capture the broader TQM dimensions such as leadership commitment, training, employee involvement, and continuous improvement. Moreover, the rapidly changing competitive environment, rising energy costs, and increasing market pressures on the Nigerian cement industry make it imperative to re-examine TQM's role in driving employee performance outcomes at the plant level.

Against this backdrop, there is a clear research gap regarding the extent to which TQM practices influence employee performance at Dangote Cement's Obajana Plant in Kogi State, the largest cement plant in Africa. Without empirical clarity on this relationship, management may find it challenging to implement evidence-based interventions that enhance employee Effectiveness, productivity, and quality outcomes. This study, therefore, seeks to bridge this gap by examining the effects of TQM practices on employee performance at Dangote Cement, Obajana.

The research tested the following hypotheses:

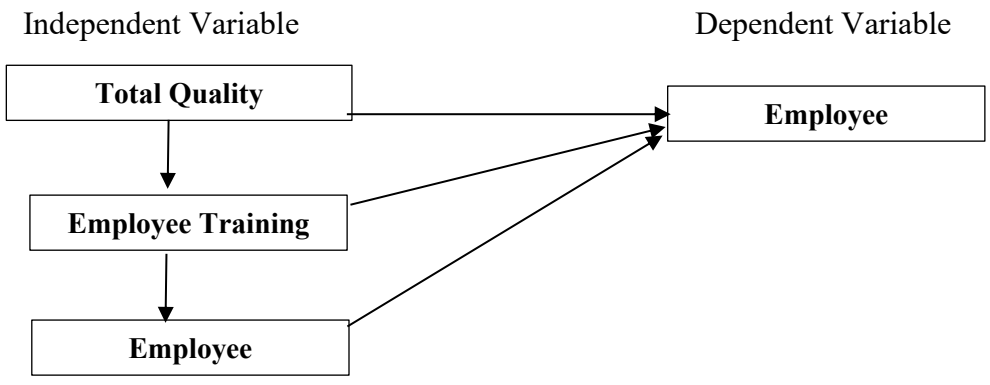
$H0_1$: Employee engagement has no significant effect on employee performance at Dangote Cement, Obajana, Kogi State.

$H0_2$: Training has no significant effect on employees' performance at Dangote Cement, Obajana, Kogi State.

The research covers the employees of Dangote Cement Obajana in Kogi State during 2025.

LITERATURE REVIEW

Conceptual Framework



Source: *Researcher's compilation (2025)*

Total Quality Management (TQM)

Total Quality Management is a management strategy that aims to enhance customer satisfaction and performance by delivering high-quality products and services through the involvement and collaboration of all stakeholders, as well as teamwork, by applying quality management techniques and tools (Ali AlShehail et al., 2021). With the rapid development of the global economy, Organizations are striving to achieve and maintain high levels of performance to improve their overall effectiveness. Companies face a fluctuating economic market on a global scale, with a growing focus on quality, customer satisfaction, productivity, economic uncertainty, and organisational culture, technical innovation (Hilman et al., 2020).

Employee Engagement

Employee engagement entails employees' involvement in as many facets of their work life as possible; this may occur directly or indirectly (Bendix, 2019). This definition encompasses a broad range of activities through which employees can affect decision making, from consultative or communication (employee engagement) mechanisms where individual workers' input is asked for and considered by managers who retain responsibility for the final decision, to participation mechanisms involving representative structures where workers are major parties to these decisions (Bryson, 2019).

Employee participation is defined as a process of employee engagement designed to provide employees with the opportunity to influence and, where appropriate, take part in decision-making on matters that affect them (Kim et al, 2018). In line with this definition, it therefore follows that the concept of employee participation neither refers to the goal nor a tool as it is practiced in most organizations, but rather a management and leadership philosophy about how people are most enabled to contribute to continuous improvement and the ongoing success of their work organizations (Ng'ethe et al., 2018). Kumar and Garg (2019) asserted that employee participation is a combination of tools designed to increase employee input at varying levels in managerial decision-making, such as organizational commitment, reduced employee turnover and absenteeism, increased productivity, and motivation. Therefore, when employees participate in decision-making, staff absenteeism is reduced, organizational commitment is greater, performance improves, turnover is reduced, and job satisfaction increases (Markey & Patmore, 2017).

Employee Training

According to Samwel (2018), employee training is one of the vital tools that help to enhance effective organizational performance and, at the same time, help to promote the stability index of the organization. Also, there are two types of training in an organization (Samwel, 2018). It is called On-the-job training, which is normally handled by colleagues, supervisors, senior military officers, and mentors to help staff adjust to their work and to equip them with appropriate job-related skills. Armstrong (2018) argued that on-the-job training consists of teaching or coaching by more experienced people or trainers at the desk or at the bench. It may also consist of individual or group assignments and projects, and the use of team leaders and officers. According to Armstrong, on-the-job training is the only way to develop and practice the specific managerial, team leading,

technical, selling, manual, and administrative skills needed by the organization, and it has the advantages of actuality and immediacy as the individual works, learns, and develops expertise at the same time.

Employee Performance

Performance reflects the actions taken by employees that contribute to success, including the completion of their duties, cooperation with other parties, the quality and quantity of their work output, and attendance at work (Emerald, 2018). An employee's performance can also be affected by internal and external factors. Internal factors include analytical ability, discipline in work, job satisfaction, and job motivation. At the same time, external variables include the form of leadership, the job environment, the compensation, and the management structure used in the business (Fu & Jin, 2019; Martono et al., 2018). According to Pradhan & Jena (2017), employee performance is categorized into three interplaying ways, which are task performance, contextual performance, and adaptive performance.

Effectiveness

Effectiveness is the power to produce the desired result. Employee effectiveness can be defined as an enhanced level of employee performance that leads to higher productivity. This assumption is supported by Terpstra and Rozell (2017). Organizational effectiveness is discussed by Zheng *et al.* (2019) in combination with strategy and knowledge management, where they use the definition of the degree to which an organization realizes its goals. Effectiveness is often measured as the quality of the desired result.

Empirical Review

Janah et al. (2025) examined the effect of Employee Engagement and employee organizational commitment on Employee Performance. The design used in this study is the cross-sectional method. This type of research employs a quantitative method, utilizing an explanatory survey. The sampling technique used is probability sampling, with a sample of 100 respondents obtained through the distribution of questionnaires. The data analysis technique employed is Partial Least Squares (PLS), using the smartPLS 4.0 software. Based on the study's results, it is evident that employee engagement and organizational commitment affect employee performance. Organizational commitment can mediate the relationship between employee commitment and performance. The study provides evidence of mediation (organizational commitment mediating engagement–performance), but the small, context-specific sample limits external validity. Future studies could utilize longitudinal data to make stronger causal claims.

Bimo and Aulia (2025) investigated the impact of organisational culture on employee performance, with employee engagement serving as an intervening variable. The research was conducted at PT Pos Indonesia Regional VI, utilizing a census method to collect data from 71 respondents. Data analysis was performed using multiple regression through SPSS version 23. The results indicate that organizational culture has a positive and significant impact on employee engagement, which in turn has a positive and significant effect on employee performance. These findings highlight the

critical role of organizational culture in fostering employee engagement and in enhancing overall employee performance. By enhancing their organisational culture, companies can foster greater employee engagement, which ultimately drives performance and contributes to achieving their organisational goals. The findings highlight culture as a critical factor; however, the limited scope and small sample size may not accurately represent larger populations. Expanding the sample across multiple regions or industries could increase validity.

Getahon and Yohanna (2025) examined the impact of training programs on job performance by analyzing the relationship between training and employee performance. A mixed-methods research approach was adopted, combining quantitative and qualitative methods. Specifically, a sequential mixed-methods design was utilized. Qualitative data were collected through purposive sampling, while stratified sampling was used to select participants for the quantitative phase. A total of 405 experts and middle-level managers were surveyed using a simple random sampling technique. Data were analyzed using SPSS, incorporating both descriptive and explanatory research designs. Correlation and regression analyses were conducted to assess the relationship between dependent and independent variables. The findings indicate that training has a statistically significant effect on job performance. However, two dimensions—learning and reaction—were found to be insignificant, while behavior and results emerged as the most influential factors affecting job performance. Strong in terms of methodological rigor and sample size. The differentiated findings on training dimensions add depth; however, reliance on managerial respondents may overlook the perspectives of lower-level employees.

Kosovera (2025) examined employee training and its impact on performance metrics, especially how continuous training improves job satisfaction and productivity. A quantitative approach was employed to collect data from 160 employees across various firms that had developed training programs. A comprehensive questionnaire was used to gather information on employees' perceptions of training efficacy and its impact on performance. The findings indicate a significant positive association between training frequency and employee productivity, supporting the assumption that ongoing training increases performance. Descriptive data showed that participants were positive with their performance evaluation (mean = 3.92) and workplace training (mean = 3.74). A statistically significant model ($p < 0.001$) found that workplace training explained 62.5% of the variation in performance evaluations. While it provides solid statistical backing, the lack of contextual detail (type of firms, industry differences) makes it harder to compare with sector-specific studies like those in the cement or banking industries.

Iornum et al. (2023) examined the effect of TQM on employee performance in the banking industry in Benue State, Nigeria, with particular reference to UBA Plc. The Specific objectives of this research include determining the effect of top management commitment on employee productivity, ascertaining the influence of customer focus on achieving employee productivity, evaluating how continuous improvement influences employee productivity, and establishing how teamwork influences employees' productivity in the banking industry in Nigeria. A Descriptive Survey research design was deployed for the study. Primary data were sourced from 85 respondents who constituted the study population. Since the population was small, a census sampling method was used to collect data using a research questionnaire measured on a 5-point Likert scale. The hypotheses were analyzed using multiple regression analysis. All statistical analyses were

conducted using SPSS version 20. The study found that there is a significant positive effect of top management, continuous improvement, and teamwork on employee productivity in UBA Plc, Benue state. However, there is a significant negative effect of customer focus on employee productivity in UBA Plc, Benue State. Provides unique insights but may lack external validity. More robust sampling across multiple banks could validate or challenge the counterintuitive finding about customer focus.

Abukhadar and Onbaşıoğlu (2021) investigated the effect of five factors of the Total Quality Management practices in healthcare on employees' performance in public hospitals in Turkey. The TQM practices are Top management commitment, customer focus, people management, continuous improvement, and process management. The study adopted a quantitative research method using a survey questionnaire administered at three public hospitals; 200 valid responses were collected and used as the data source to test the study's hypotheses. Hierarchical multiple regression was used for analyzing the collected data. The study indicated that TQM factors have a significant effect on employees' performance, and the moderating effect of training has increased the correlation between employees' performance and the TQM factors. This study is strong in design and analysis, but sectoral differences may limit its applicability to Dangote Cement. Still, it supports the broad relevance of TQM for employee performance.

Naser and Abdellah (2019) identified the effects of Total Quality Management (TQM) practices on employee performance among employees of the Qatar Ministry of Interior, with the moderating role of knowledge. The components of TQM include customer focus, employee participation, continuous improvement, leadership, good vision, and operations management. The study uses a quantitative research, where 280 questionnaires are collected from respondents to obtain the necessary information for testing the hypotheses of the study. Multiple regression and gradient regression are used to analyze the research data. The results indicate that TQM practices with its dimensions had effects on employee performance through knowledge sharing. Valuable in showing the role of knowledge sharing in strengthening TQM-performance links, but its government-sector focus may not align fully with private-sector contexts like Dangote Cement.

Deming Theory

In the field of quality, several experts, including W. Edwards Deming, Philip B. Crosby, and Joseph M. Juran, have made significant contributions. To this study, Deming's theory on quality is important because it gives insights into how organizations should work in order to continuously improve quality, which ultimately may improve the performance of organizations. Deming (1986) proposed that an organization's commitment to quality signaled its intent to stay in business. According to Deming's theory, the quality of goods and services can be improved by enhancing the internal environment, ensuring continuous improvement, and checking results through statistical control. According to Deming (1986), no quality management system could succeed without top management commitment; it is the management that invests in the processes, creates corporate culture, selects suppliers, and develops long-term relationships. Deming noted that organizations should seek to correct the variations from their quality norms before the system deteriorates.

The theoretical approach of Deming (1986), with respect to the quality management system detailed by Hubert (2005), portrays the creation of an organizational system that adopts cooperation and learning to facilitate the implementation of process management practices. This, in turn, leads to the continual improvement of the processes, products, and services and helps to introduce employee satisfaction. These are critical to promoting customer focus and, ultimately, helping in the survival of any organization. Organizations are comprised of the office, which forms systems. Throughout the years, Deming distilled his rationality into 14 focuses which progressed toward becoming active things for top administration to embrace.

As indicated by Dale (2003), Deming maintained that his 14 points can be applied anywhere, to small and large organizations, to benefit industry, and also to manufacturing. He likewise emphasized that it is an arrangement of work that determines how a function is performed, and that only the chiefs can make the framework. Top management should lead the change in processes and systems (Oakland, 2004). Leadership plays a crucial role in ensuring the success of quality management, as top management is responsible for creating and communicating a vision that drives performance improvement. Top management is responsible for most quality problems; according to Kamanda (2010) it should give employees clear directions on what is considered acceptable work, and provide the methods to achieve it. These methods include an appropriate working environment and climate that are free of fault-finding, blame, or fear, and instead provide clarity on issues, effective communication, and an appropriate environment for work to enhance performance (Lamport, 2014). Deming's quality improvement theory is relevant to this study in that quality management practices are a quality management system that can be used to enhance the quality of products and services through continuous improvement, and which organizations can use to realize performance. Deming administration strategy is about the formation of a hierarchical framework that realizes participation and learning for encouraging the usage of process administration tools, which, thus, prompts constant change of procedures, items, benefits, and to worker satisfaction, both of which are basic to consumer loyalty, and at last, to the organizational survival.

This research examined the effect of total quality management practices on employee performance. Along these lines, to know the connection between employees' procedures and the organization systems, the study should be educated by Deming's theory and the Resource-based theory. In this manner, this theory is significant to this study.

METHODOLOGY

The study adopted a quantitative research design using a survey method. This enabled the study to apply parametric statistical tools for data analysis. The survey method also allowed the research to gather and analyze a large amount of data, which was obtained primarily.

The population of the study consists of all employees of Dangote Cement Company, Obajana, which totals 8,972. (Dangote Plc. Annual report 2024)

The sample size is derived using the Yamane (1967) formula: $n = N/1+N(e)^2$

$n = 383$

10% is added to the sample size as provision for attrition (Kanti *et al.,* 2016). This therefore gives a sample of 422 sampled employees.

A simple random sampling technique was used to administer the questionnaire to the respondents. It allowed for equal opportunity for the respondents to be selected.

A self-administered questionnaire was used in gathering the data. A five-point Likert scale was used to measure the extent to which the various respondents agreed or disagreed with the issues raised, ranging from 1=strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, and 5=strongly agree. The human resource department assisted in distributing the questionnaires to the various staff in the organization.

Reliability was used to test the extent of the accuracy of the questions in the instrument. The most convenient method for testing for the internal consistency is Cronbach's Alpha, which was computed with the following model:

$$\alpha = \frac{Nr}{1+r(N-1)} \quad \text{----------.1}$$

Where:

α= Cronbach Alpha

N= the number of items in the scale

r= the mean inter-item correlation

A minimum Cronbach's Alpha value of 0.7 was stated as reliable (Ritter, 2010)

All Cronbach's Alpha values are above 70%, indicating they are all reliable (Ritter, 2010).

The study used face validity to determine whether the instruments were valid. The questionnaire was presented to the supervisors, who verified its validity.

The study adopted a quantitative analysis method, using descriptive statistics such as mean and standard deviation, as well as frequencies and percentages, to describe the nature of the data presented. Also, the study used regression and correlation; multiple regression will be used to estimate the cause-and-effect relationship between the dependent and independent variables, while correlation will be used to assess the degree or strength of the relationship between the variables, using Statistical Package for the Social Sciences v26 to analyze the data.

The study used TQM indicators such as Employee Training and Employee Engagement. The dependent variable of employee performance was measured using Effectiveness. Using correlation and simple regression models, the regression model is stated as:

Y= a+bx - - - - - - .2

Where y is the dependent variable

a is constant or intercept

b is the coefficient

x is the independent variable

However, the above model is expanded to:

$Y = \alpha + \beta_1 X + \beta_2 X + \mu$ - - - - - .3

The formula is substituted with the variables and presented as follows;

$PF = \alpha + \beta_1 ET + \beta_2 EE + \mu$ - - - .4

Where:

EP = Employee Performance

ET = Employee Training

EE = Employee involvement

α =Intercept or Constant

β = Slope of the regression line with respect to the independent variables

μ = error term

Correlation Model

$$r = \frac{n(\Sigma xy) - (\Sigma x)(\Sigma y)}{\sqrt{[n\Sigma x^2 - (\Sigma x)^2][n\Sigma y^2 - (\Sigma y)^2]}}$$ - - - - - .5

r = correlation coefficient

Σ = Summation

x = dependent variable

y = independent variable

n = number of samples

The justification for the choice of regression method is that it measures the cause and effect between two or more variables. It is simple to compute without errors, and it helps to illustrate the directional outcome and strength of the variable. Correlation is used because it shows a precise quantitative measurement of the degree of relationships between dependent and independent variables.

DATA ANALYSIS

Table 1: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ET	401	1.00	5.00	3.5021	1.48420
EE	401	1.00	5.00	3.2003	1.29230
EP	401	1.00	5.00	3.3890	1.43351
Valid N (listwise)	401				

Source: *SPSS version 28 (2025)*

Each variable was measured on a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree), with responses collected from 401 employees. The statistics provided include the minimum, maximum, mean, and standard deviation.

Employee Training (ET) shows a Mean value of 3.5021. This suggests that, on average, employees tend to agree (above the midpoint of 3.0) that training initiatives are available and beneficial in Dangote Cement, Obajana. The Standard Deviation of 1.48420 is relatively high, indicating wide variations in responses. Some employees strongly agree that they receive effective training, while others disagree. This shows inconsistency in training programs or differences in access to training opportunities. This implies that Training, a critical TQM practice, is moderately emphasized, but improvement in uniformity and accessibility is needed.

For Employee Engagement (EE), the Mean value is 3.2003. This is slightly above the midpoint, suggesting that employees feel moderately engaged in decision-making, quality improvement, and work processes. However, it is lower than ET, meaning engagement is weaker compared to training. The Standard Deviation of 1.29230 indicates moderate variability, suggesting that some employees experience strong engagement while others do not. This implies that Engagement is not evenly distributed across the workforce. While some employees feel involved in quality management processes, others may feel excluded, which could impact overall organizational performance. Employee Performance (EP) has a Mean value of 3.3890. This indicates that employees perceive their performance as slightly above average, suggesting that TQM practices (training and engagement) have a positive but not strong effect on performance. The Standard Deviation of 1.43351 indicates high variability, suggesting differing performance levels across employees, likely influenced by differences in training and engagement.

This implies that Performance is positively aligned with TQM, but could be improved if employee engagement and training become more consistent and robust.

Table 2: Correlations

		CF	EE	EP
ET	Pearson Correlation	1	.955**	.946**
	Sig. (2-tailed)		.000	.000
	N	401	401	401
EE	Pearson Correlation	.955**	1	.976**
	Sig. (2-tailed)	.000		.000
	N	401	401	401
EP	Pearson Correlation	.946**	.976**	1
	Sig. (2-tailed)	.000	.000	
	N	401	401	401

***. Correlation is significant at the 0.01 level (2-tailed).*
Source: SPSS v 28 (2025)

Table 2 presents Pearson correlation coefficients showing the relationships among Employee Training (ET), Employee Engagement (EE), and Employee Performance (EP).

Employee Training (ET) and Employee Engagement (EE):

Correlation = 0.955, Sig. = 0.000. This indicates a strong, positive relationship. It implies that as employees undergo more training, their level of engagement significantly increases. At Dangote Cement, when workers are trained, they are more motivated, committed, and involved in their work.

Employee Training (ET) and Employee Performance (EP):

Correlation = 0.946, Sig. = 0.000. This also shows a very strong positive relationship. It means training directly contributes to higher performance levels. Training equips employees with the right skills and knowledge, leading to improved effectiveness and productivity.

Employee Engagement (EE) and Employee Performance (EP):

Correlation = 0.976, Sig. = 0.000. This is the strongest correlation among the variables. It indicates that engaged employees perform at a significantly higher level. In other words, when employees feel valued, involved, and committed, their performance improves significantly.

Table 3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.977[a]	.954	.954	.30703

a. Predictors: (Constant), EE, ET
Source: SPSS v 28 (2025)

The correlation coefficient (R) of .977 shows a very strong positive relationship between the predictors (EE and ET) and the outcome (EP). This means that when employee engagement and training improve as part of TQM practices, employee performance also increases significantly at Dangote Cement.

The R^2 value of .954 (95.4%) indicates that 95.4% of the variation in employee performance is explained by employee engagement and employee training. This represents an exceptionally high explanatory power, indicating that TQM practices focused on engagement and training are critical determinants of employee performance at Dangote Cement.

Table 4: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	784.460	2	392.230	4160.838	.000[b]
	Residual	37.518	398	.094		
	Total	821.978	400			

a. Dependent Variable: EP
b. Predictors: (Constant), EE, ET
Source: SPSS v 28 (2025)

ANOVA result on the effect of Total Quality Management (TQM) on the performance of employees in Dangote Cement Obajana, Kogi State, focusing on Employee Engagement (EE), Employee Training (ET), and Employee Performance (EP).

The p-value is less than 0.05, showing that the model is statistically significant. This means that Employee Engagement (EE) and Employee Training (ET) have a significant effect on Employee Performance (EP).

Table 5: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.074	.041		-1.801	.073
	ET	.152	.035	.157	4.341	.000
	EE	.916	.040	.826	22.847	.000

a. Dependent Variable: EP
Source: SPSS v 28 (2025)

Employee Training showed the following values; (ET: B = .152, Beta = .157, p = .000)

The coefficient (0.152) means that for every one-unit increase in employee training, employee performance increases by 0.152 units, holding engagement constant. The standardized beta (0.157) shows a positive but relatively weaker effect compared to engagement. The significance ($p = 0.000$, $p < 0.05$) confirms that employee training has a significant impact on performance. This implies

that Dangote Cement's investment in training programs, skill development, and workshops contributes positively to performance, though not as strongly as engagement.

Employee Engagement (EE: B = .916, Beta = .826, p = .000). The coefficient (0.916) is very high, meaning that a one-unit increase in employee engagement raises performance by 0.916 units. The standardized beta (0.826) indicates a very strong positive effect of engagement on performance. The t-value (22.847) is very large, showing a strong statistical influence. This suggests that engaged employees (committed, motivated, and involved in decision-making) are the main drivers of performance in Dangote Cement Obajana.

DISCUSSION OF FINDINGS

The study revealed that Total Quality Management has a significant and positive effect on the performance of employees in Dangote Cement, Obajana, Kogi State. Specifically, the study revealed that:

i. Employee training has a positive and significant effect on the performance of employees in Dangote Cement, Obajana. This is due to the positive coefficient value of 0.152 and the P value of 0.00. This means that when employees are trained in the various on-the-job and off-the-job methods, it positively affects the performance of employees in the organization. This finding is consistent with that of Kosovera (2025) and Getahon and Vohanna (2025), who also found a significant and positive effect on the performance of employees.
ii. Employee engagement also has a significant and positive effect on the performance of employees in Dangote Cement, Obajana, Kogi State. This implies that when employees are engaged in the decision-making process and also key activities in the organization, their performance increases. This finding is similar to that of Jonah et al., (2025) who also found a significant and positive effect on the performance of employees.

Conclusion and Recommendations

The study therefore concludes that engaging employees and training them to improve quality management in the organization leads to an improvement and increase in the performance of employees in Dangote Cement, Obajana, Kogi State.

The study, hence, recommended that the management of Dangote Cement, Obajana, Kogi State should engage their staff in decision making process and also key responsibilities in the execution of policies in the organization. Also, the organization should continue to implement training programmes to the employees in order to sustain the total quality management of the organization. This will lead to an increase in the performance of employees in the organization.

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