

THE IMPACT OF TRAINING AND DEVELOPMENT ON EMPLOYEE RETENTION AT DANGOTE CEMENT PLC, NIGERIA

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ABSTRACT

Employee retention is a strategic concern in capital-intensive manufacturing because voluntary exits disrupt production continuity, weaken safety routines, increase replacement costs and erode plant-specific knowledge. This paper examines the mechanisms by which training and development may influence employee retention at Dangote Cement Plc in Nigeria. It adopts an evidence-informed case-study approach that combines the company's publicly available 2024 disclosures with a structured synthesis of human-resource-development and retention research. The corporate evidence confirms the existence of a learning management system, Dangote Academy programmes, annual performance reviews, health and safety training, and employee development commitments. However, publicly available reports do not disclose employee-level training participation, training satisfaction, voluntary turnover rates, or causal retention estimates. The paper therefore refuses the academically indefensible practice of manufacturing survey responses and instead develops a research-ready explanatory framework for field validation. Training is decomposed into technical training, safety training, career development, coaching and mentoring, perceived fairness of access, training relevance and post-training transfer support. Social exchange theory, human capital theory, and perceived organisational support theory are integrated to explain the direct and indirect effects on intention to stay through job satisfaction, work engagement, and affective commitment. A stratified employee survey, linked, where possible, to anonymised human resources records, is proposed, together with reliability, validity, regression, and mediation tests. The evidence indicates that training is most likely to strengthen retention when it is relevant, developmental, fairly allocated and connected to

visible internal career opportunities. Training volume alone is an inadequate retention metric. The paper concludes with a practical learning-to-retention dashboard and recommendations for plant-level talent-risk management.

KEYWORDS: Training and Development; Employee Retention; Organisational Commitment; Job Satisfaction; Manufacturing; Dangote Cement; Nigeria.

1. INTRODUCTION

Employee retention is not a cosmetic human-resource indicator. In cement manufacturing, it is an operational variable. Production depends on the coordinated work of quarry personnel, process engineers, mechanical and electrical technicians, laboratory analysts, safety professionals, logistics staff, supervisors and commercial employees. When experienced employees leave, the organisation loses more than a headcount: it loses tacit knowledge about plant behaviour, maintenance history, hazard controls, supplier relationships and the practical interpretation of standard operating procedures. Replacement employees must be recruited, inducted and supervised before they can contribute at comparable levels. The resulting costs are particularly serious where work is safety-critical and plant-specific skills are scarce. Training and development are often presented as an obvious solution to turnover. That claim is too crude. Training can increase competence, confidence, employability and attachment to the organisation; it can also make employees more attractive to competitors. The direction of the effect depends on whether employees view development as a genuine organisational investment, whether access is fair, whether the content is useful, whether managers permit the transfer of learning, and whether newly acquired competence is rewarded through responsibility, promotion, or recognition. A company that trains employees but blocks progression may finance its competitors' recruitment pool. The relevant question is therefore not whether training exists, but how its design and organisational context shape employees' willingness to remain.

Dangote Cement Plc provides an important Nigerian case because of the scale, technical intensity and geographic dispersion of its operations. Its 2024 corporate disclosures state that the company supports employee development through a learning management system, programmes offered by the Dangote Academy and at least one annual performance review in which development needs are assessed. The same disclosures emphasise regular health, safety and environment training, toolbox talks, emergency drills and competence development. These commitments establish a credible institutional basis for investigating a

learning–retention relationship, but they do not by themselves demonstrate that training has reduced voluntary turnover (Dangote Cement Plc, 2025). Corporate policy statements are inputs; retention is an outcome that must be measured. Accordingly, the objective of this paper is to develop a theoretically grounded and empirically testable explanation of the impact of training and development on employee retention at Dangote Cement Plc, Nigeria. The specific objectives are to: (i) identify the dimensions of training that matter for retention; (ii) explain the mediating roles of perceived organisational support, job satisfaction, engagement and affective commitment; (iii) specify a defensible field methodology and statistical model; and (iv) translate the framework into actionable human-resource indicators. The paper contributes by replacing the simplistic training-hours narrative with a quality-and-conversion model: learning must be converted into competence, perceived support, career opportunity and commitment before it can influence retention.

2. Organisational Context and Problem Definition

Dangote Cement’s annual report describes a formal learning infrastructure rather than isolated training events. Employees have access to a learning management system. The Dangote Academy offers group-wide programmes facilitated by professionals and training experts, and annual performance reviews are expected to identify development needs and agree on a timescale for addressing them. The report also describes workshops and recurrent training in job safety analysis, hazard identification, risk control, fire response, healthy living and visible leadership. These practices are highly relevant in a cement plant, where competence and safe behaviour are inseparable.

Table 1. Publicly disclosed employee-development practices and their analytical relevance.

Corporate disclosure	Retention-relevant interpretation	Evidence status
Learning Management System	Broadens access to learning resources and can signal sustained investment in employees.	Confirmed in the 2024 report
Dangote Academy programmes	Creates structured technical and managerial development across the Group.	Confirmed in the 2024 report
Annual performance review	Provides a formal channel to identify training and career development needs.	Confirmed in the 2024 report
Regular HSE training and drills	Strengthens competence, safety confidence and perceived organisational care.	Confirmed in the 2024 report
Long-service awards and pension arrangements	May reinforce continuance and normative attachment when employees perceive them as credible and fair.	Confirmed in the 2024 report

Corporate disclosure	Retention-relevant interpretation	Evidence status
Training-linked retention effect	Requires employee-level or longitudinal HR evidence; it cannot be inferred from programme existence.	Not publicly established

The research problem is the absence of publicly reported conversion evidence. Management may know how many courses were delivered or how many employees logged into the learning platform, yet still be unable to answer whether the right employees received the right development, whether learning was applied, or whether high-performing employees remained because of it. A retention study must therefore separate activity measures from outcome measures. Course counts, training expenditure and attendance indicate inputs. Training satisfaction, skill acquisition and transfer indicate intermediate outputs. Internal mobility, intention to stay and voluntary turnover indicate retention outcomes.

The case is also complicated by workforce heterogeneity. A newly recruited graduate engineer, an experienced kiln operator, a sales employee and a plant electrician do not face identical career opportunities or external labour markets. Portable certifications may increase external mobility, whereas plant-specific training may deepen firm-specific value. Safety training may strengthen retention through perceived organisational care, but mandatory courses delivered mechanically may generate little attachment. Consequently, analysis should be stratified by plant, department, occupational group, grade, tenure, and employment status rather than relying on a single undifferentiated company average.

3. Literature Review and Theoretical Framework

3.1 Meaning and dimensions of training and development

Training refers to planned activities intended to improve the knowledge, skills and behaviours required for current work. At the same time, development has a broader and more future-oriented focus on career growth, leadership capacity and adaptability. In an industrial organisation, relevant dimensions include technical and process training, maintenance competence, safety and compliance training, digital skills development, supervisory and leadership programmes, coaching, mentoring, job rotation, and support for professional certification. Treating these activities as a single variable conceals important differences in quality, portability and employee interpretation. Training effectiveness has at least four layers. Reaction concerns whether employees consider the programme relevant and well delivered. Learning concerns whether knowledge or skill has increased. Transfer concerns whether the work environment permits application. Organisational value concerns whether

the programme improves performance, safety, internal mobility or retention. Retention research that measures only attendance commits a basic measurement error: exposure is not equivalent to effectiveness. Memon, Salleh and Baharom (2016), for example, demonstrate the importance of training satisfaction and work engagement in explaining turnover intention. Grund and Titz (2022) similarly distinguish actual participation from the organisation's broader support for development and find both relevant to affective commitment.

3.2 Employee retention

Employee retention is the organisation's capacity to keep employees whose continued service is valuable. It may be measured through intention to stay, turnover intention, actual voluntary exit, survival duration, or avoidable turnover rates. Intention measures are useful because actual exits may be rare within a short study period, but intention is not identical to behaviour. The strongest design therefore combines survey measures with administrative records over time. Retention should also be distinguished from dysfunctional immobility: keeping disengaged employees is not a success. The relevant objective is the retention of competent, safe and productive employees in positions where replacement and knowledge loss are costly.

3.3 Theoretical foundations

Human capital theory explains training as an investment that raises employee productivity and economic value (Becker, 1962). Firm-specific training may bind employee and employer because its highest value is realised within the current organisation. General and certified training is more portable and can increase outside opportunities. Dietz and Zwick (2021) show that portability and visibility complicate the retention effect: credible, transferable training may weaken retention unless the organisation provides complementary reasons to stay. Human capital theory therefore predicts neither automatic loyalty nor automatic turnover; it identifies the competing value effects that management must govern. Social exchange theory provides the relational mechanism. Employees interpret costly and useful development as evidence that the organisation values their contribution and expects a future relationship (Blau, 1964). When the investment is discretionary, fair, and supportive, employees may reciprocate with commitment and continued membership. Perceived organisational support theory formalises this interpretation: employees form beliefs about whether the organisation values them and cares about their well-being (Eisenberger et al., 1986). Training that is irrelevant, coercive or allocated through favouritism will not produce the same reciprocal response as training linked to a credible development plan.

Organisational commitment theory clarifies the immediate attitudinal outcome. Affective commitment is emotional attachment and identification; continuance commitment reflects the perceived cost of leaving; normative commitment reflects felt obligation (Meyer & Allen, 1991). Developmental opportunities should primarily strengthen affective and normative commitment. Long-service benefits may contribute to continuance commitment, but a retention strategy dominated by switching costs is fragile. The desired state is that employees stay because they see a future, not merely because departure is expensive.



Contextual moderators: supervisory support, reward fairness, work conditions, employee age, tenure and skill portability

Figure 1. Integrated learning-to-retention framework for Dangote Cement Plc.

3.4 Empirical evidence and hypotheses

Empirical research generally reports a favourable relationship between development opportunities and commitment or retention, but the effect is conditional. Lee and Bruvold (2003) found that perceived investment in employee development is associated with job satisfaction and commitment. Benson (2006) showed that development can increase commitment, while employability-oriented credentials may also increase turnover intention when internal advancement is not available. Bulut and Culha (2010) reported positive effects of organisational training on commitment, while Newman, Thanacoody and Hui (2011) found that employees' perceptions of training influence commitment and turnover intentions. Chew and Chan (2008) similarly identified development-related human-resource practices as predictors of intention to stay.

More recent evidence sharpens the mechanism. Grund and Titz (2022) found that participation in further training and organisational support for training were positively related to affective commitment, although simple training volume was not sufficient. Xuecheng, Iqbal and Saina (2022) reported that training and development, work environment and job satisfaction influence retention within a social-exchange framework. Hosen et al. (2024)

found that organisational commitment mediates relationships involving training and career development. The consistent lesson is that employees react to the meaning and usefulness of development, not merely to its existence.

Table 2. Testable hypotheses derived from the integrated framework.

Code	Hypothesis
H1	The perceived quality of technical training positively affects employee retention.
H2	Perceived safety training quality positively affects employee retention.
H3	Career-development opportunities have a positive effect on employee retention.
H4	Coaching and supervisory support for learning positively affect employee retention.
H5	Fairness and relevance of training access have a positive effect on perceived organisational support.
H6	Perceived organisational support positively affects job satisfaction and affective commitment.
H7	Job satisfaction, work engagement and affective commitment positively affect intention to stay.
H8	The effect of training and development on retention is mediated by support, satisfaction, engagement and commitment.
H9	The direct retention effect is weaker where training is highly portable and internal career opportunities are limited.

4. METHODOLOGY

4.1 Research design and ethical position

A rigorous empirical study should use an explanatory case-study design with a stratified cross-sectional survey and, where access is granted, a longitudinal administrative-data component. This manuscript does not claim to have surveyed Dangote Cement employees. No employee-level dataset, turnover register or sampling frame was supplied, and none is publicly available. Inventing responses would invalidate the research. The methodological contribution is therefore a complete field-ready protocol that can be implemented after institutional permission, ethics approval and informed consent.

The target population should comprise eligible employees in Nigerian operations across production, engineering, quality, HSE, logistics, sales, finance, information technology, human resources and administration. Probability sampling should be stratified by location, occupational group and grade. Where the workforce population is large or initially unknown, Cochran's conservative formula, at a 95% confidence level, $p = 0.50$, and five-percentage-point precision, gives an initial target of 384 usable responses. The target should be inflated for nonresponse and adjusted using finite population correction when the verified population size is known. Approximately 400 usable responses would also support a moderately complex mediation model, provided that subgroup analysis is not excessive.

4.2 Measurement instrument

A structured questionnaire should use established multi-item measures adapted carefully to the industrial context. Responses may be recorded on a five-point agreement scale. Technical-training quality should assess relevance to job tasks, instructor competence, practical content and adequacy of learning resources. Career development should assess access to progression pathways, professional certification, mentoring and internal opportunities. Training fairness should assess whether opportunities are communicated and allocated transparently. Transfer support should assess time, tools, supervisor encouragement and opportunity to apply learning.

Table 3. Proposed operationalisation of the construct for the employee survey.

Construct	Illustrative item	Expected sources/logic
Technical-training quality	The training I receive improves my ability to perform my current job safely and effectively.	Training effectiveness and human-capital logic
Career development	I can see a realistic career path in the organisation after acquiring additional skills.	Development and internal-mobility literature
Training fairness	Employees with comparable development needs have fair access to training opportunities.	Organisational justice and support logic
Transfer support	My supervisor gives me opportunities to apply what I learn.	Training-transfer literature
Perceived organisational support	The organisation values my contribution and cares about my development.	Eisenberger et al. (1986)
Affective commitment	I feel emotionally attached to this organisation.	Meyer and Allen (1991)
Job satisfaction	Overall, I am satisfied with my work in this organisation.	Retention literature
Intention to stay	I intend to remain with this organisation for the next two years.	Retention outcome

4.3 Data quality and analysis

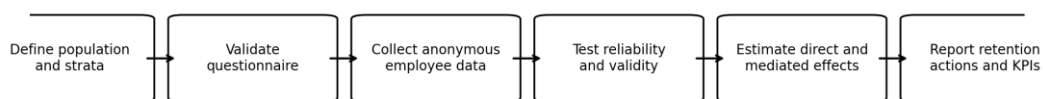
The instrument should undergo expert review, cognitive interviewing and a pilot test before full deployment. Internal consistency should be assessed using Cronbach's alpha and composite reliability, with values of 0.70 or higher generally considered acceptable for established scales. Convergent validity may be examined through factor loadings and average variance extracted, while discriminant validity may be assessed through the heterotrait–monotrait ratio. Common-method risk should be reduced procedurally through anonymity,

item separation, neutral wording and mixed item order rather than relying solely on a post-hoc statistical test.

Descriptive analysis should report training participation, perceived quality, satisfaction, access and intention to stay by plant and occupational group. Hierarchical multiple regression can test incremental explanatory power after controlling for age, gender, education, tenure, grade, employment status, department, pay satisfaction, work conditions and supervisory quality. Structural equation modelling is appropriate for the full mediation framework if sample size and measurement quality are adequate. Actual voluntary turnover, when available, should be analysed using logistic regression or survival analysis rather than ordinary least squares.

$$RET_i = \beta_0 + \beta_1 TECH_i + \beta_2 SAFE_i + \beta_3 CAREER_i + \beta_4 COACH_i + \beta_5 FAIR_i + \beta_6 TRANSFER_i + \gamma X_i + \varepsilon_i$$

In the equation, RET is the intention to stay or an alternative retention measure; TECH, SAFE, CAREER, COACH, FAIR and TRANSFER represent the training dimensions; and X is a vector of employee and job controls. Mediation should be estimated using bootstrapped indirect effects. A statistically significant coefficient is not sufficient; standardised effect sizes, confidence intervals, explained variance, and predictive relevance should also be reported. Plant-level clustering should be addressed through cluster-robust standard errors or multilevel modelling where several sites participate.



Recommended design: stratified cross-sectional survey, complemented by HR administrative data and follow-up exit analysis

Figure 2. Proposed empirical workflow for a defensible Dangote Cement retention study.

5. Evidence-Based Findings and Interpretation

5.1 What can be concluded from the available evidence

The documentary evidence establishes that Dangote Cement possesses several organisational resources required for a positive learning–retention relationship. First, a learning management

system can reduce time and location barriers, enabling employees to access resources when needed. Second, a dedicated academy can standardise technical and managerial competence and support succession planning. Third, annual performance reviews create a formal opportunity to connect development needs with job expectations. Fourth, recurrent safety training communicates that employee competence and well-being matter. These are meaningful foundations rather than trivial administrative features.

Nevertheless, policy presence does not establish employee experience. A learning platform may exist even when workload, shift patterns, poor connectivity, or supervisor resistance restrict access. An academy may deliver excellent content but fail to provide post-training assignments. Performance reviews may identify needs without funding them. Safety training may be frequent but repetitive. The retention effect, therefore, depends on implementation fidelity and employee interpretation. The strongest inference supported by the literature is conditional: Dangote Cement's training architecture can strengthen retention if employees perceive the programmes as relevant, fair, developmental, and connected to internal opportunities.

5.2 Expected direct and indirect effects

Technical training should have a positive, direct effect by reducing role ambiguity, building mastery, and improving confidence in operating complex equipment. Its retention effect is likely to be strongest among employees who value professional growth and among roles with visible skill ladders. Safety training may operate through a different route. In hazardous work, high-quality safety instruction, proper equipment and managerial follow-through can signal organisational care, thereby increasing perceived support and commitment. However, training cannot compensate for unsafe production pressure. Employees will judge the consistency between what is taught and what managers reward.

Career development is expected to be the most powerful retention dimension for scarce technical and managerial talent because it answers the employee's future-oriented question: 'What happens to me after I become more capable?' Development that leads to expanded responsibility, consideration for internal vacancies, transparent promotion criteria, or professional recognition should strengthen the intention to stay. By contrast, portable certification without internal progression may increase external employability. This is the training paradox identified in human capital research. Management must therefore pair general skill development with internal labour market opportunities, meaningful work, and competitive rewards.

The main causal chain is expected to be indirect. Employees who receive useful and fairly allocated development perceive that the organisation values them. This perception increases satisfaction and affective commitment, which then reduce turnover intention. Engagement is also likely to mediate the relationship because development increases efficacy and meaningful challenge. An analysis that estimates only the direct coefficient from training to retention will understate these mechanisms and may produce unstable results when mediators are omitted.

5.3 Boundary conditions

Several conditions can weaken or reverse the effect. Training perceived as punishment, compliance theatre or managerial favouritism may damage trust. Excessive training outside paid hours can create work–family strain. Programmes unrelated to actual tasks waste time. Employees may become frustrated when new competence is not recognised in assignment, grade or pay. A trained employee working under an abusive supervisor is still likely to leave. Retention, therefore, results from a bundle of human resource practices rather than a single intervention. Compensation fairness, staffing adequacy, leadership, safety climate, workload, recognition and career opportunity must be included as controls and managerial complements.

6. DISCUSSION

The framework changes the managerial question from ‘How much training did we provide?’ to ‘Did development create a credible reason to stay?’ This distinction is essential. Training hours are easy to count, but they are weak indicators of retention value. A two-hour intervention that solves a recurring process problem and leads to recognised competence may matter more than a lengthy generic course. Management should therefore evaluate the learning chain: need identification, access, participation, learning, transfer, recognition, mobility and retention. Failure at any stage breaks the assumed relationship. The integrated theoretical explanation is also more realistic than a single-theory account. Human capital theory captures the productivity and portability of skills. Social exchange theory captures reciprocity. Perceived organisational support explains how employees interpret investment. Commitment theory explains attachment and intention to stay. Together, they predict why identical training can generate different outcomes across employees and plants. A young engineer receiving a portable qualification but no promotion prospect may become more mobile; a technician who receives relevant development, supervisor trust and a visible specialist path may become more committed.

In Nigerian manufacturing research, the paper addresses a recurring weakness: studies frequently use convenience samples, unvalidated questionnaires, and simple percentages, and then claim causal impact. Such analysis is inadequate. Retention is affected by selection, reverse causality and omitted variables. More committed employees may volunteer for training, while high-potential employees may be selected for development. Cross-sectional association cannot fully resolve this. The best available improvement is to combine survey data with training records, prior performance, promotion history and subsequent exits. Where feasible, phased programme implementation or matched comparison groups would strengthen causal inference.

7. Managerial Implications for Dangote Cement Plc

First, management should create individual development agreements during performance reviews. Each agreement should identify the competence gap, learning intervention, application task, responsible supervisor, completion date and expected career implication. A review that merely records a training need without a funded action damages credibility. Second, the company should distinguish mandatory compliance training from developmental learning. Both matter, but they serve different psychological and operational purposes and should not be combined into a single headline metric.

Third, access should be audited. Participation rates should be examined by plant, department, grade, gender, shift and contract status to detect systematic exclusion. Fairness does not require identical training; it requires transparent allocation based on role, risk, performance and development need. Fourth, supervisors should be accountable for the transfer. Employees need time, tools, coaching and assignments that permit application. Post-training action plans and 30-, 60- and 90-day transfer reviews are more useful than attendance certificates.

Fifth, development should be connected to internal mobility. Vacancy notices, skill profiles and succession plans should make clear how competence translates into opportunity. Where external certification is sponsored, retention should not rely solely on punitive bonds; the organisation should offer meaningful progression, recognition, and quality of work. Sixth, retention analytics should identify avoidable exits among critical-skill groups. Exit interviews should be standardised, confidential and analysed by reason, manager, unit and recent training history. The purpose is not to prove that training always works, but to identify which development practices retain which categories of employees.

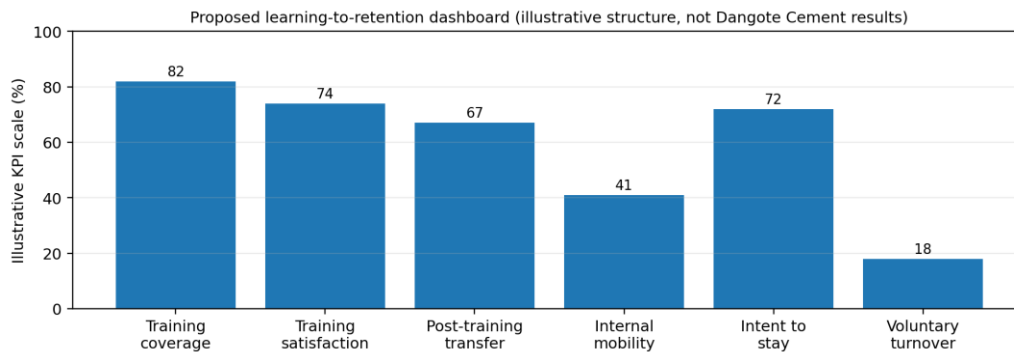


Figure 3. Proposed learning-to-retention dashboard. Values are illustrative and must not be reported as company data.

Table 4. Recommended learning-to-retention indicators.

Indicator	Definition	Management use
Training coverage	Percentage of eligible employees receiving role-relevant training.	Detect underserved groups and capacity gaps.
Training satisfaction	Mean rating of relevance, delivery and practical value.	Separate attendance from employee experience.
Learning transfer	Percentage applying a defined skill within 90 days.	Assess supervisor and work-environment support.
Internal mobility	Share of vacancies filled by trained internal candidates.	Test whether development creates visible careers.
Critical-skill retention	Twelve-month retention of employees in scarce or safety-critical roles.	Prioritise talent risks rather than company averages.
Post-training exit rate	Voluntary exits within 6–12 months after major training.	Identify portability risk and blocked progression.
Avoidable turnover cost	Recruitment, induction, overtime, downtime and lost productivity estimate.	Translate retention into operational and financial terms.

8. Proposed Implementation Roadmap

A credible retention intervention should be implemented in phases rather than announced as another broad human-resource campaign. The first phase is diagnostic. Human Resources should define critical roles, establish a clean employee identifier across learning and payroll systems, catalogue existing programmes and agree a consistent definition of voluntary, avoidable and regrettable turnover. Baseline measures should be produced by plant and occupational group. Without this data architecture, management will continue to compare incomparable numbers and will be unable to connect training history with subsequent employee outcomes. The second phase is design and pilot. A small number of plants or functions should test individual development agreements, transfer reviews and a standard training-satisfaction instrument. Pilot selection should include both technical and non-

technical groups so that the framework is not distorted toward professional employees alone. Each pilot should specify its expected competence outcome and retention mechanism before delivery. For example, a maintenance programme may target fault-diagnosis competence and internal certification, while a supervisory programme may target coaching quality, safety leadership and team commitment.

The third phase is integration. Learning data should be connected to performance review, succession planning and internal vacancy systems. This does not require exposing personal information widely. Role-based access, purpose limitation and aggregated reporting should be used. Managers should see the development actions for which they are responsible; senior leadership should see workforce-risk trends; analysts should use de-identified records. Employees should be told what data are collected, why they are used and how confidentiality is protected.

Table 5. Phased implementation roadmap for a learning-to-retention programme.

Phase	Core actions	Decision gate
1. Baseline and governance	Define retention metrics; map critical skills; clean employee and training records; establish privacy rules.	Are definitions, ownership and data quality adequate?
2. Pilot design	Validate survey; select representative units; define programme logic and pre-training measures.	Can the intervention and comparison conditions be measured?
3. Delivery and transfer	Deliver training; record attendance and quality; conduct 30-, 60- and 90-day transfer reviews.	Did employees learn and apply the intended competence?
4. Retention evaluation	Link development history to intention to stay, mobility and subsequent voluntary exits.	Is the effect material, robust and stronger for critical groups?
5. Scale and continuous improvement	Scale effective programmes; redesign weak ones; publish management dashboards and quarterly actions.	Are benefits sustained without creating access inequality?

The fourth phase is evaluation. Results should be reviewed quarterly, but judgement should not be based on statistical significance alone. Management should ask whether effect sizes are operationally meaningful, whether improvement is concentrated in already advantaged groups, and whether observed retention reflects genuine commitment rather than a weak external labour market. Programmes should be discontinued or redesigned when employees report low relevance, poor transfer support or no connection to career opportunity. The final phase is institutionalisation: effective practices become part of workforce planning, while the dashboard remains a decision instrument rather than a public-relations display.

9. Limitations and Future Research

The principal limitation is the absence of primary employee data and public turnover statistics. Consequently, the paper does not provide a numerical estimate of training's impact at Dangote Cement Plc and should not be misrepresented as a completed employee survey. It establishes institutional evidence, theory, hypotheses and an estimation protocol. A second limitation is that company-wide analysis may conceal substantial differences among plants and occupational groups. Future work should use multilevel data and distinguish technical, safety, leadership and career-development programmes. Third, intention to stay is an imperfect proxy for actual retention. Longitudinal linkage to anonymised exit records is therefore necessary.

Future research should examine whether perceived organisational support and affective commitment mediate the relationship, whether supervisor support moderates training transfer, and whether skill portability interacts with internal career opportunity. Quasi-experimental designs are also feasible when programmes are introduced in phases. Difference-in-differences analysis could compare changes in intention to stay or actual exits between early and later participating units, provided the parallel-trends assumption is defensible. Qualitative interviews should complement the quantitative model by explaining why employees interpret similar development opportunities differently.

10. CONCLUSION

Training and development can contribute materially to employee retention at Dangote Cement Plc, but only through a credible conversion process. Programmes must be relevant, fairly accessible, supported by supervisors, applicable at work and connected to internal careers. The company's disclosed learning management system, Dangote Academy, annual performance reviews and extensive safety training provide a strong platform. They do not, however, constitute proof of reduced turnover. The decisive evidence must come from employees' experience and linked retention outcomes.

The paper's central conclusion is therefore disciplined rather than sensational: training is a potential retention resource, not an automatic retention result. The most plausible pathway runs from development quality to perceived organisational support, satisfaction, engagement and affective commitment, and from these attitudes to intention and behaviour. Management should measure this pathway and act on its weak links. A learning strategy that builds competence but ignores recognition, mobility and supervisory practice is incomplete. A

learning strategy integrated with workforce planning, safety, performance management and internal opportunity can preserve critical knowledge and strengthen organisational continuity.

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