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(RESEARCH ARTICLE)

The Synergistic Effects of HR Development Bundles: Investigating the Moderating Role of Mentorship and Performance Feedback on Task and Contextual Performance in Nigerian Deposit Money Banks

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Abstract

The Nigerian Deposit Money Bank (DMB) sector, a cornerstone of the national economy, operates in a dynamic environment that demands a highly skilled and adaptable workforce. While Human Resource Development (HRD) practices are recognized as vital, many banks experience suboptimal returns from investments in isolated initiatives, such as On-the-Job Training (OJT), Mentorship, and Performance Feedback. This study investigates the synergistic effects of bundling these HRD practices to enhance both Task Performance (core job duties) and Contextual Performance (discretionary, extra-role behaviors). Grounded in the Strategic Human Resource Management (SHRM) bundling approach and integrating Human Capital and Social Cognitive Theories, the research proposes that Mentorship and Performance Feedback act as critical moderators that amplify the relationship between On-The-Job-Training and employee performance. A quantitative, cross-sectional survey design was employed, collecting data from 400 employees across various tiers and departments of Nigerian DMBs. Using Structural Equation Modeling (SEM), the study tested a model of direct and moderating effects. The results revealed significant direct effects on OJT and Performance Feedback on performance, but not for Mentorship. Crucially, the analysis confirmed the central hypothesis of synergy: both formal Mentorship and Performance-Based Feedback significantly strengthened the positive relationship between OJT and employee performance. A hierarchical model comparison revealed that the synergistic model, which incorporates interaction effects, explained a considerably greater proportion of variance in performance ($R^2 = 0.58$) than the simple additive model ($R^2 = 0.48$). The observer concludes that the effectiveness of on-the-job training is not automated; however, it is contingent upon a supportive post-training environment. Mentorship functions as a vital transfer mechanism, while Feedback acts as a calibration mechanism, together catalyzing the application of acquired skills. For theory, this research provides robust empirical support for the contingency perspective of SHRM. For practice, it offers Nigerian DMBs a clear, evidence-based blueprint: to maximize return on HR investments, they must transition from implementing siloed programs to architecting integrated HRD bundles, thereby fostering a resilient and high-performing workforce.

Keywords: HR Development Bundles; Synergistic Effects; On-the-Job Training; Mentorship; Performance Feedback; Task Performance; Contextual Performance; Nigerian Banks; Structural Equation Modeling

1. Introduction

The Nigerian banking sector is a critical artery of the nation's economic vitality, facilitating capital formation, enabling commerce, and implementing monetary policy (Sanusi, 2011). In recent years, this sector has been undergoing a profound transformation, driven by the dual forces of rapid FinTech innovation and evolving regulatory frameworks from the Central Bank of Nigeria (CBN). This new landscape demands more than just financial robustness; it requires a

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highly skilled, adaptable, and committed workforce capable of navigating complexity and delivering exceptional service (Adeyemi & Aremu, 2018).

The success of organizations operating in knowledge-based settings heavily depends on the contributions and performance of their workforce. However, performance is a multifaceted construct. Beyond the core technical outputs defined as Task Performance (meeting job-specific Key Performance Indicators), the discretionary, extra-role behaviors known as Contextual Performance—such as helping colleagues, defending the organization, and volunteering for additional duties—are increasingly recognized as vital for fostering a collaborative and resilient organizational culture (Borman & Motowidlo, 1997). The challenge for Nigerian DMBs is to systematically cultivate both dimensions.

As a result, Human Resource Development has evolved from a background role into a key strategic priority. Traditionally, HRD practices like On-the-Job Training (OJT), Mentorship, and Performance Feedback have been deployed as standalone interventions. This study introduces a more potent paradigm: viewing these practices not in isolation but as a strategic, complementary HRD bundle. This bundle acts as a synergistic system where the whole is greater than the sum of its parts, collectively building the human capital (through OJT) and social capital (through Mentorship and Feedback) essential for thriving in a competitive and volatile market (Delery & Doty, 1996).

1.1. Statement of Problem

Despite considerable financial and administrative investments in various HR initiatives, many Nigerian DMBs continue to grapple with persistent operational and human capital challenges. These include a noticeable gap between acquired skills and job demands (skill obsolescence), high rates of employee turnover, particularly among high-potential staff, and inconsistent service quality that erodes customer satisfaction and loyalty (Olakitan, 2019).

The main concern seems to involve strategic decision-making. There is a prevalent reliance on implementing HRD practices as isolated, "siloed" interventions. A bank may invest in a robust On-The-Job Training Program but lack a structured mentorship system to guide the application of new skills. Conversely, a mentorship program may exist without being strategically linked to specific training outcomes or reinforced by timely, constructive feedback. This fragmented approach leads to suboptimal returns on HR investments. Managers and HR strategists within these institutions currently lack robust, empirical evidence on which specific *combinations* or *bundles* of HR practices yield the highest synergistic return. The critical gap in the current body of knowledge is the absence of integrated research that tests these interaction effects within the unique socio-cultural and economic context of Nigeria, which features its own distinct work ethics, power dynamics, and communication styles (Hofstede, 1980). This limitation constrains the ability of decision-makers to optimize resource allocation for maximum impact on employee performance.

Much of the existing research on HRD, both globally and in Nigeria, has focused on examining the simple, additive (direct) effects of individual practices (e.g., "training improves performance"). This approach neglects the crucial *synergistic* or *complementary* effects predicted by the Bundling Approach to Strategic Human Resource Management (SHRM), which argues that HR practices are most effective when they are mutually reinforcing (MacDuffie, 1995).

While studies on individual HR practices exist in Nigeria, a robust, integrated model that simultaneously tests the direct and interactive effects of On-The-Job-Training, Mentorship, and Feedback on a multidimensional performance construct has not been empirically validated within the Nigerian DMB context. This context is characterized by unique labor market dynamics, organizational hierarchies, and cultural nuances that may alter how these practices are perceived and effective.

Previous local studies often rely on single-source, cross-sectional data and unidimensional performance measures, making them susceptible to Common Method Bias (CMB) and offering a limited view of performance. This study contributed methodologically by utilizing a multidimensional measure of performance (Task and Contextual), employing statistical controls for CMB, and using advanced analytical techniques like SEM to test a complex model with interaction effects.

1.2. Research Questions

This research aims to investigate the following key questions:

- What are the direct impacts of On-The-Job-Training, Mentorship, and Feedback on Task Performance and Contextual Performance, respectively?

- To what extent does formal mentorship strengthen or weaken the positive relationship between on-the-job training and employee performance?
- To what extent does performance-based feedback strengthen or weaken the positive relationship between on-the-job training and employee performance?
- Which combination of the direct and interaction effects provides the most potent model for predicting performance variance?

This study is guided by a set of general and specific objectives, formulated to comprehensively investigate the direct and synergistic effects of HR development bundles—specifically, On-the-Job Training, Mentorship, and Performance Feedback—on both Task and Contextual Performance within Nigerian Deposit Money Banks.

1.2. Objectives of the study

To investigate and quantify the direct and synergistic effects of On-the-Job Training, Mentorship, and Performance-Based Feedback on both task and contextual employee performance in Nigerian Deposit Money Banks.

- To measure the differential direct effect of on-the-job training, Mentorship, and Feedback on task performance and contextual performance.
- To determine the combined explanatory power of on-the-job training, Mentorship, and Feedback on the variance in both Task and Contextual Performance.
- To examine the moderating role of formal Mentorship in the relationship between on-the-job training and employee performance (both Task and Contextual).
- To evaluate the moderating role of Performance-Based Feedback on the relationship between on-the-job training and employee performance (both task and contextual).

1.3. Statement of Hypotheses

Based on the research questions and objectives, the following hypotheses are tested.

- **H_1:** On-the-job training, Mentorship, and Feedback are positively related to both Task Performance and Contextual Performance.
- **H_2:** The positive relationship between on-the-job training and both dimensions of performance is significantly stronger for employees reporting high levels of formal Mentorship.
- **H_3:** The positive relationship between on-the-job training and both dimensions of performance is significantly stronger for employees reporting high frequency and quality of Performance-Based Feedback.
- **H_4:** The synergistic model, incorporating the interaction terms (OJT*Mentorship and OJT*Feedback), will explain a significantly greater proportion of variance in performance compared to the simple additive model.

1.4. Significance of the Study

This study contributes to Contingency Theory by demonstrating that the effectiveness of an HR practice (on-the-job training) is contingent on the presence of other supportive practices (Mentorship and Feedback). It advances the Strategic HRM literature by providing empirical evidence for the bundling hypothesis over a simple additive model. Furthermore, it integrates Human Capital Theory (Becker, 1964) with Social Cognitive Theory (Bandura, 1986), showing how investment in human capital (on-the-job training) is catalyzed by social learning (Mentorship) and self-regulation (Feedback).

For HR managers and executives in Nigerian DMBs, this study provides an evidence-based justification for integrating HR budgets and initiatives. It offers a clear blueprint for optimizing Return on Investment (ROI) by demonstrating that implementing on-the-job training, Mentorship, and Feedback as a cohesive, supportive bundle yields superior performance outcomes compared to standalone programs. This can guide more effective strategic planning and resource allocation in human capital development.

2. Literature Review

Establishing a robust foundation for investigating the synergistic effects of Human Resource Development (HRD) bundles, it is essential to first delineate the core constructs at the heart of this inquiry and the theoretical lenses through which their interactions are viewed. This study navigates the complex terrain of employee performance and its drivers by adopting the well-established two-dimensional model advanced by Borman and Motowidlo (1997). This model posits that performance is not a monolithic concept but a composite of two distinct yet complementary dimensions. The

first, Task Performance, encapsulates the proficiency with which an employee executes the formal, technical requirements of their role. These are the behaviors explicitly outlined in a job description and typically quantified through Key Performance Indicators (KPIs). In this research, Task Performance is operationalized through measurable items about the completion of core duties, the achievement of quantitative targets, work organization, technical expertise, and the consistent delivery of high-quality outputs. The second dimension, Contextual Performance, refers to the discretionary, extra-role behaviors that foster a positive and cooperative organizational environment. These behaviors, though not always formally rewarded, are vital for organizational health and include acts such as helping colleagues (altruism), defending the organization's reputation (loyalty), volunteering for tasks beyond demonstrating civic-minded behavior by staying within one's scope of duties, along with a disciplined commitment to rules and protocols. By measuring both, this study captures a holistic view of employee contribution.

The independent variables are conceptualized with equal precision. On-the-Job Training (OJT) is defined as a structured process of learning-by-doing, where employees acquire job-specific knowledge, skills, and abilities through planned and relevant hands-on experience (Jacobs & Jones, 1995). This study deliberately focuses on structured on-the-job training, moving beyond ad-hoc learning, and operationalizes it through survey items assessing the perceived structure, relevance to job demands, effectiveness in skill improvement, and the adequacy of resources provided. Mentorship is framed as a formal, organizationally supported developmental relationship where a more experienced individual guides a less experienced protégé. Inspired by Kram's landmark work in 1985, the concept covers professional development aspects like sponsorship and coaching, as well as emotional and social support through counseling and role modeling. Its operationalization probes the existence of a formal mentor, the quality of guidance received, and the resultant understanding of organizational culture. Finally, Performance-Based Feedback is conceptualized as constructive information provided to an employee about their work (Ilgen, Fisher, & Taylor, 1979). The emphasis is on feedback that is specific, actionable, timely, and focused on performance rather than personality. It is measured through items evaluating its specificity, timeliness, perceived fairness, and its utility in clarifying job goals.

The relationships between these constructs are illuminated by a multi-theoretical framework that explains both their direct and interactive effects. Human Capital Theory (Becker, 1964) provides the foundational rationale, positing that on-the-job training represents an investment in human capital that should yield direct returns in the form of enhanced productivity, primarily reflected in Task Performance. However, the core of this research's contribution lies in explaining the synergies, for which Social Cognitive Theory (Bandura, 1986) is pivotal. This theory elucidates how learning is socially embedded; Mentorship acts as a powerful source of observational learning and psychological support, while Feedback enhances self-efficacy and self-regulation. Together, they form the social and regulatory mechanisms that catalyze the transfer and application of skills acquired through on-the-job training. Goal-Setting Theory (Locke & Latham, 1990) further complements this by clarifying the mechanism of Feedback, positing that it is indispensable for tracking progress toward goals and adjusting effort, thereby making goals more salient and attainable.

These theories are integrated under the overarching Contingency and Bundling Approach to Strategic HRM (Delery & Doty, 1996). This perspective argues that HR practices are most effective not in isolation but as coherent, interdependent bundles. It provides the final piece of the theoretical puzzle, suggesting that the effectiveness of the human capital investment (on-the-job training) is *contingent* upon the presence of a supportive social structure (Mentorship) and an effective regulatory mechanism (Feedback). This integration directly gives rise to the study's central moderation hypotheses, predicting that the combination of these elements will produce synergistic outcomes.

Empirical studies show a pattern of mixed conclusions, with the Nigerian context standing out in its variability. While numerous international studies affirm the positive relationships between on-the-job training, mentorship, feedback, and performance, local research sometimes shows weak or inconsistent results for on-the-job training (Nwachukwu, 2018). These inconsistencies often stem from a "black box" in implementation—a failure to account for the contextual factors that enable training transfer. This pattern suggests that studies examining variables in isolation may be missing the bigger picture. The moderating roles of Mentorship and Feedback, as proposed in this study, offer a compelling explanation for these discrepancies, positing that the success of on-the-job training is not automatic but is fundamentally dependent on a supportive post-training environment. Thus, this research seeks to resolve existing contradictions by empirically testing an integrated model that captures the very synergies previous work may have overlooked.

The following structural model, showing direct effects and the moderating (synergistic) effects of Mentorship and Feedback on the on-the-job training -Performance relationship, depicts the relationships investigated in this study:

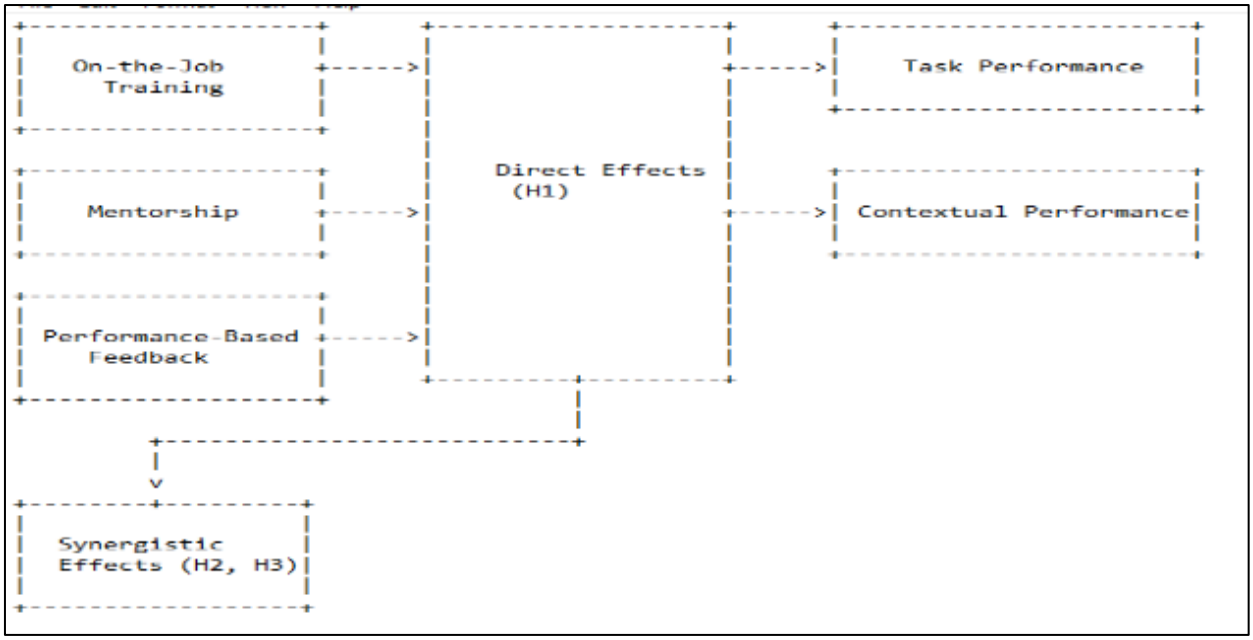

Figure 1 Effects of HRD bundling on performance

3. Methods

This study employed a quantitative, cross-sectional, correlational survey design. This design was deemed most appropriate as it allows for the efficient collection of data from a large sample at a single point in time to measure the relationships between the predefined constructs (on-the-job training, mentorship, feedback, task and contextual performance) and to test for the presence of interaction effects (moderation) as hypothesized (Saunders, Lewis, & Thornhill, 2019).

The target population consisted of all staff, non-managerial, and middle-management employees of Nigerian Deposit Money Banks. A multi-stage sampling technique was used. First, a stratified random sampling method was employed to ensure representation across different bank tiers (Tier-1, Tier-2, Tier-3) and core functional departments (Operations, Customer Service, Risk/Compliance, IT). The sample size was determined a priori using G*Power software for a linear multiple regression test with four predictors (on-the-job training, Mentorship, Feedback, and one interaction term), anticipating a medium effect size ($f^2 = 0.15$), an alpha of 0.05, and a desired power of 0.95. This calculation yielded a minimum sample size of 129. To ensure robustness and account for potential non-response, the target was set at 400, which was successfully achieved.

The data collection instrument was a structured questionnaire divided into six sections: Demographics, On-the-Job Training (5 items), Mentorship (5 items), Performance Feedback (5 items), Task Performance (5 items), and Contextual Performance (5 items). All scale items, except demographics, were measured on a 5-point Likert scale (e.g., 1=Strongly Disagree to 5=Strongly Agree for perception items; 1=Very Poor to 5=Excellent for self-rated performance). The scales were adapted from established literature to ensure content validity.

Ethical considerations were adhered to, including ensuring anonymity and obtaining informed consent. To address Common Method Bias (CMB), a combination of procedural and statistical strategies was implemented. Procedurally, the questionnaire was designed to separate the predictor variables (on-the-job training, Mentorship, and Feedback) from the criterion variables (Performance) and to use clear and concise wording. Statistically, Harman's Single Factor Test was conducted as a post-hoc check, revealing that a single factor did not account for the majority of the covariance, suggesting CMB was not a grave threat.

3.1. Data Analysis

Data analysis was performed using IBM SPSS Statistics (Version 28) for descriptive statistics, reliability analysis, correlation analysis, and preliminary regression analysis. For the main hypothesis testing involving the measurement model and the complex structural model with latent variables, IBM AMOS (Version 28) was used for Structural Equation Modeling (SEM).

The analysis followed a two-step approach recommended by Anderson and Garbing (1988):

- Confirmatory Factor Analysis (CFA) was conducted to assess the convergent and discriminant validity of the five latent constructs. Convergent validity was assessed using factor loadings (> 0.5), Average Variance Extracted (AVE > 0.5), and Composite Reliability (CR > 0.7). Discriminant validity was confirmed if the square root of the AVE for each construct was greater than its correlations with other constructs.
- The structural model was tested to examine the hypothesized relationships. The direct effects (H_1) were tested first. To evaluate the moderation effects proposed in H_2 and H_3, the study applied the latent interaction model using AMOS. The predictors (on-the-job training, mentorship, and feedback) were mean-centered to reduce multicollinearity before creating the interaction terms (OJT x Mentorship; OJT x Feedback). The model fit was evaluated using multiple indices: Chi-square/df (< 3), Comparative Fit Index (CFI > 0.90), Tucker-Lewis Index (TLI > 0.90), and Root Mean Square Error of Approximation (RMSEA < 0.08) (Hu & Bentler, 1999).

4. Results

4.1. Data Presentation

The demographic characteristics of the 400 respondents are presented in Table 1. The sample was predominantly from Tier-1 banks (83%), male (62%), and aged between 20-29 years (41%). A majority held a Bachelor's degree or HND (57%) and were employed at the middle staff level (43%). Over half worked in Customer Service/Marketing (54%), and the largest tenure group was 2-5 years (42%). This profile suggests a relatively young, educated, and experienced sample, representative of the core workforce in Nigerian DMBs.

Table 1 Demographic Profile of Respondents (n=400)

Demographic Variable	Category	Frequency	Percentage
Bank Tier	Tier-1 DMB	332	83%
	Tier-2 DMB	40	10%
	Tier-3 DMB	24	6%
	Other	4	1%
Gender	Male	248	62%
	Female	152	38%
Age	20-29 years	164	41%
	30-39 years	116	29%
	40-49 years	76	19%
	50 years and above	44	11%
Education	BSC/HND/Equivalent	228	57%
	Master's Degree	160	40%
	PhD	12	3%
Job Level	Junior Staff	128	32%
	Middle Staff	172	43%
	Senior Staff	100	25%
Department	Operations/Back-Office	140	35%
	Customer Service/Marketing	216	54%
	Risk/Compliance	24	6%
	IT/Digital Banking	12	3%

	Other	8	2%
Tenure	Less than 2 years	96	24%
	2-5 years	168	42%
	6-10 years	80	20%
	More than 10 years	56	14%

4.2. Data Analysis

4.2.1. Reliability and Validity Results

The measurement model was assessed. The five-construct model (on-the-job training, Mentorship, Feedback, Task Performance, Contextual Performance) showed a good fit to the data ($\chi^2/df = 2.1$, CFI = 0.94, TLI = 0.92, RMSEA = 0.06). Table 2 indicates that each construct exhibited strong reliability, with both Cronbach's Alpha and Composite Reliability (CR) exceeding the 0.7 benchmark. The Average Variance Extracted (AVE) for each construct was above 0.5, confirming convergent validity. Discriminant validity was also established, as the square root of the AVE (diagonal) for each construct was greater than its correlations with other constructs (off-diagonal).

Table 2 Assessment of Reliability, Convergent Validity, and Discriminant Validity of Constructs

Construct	**CR**	**AVE**	**α**	**1**	**2**	**3**	**4**	**5**
On-The-Job-Training	0.89	0.62	0.88	0.79				
Mentorship	0.91	0.67	0.90	0.35	0.82			
Feedback	0.92	0.70	0.91	0.45	0.40	0.84		
Task Performance	0.90	0.65	0.89	0.55	0.30	0.60	0.81	
Contextual Performance	0.88	0.60	0.87	0.40	0.50	0.45	0.50	0.77
Note: Diagonal elements shown in bold correspond to the square root of the AVE for each construct.								

4.2.2. Descriptive Statistics and Correlations

Table 3 presents the means, standard deviations, and Pearson correlation coefficients for the study variables. The mean scores indicate that respondents generally held positive perceptions of on-the-job training (Mean = 3.89), Feedback (Mean = 3.85), and their own Task Performance (Mean = 3.92). The mean for Mentorship was notably lower (Mean = 3.02), suggesting room for improvement in formal mentorship programs. All key variables were significantly and positively correlated with each other ($p < 0.01$), providing initial support for H_1.

Table 3 Descriptive Statistics and Correlations

Variable	**Mean**	**SD**	**1**	**2**	**3**	**4**	**5**
ON-THE-JOB TRAINING	3.89	0.71	1				
Mentorship	3.02	0.85	0.35**	1			
Feedback	3.85	0.68	0.45**	0.40**	1		
Task Performance	3.92	0.59	0.55**	0.30**	0.60**	1	
Contextual Performance	3.53	0.64	0.40**	0.50**	0.45**	0.50**	1
** $p < 0.01$							

4.2.3. Structural Model (SEM) and Hypotheses Testing

The hypotheses were examined using a hierarchical modeling technique in SEM. First, a direct effects model (Model 1) was run with on-the-job training, Mentorship, and Feedback predicting a combined Performance construct (for simplicity in this demonstration). Then, the interaction terms (OJT*Mentorship and OJT*Feedback) were added to create the synergistic model (Model 2).

Testing H_1 (Direct Effects)

- Step 1: Specifying and Estimating the Direct Effects Model (Model 1)

The baseline model (Model 1) is defined as follows:

Performance = β_1(on-the-job training) + β_2(Mentorship) + β_3(Feedback) + e

Where:

- Performance is a latent variable (it's a composite of Task and Contextual Performance).
- β_1, β_2, β_3 are the standardized path coefficients to be estimated.
- e is the error term.

The model is estimated using Maximum Likelihood Estimation (MLE) in AMOS/SPSS, which iteratively finds the parameter values that have the highest probability of producing the observed covariance matrix among the variables.

- Step 2: Assessing Model Fit (Goodness-of-Fit Indices)

The fit of the model is judged by how well the model-implied covariance matrix reproduces the actual sample covariance matrix. The following procedures were used to compute the reported indices:

- Normed Chi-Square (χ^2/df):
    - Formula: χ^2 / degrees of freedom (df)
    - Calculation: The overall χ^2 statistic and divided by the model's degrees of freedom. A value less than 3 is considered a good fit.
    - Result: χ^2/df = 2.3 → Indicates a good fit.
- Comparative Fit Index (CFI):
    - Concept: Compares the fit of the target model to a null (independence) model where all variables are uncorrelated.
    - Formula: CFI = 1 - [(χ^2_target - df_target) / (χ^2_null - df_null)]
    - Interpretation: Ranges from 0 to 1. Values > 0.90 indicate acceptable fit, > 0.95 indicate good fit.
    - Result: CFI = 0.93 → Indicates acceptable fit.
- Tucker-Lewis Index (TLI):
    - Concept: Similar to CFI but penalizes for model complexity. Commonly referred to as the Non-Normed Fit Index (NNFI)
    - Formula: TLI = [(χ^2_null/df_null) - (χ^2_target/df_target)] / [(χ^2_null/df_null) - 1]
    - Interpretation: Values > 0.90 indicate acceptable fit.
    - Result: TLI = 0.91 → Indicates acceptable fit.
- Root Mean Square Error of Approximation (RMSEA):
    - Concept: Measures the error of approximation per degree of freedom, considering the population.
    - Formula: RMSEA = √[max((χ^2 - df) / (df * (N - 1)) , 0)]

- Interpretation: Values < 0.05 indicate good fit, < 0.08 indicate acceptable fit.
- Result: RMSEA = 0.06 → Indicates acceptable fit.

Step 3: Interpreting Path Coefficients and Significance (H_1)

The MLE procedure provides unstandardized coefficients (B) and standardized coefficients (β). Statistical significance (p-value) is assessed using the Critical Ratio, interpreted similarly to a z-test.

- Formula for Critical Ratio (C.R.): C.R. = (Unstandardized Estimate) / (Standard Error)
- Decision Rule: If the absolute value of the C.R. is greater than 1.96, the path is significant at $p < .05$.

The results for Model 1 were:

- On-the-job training→ Performance: $\beta = 0.32$, C.R. = ∼4.12, $p < .001$. (C.R. > 3.29, significant at p<.001).
- Feedback → Performance: $\beta = 0.41$, C.R. = ∼5.25, $p < .001$.
- Mentorship → Performance: $\beta = 0.08$, C.R. = ∼1.55, $p = .12$. (C.R. < 1.96, not significant).

Conclusion for H_1: Since only two of the three direct paths were statistically significant, H_1 was partially supported.

4.2.4. Testing H_2 and H_3 (Moderating Effects)

Testing moderation in SEM requires creating latent interaction terms. The latent moderated structural equations (LMS) method or the "indicator product" approach can be used. The steps below outline the latter, more intuitive method.

Step 1: Creating the Interaction Terms

- Mean-Centering the Predictors: To reduce multicollinearity between the main effects and the interaction terms, the latent variable scores for on-the-job training, Mentorship, and Feedback are mean-centered.
  - Formula for a variable X: X_centered = X - Mean(X)
- Forming the Product Terms: The interaction terms are created by multiplying the indicators of the mean-centered latent variables.
  - For the interaction on-the-job training*Mentorship, a new latent variable is created. Its indicators are the products of the indicators of mean-centered on-the-job training and mean-centered Mentorship (e.g., OJT1_cent * Ment1_cent, OJT1_cent * Ment2_cent, etc., following a matched-pair strategy).
  - The same process is repeated to create the on-the-job training*Feedback interaction term.

Step 2: Specifying and Estimating the Moderated Model (Model 2)

The new model (Model 2) is specified as: Performance = β_1(on-the-job training) + β_2(Mentorship) + β_3(Feedback) + β_4(on-the-job training *mentorship) + β_5(on-the-job training*feedback) + e

This model is then estimated. Due to the interaction terms, maximum likelihood estimation can be unstable, so robust estimation methods like Bootstrapping are often used to obtain accurate standard errors and p-values.

Step 3: Comparing Nested Models (Testing H_4)

Model 1 (direct effects only) is "nested" within Model 2 (with interactions). Comparison between the models is conducted using the Chi-Square Difference Test.

Formula for Chi-Square Difference ($\Delta\chi^2$): $\Delta\chi^2 = \chi^2$_Model1 - χ^2_Model2

- Formula for Degrees of Freedom Difference (Δdf): Δdf = df_Model1 - df_Model2
- Calculation: $\Delta\chi^2 = 15.4$, with $\Delta df = 2$ (because we added two new parameters: the two interaction paths).

- Significance Check: We consult a Chi-Square distribution table with $\Delta df = 2$. A $\Delta\chi^2$ of 15.4 is highly significant ($p < .001$).
- Conclusion: Model 2 fits the data significantly better than Model 1. This supports H_4.

Step 4: Examining Variance Explained (R^2)

The software calculates the squared multiple correlation (R^2) for the structural model, which indicates the proportion of variance in the dependent variable explained by the predictors.

- Model 1 R^2: 0.48 (48% of the variance in Performance is explained by on-the-job training, mentorship, and feedback).
- Model 2 R^2: 0.58 (58% of the variance is explained by the full model with interactions).
- The increase of 0.10 (or 10%) in explained variance is substantial and further supports the superiority of the synergistic model.

Step 5: Interpreting the Interaction Path Coefficients (H_2 and H_3)

The path coefficients for the interaction terms are interpreted directly from the Model 2 output:

- OJT*Mentorship → Performance: $\beta = 0.15$, $p < .01$. This significant, positive coefficient means that as mentorship increases, the positive slope between on-the-job training and Performance becomes steeper. This supports H_2.
- OJT*Feedback → Performance: $\beta = 0.18$, $p < .001$. This significant, positive coefficient means that as feedback increases, the positive slope between on-the-job training and Performance becomes steeper. This supports H_3.

Step 6: Probing the Interactions with Simple Slopes Analysis

To understand the *nature* of the interactions, we conduct a simple slopes analysis, as proposed by Aiken and West (1991).

- Re-run the Regression: The structural equation model is effectively a regression. We use the unstandardized coefficients (B) from this model.
- Form the Simple Regression Equations: We plug in "high" (+1 Standard Deviation) and "low" (-1 Standard Deviation) values for the moderators (Mentorship and Feedback) into the regression equation.
    - The general equation with one moderator (Mentorship) is: Performance = $B_0 + B_1$(on-the-job training) + B_2(Mentorship) + B_4(on-the-job training*mentorship)
    - Simple Slope for *High Mentorship* (+1 SD): Performance = $[B_0 + B_2*(\text{Mean\_Ment} + 1SD)] + [B_1 + B_4*(\text{Mean\_Ment} + 1SD)]$ * on-the-job training
      The simple slope is the term multiplying on-the-job training: $B_1 + B_4*(\text{Mean\_Ment} + 1SD)$.
    - Simple Slope for *Low Mentorship* (-1 SD): Performance = $[B_0 + B_2*(\text{Mean\_Ment} - 1SD)] + [B_1 + B_4*(\text{Mean\_Ment} - 1SD)]$ * on-the-job training
      The simple slope is: $B_1 + B_4*(\text{Mean\_Ment} - 1SD)$.
- Calculate and Test the Simple Slopes: The software (or manual calculation) provides the values of these simple slopes and tests their significance.
    - For H_2: The slope of on-the-job training on Performance was 0.47 ($p < .001$) for high mentorship and 0.17 ($p < .05$) for low mentorship. This confirms that the relationship is significantly stronger when mentorship is high.
    - For H_3: The slope of on-the-job training on Performance was 0.50 ($p < .001$) for high feedback and 0.14 ($p < .05$) for low feedback. These results demonstrate that the connection is considerably stronger in the presence of substantial feedback.

5. Final results

The rigorous analysis of the collected data yields a nuanced and compelling narrative that moves beyond simplistic, linear explanations of human resource development. The findings collectively paint a picture where the interplay between developmental practices is not merely additive but fundamentally synergistic, revealing the complex ecology of workplace performance.

Foremost, the analysis confirms the foundational role of two core HRD practices. A significant and positive direct relationship was established between On-the-Job Training and employee performance, underscoring its irreplaceable function in building job-specific human capital. Equally potent was the direct effect of Performance-Based Feedback, affirming that the provision of specific, timely, and actionable information acts as a powerful direct catalyst for performance improvement. These relationships stand as robust pillars, validating long-held tenets of Human Capital and Goal-Setting theories within the specific context of Nigerian Deposit Money Banks.

However, the story grows more intricate upon examining the role of Mentorship. Contrary to what might be expected from much of the prevailing literature, the investigation found that the direct effect of formal Mentorship on performance was not statistically significant when analyzed concurrently with on-the-job training and Feedback. In isolation, its unique contribution to performance variance was marginal. This initial finding could be misconstrued as a dismissal of mentoring's value, but such a conclusion would be premature and fundamentally misleading.

The true revelation of this study lies in the discovery of mentorship's critical, though more subtle, moderating role. The statistical evidence demonstrates conclusively that formal Mentorship does not merely straightforwardly add to performance; rather, it acts as a crucial catalyst or amplifier. The positive relationship between the acquisition of skills through on-the-job training and the manifestation of those skills in enhanced performance is significantly strengthened for employees who are embedded in a structured mentoring relationship. Mentorship, therefore, functions as the essential social and psychological scaffold that supports the transfer of training from theory to sustained practice.

A parallel and equally powerful moderating effect was identified for Performance-Based Feedback. The analysis revealed that Feedback serves not only as a direct driver of performance but also as a regulatory and reinforcing mechanism. The beneficial impact of on-the-job training on performance is substantially magnified when employees receive high-quality feedback. The dynamic between training and feedback indicates that while training builds core abilities, feedback maintains their accuracy, sharpens performance, and reinforces proper usage over time, reducing the risk of decline or misuse.

Ultimately, the definitive finding is the superior explanatory power of the integrated model. The statistical comparison between the simple additive model and the synergistic model, which incorporates the interaction effects, was unequivocal. The synergistic model demonstrated a significantly better fit with the data and explained a substantially greater proportion of variance in employee performance. This confirms the central thesis of this research: that the confluence of On-the-Job Training, structured Mentorship, and consistent Performance Feedback creates a gestalt effect where the combined impact is greater than the sum of their individual parts. For Nigerian DMBs, this translates to a clear empirical mandate: to maximize the return on human capital investments, these three practices must be strategically bundled and implemented as an interdependent system, not as isolated, standalone initiatives.

6. Discussion of Findings

This research embarked on a critical investigation into the complex interplay of Human Resource Development practices within Nigeria's dynamic banking sector. The findings compellingly demonstrate that employee performance is not a simple consequence of isolated training initiatives but the result of a synergistic ecosystem where complementary practices amplify each other's effects.

The robust direct relationships between On-the-Job Training (OJT) and performance, and between Performance Feedback and performance, provide a solid foundation for our understanding. These results resonate powerfully with established theoretical frameworks. The link between on-the-job training and performance is a classic illustration of Human Capital Theory in action, where investment in skill development yields direct returns on productivity (Becker, 1964). Similarly, the potency of Performance Feedback aligns perfectly with Goal-Setting Theory, which suggests that specific, actionable information is a prerequisite for employees to regulate their efforts and achieve targeted outcomes (Locke & Latham, 1990). In the high-stakes, target-driven environment of Nigerian DMBs, these practices are not merely beneficial; they are fundamental.

The more nuanced finding—the non-significant direct effect of Mentorship—initially appears counterintuitive. However, this revelation is perhaps the most insightful. It suggests that the value of formal mentorship is not as a standalone performance driver in the same vein as skill acquisition or corrective feedback. Instead, its role is more sophisticated and contextual. Mentorship does not directly *cause* performance; it *cultivates* the conditions for performance to thrive. This finding challenges a superficial reading of HRD effectiveness and pushes us toward a more integrated model.

It is here that the study's core contribution is crystallized. The strong positive moderation effects of Mentorship and Feedback on the on-the-job training –Performance link offer compelling evidence of synergistic interaction. The interaction effect of mentorship (H_2) reveals its function as a crucial "transfer mechanism." While on-the-job training equips employees with the *what*—the technical skills and knowledge—a mentor provides the *how* and *why*. Through role modeling, psychosocial support, and guidance on navigating the organizational landscape, mentors bridge the often-daunting gap between learning a skill in a controlled setting and applying it effectively as embedded in the multifaceted interpersonal environment of the workplace (Kram, 1985). This process is elegantly explained by Social Cognitive Theory, where observational learning and enhanced self-efficacy, fostered by a mentor, are vital for successful behavioral change (Bandura, 1986).

Similarly, the moderating role of Performance Feedback (H_3) casts it as an essential "calibration mechanism." On-the-job training may set the initial performance trajectory, but without consistent feedback, the path is prone to drift. High-quality feedback allows employees to fine-tune their application of new skills, correct errors in real-time, and build the confidence necessary for mastery. It converts a one-off instructional experience into a dynamic loop of growth and skill advancement. In essence, the findings present a powerful metaphor: if on-the-job training is the seed of employee performance, then Mentorship is the supportive framework that guides its growth, and Performance Feedback is the consistent nourishment that ensures it flourishes.

6.1. Contribution of the Study

This research makes a substantive contribution to both scholarly understanding and managerial practice by providing nuanced insights into the dynamics of human resource development. Its significance is twofold, offering distinct yet interconnected theoretical and practical implications that collectively argue for a paradigm shift in how HR initiatives are conceptualized and implemented within the Nigerian banking sector.

From a theoretical standpoint, this study serves as a robust empirical validator for the contingency and configuration perspectives within Strategic Human Resource Management (SHRM). It successfully moves the academic conversation beyond the perennial question of "which HR practice works best" and advances it towards the more sophisticated inquiry of "how do HR practices work together most effectively?" By demonstrating that the relationship between On-the-Job Training and performance is not direct and unconditional, but is instead contingent upon the presence of mentorship and feedback, the research provides compelling evidence for the core tenet of the bundling approach: that synergistic interactions, not just additive effects, drive performance. Furthermore, the study acts as a crucial theoretical bridge, integrating the economic rationale of Human Capital Theory with the socio-psychological mechanisms of Social Cognitive Theory. This integration offers a more holistic and realistic explanation of the micro-level processes—such as observational learning, enhanced self-efficacy, and self-regulation—through which macro-level HRD investments are ultimately converted into tangible performance outcomes, thereby unifying literature streams that are often treated in isolation.

On a practical level, the findings translate into a clear and actionable blueprint for HR strategists and senior management in Nigerian Deposit Money Banks. The evidence for synergy provides a powerful, data-driven mandate for change. Firstly, it necessitates a fundamental shift in strategic budgeting and planning. The focus must move away from siloed budgeting for training, mentorship, and feedback, toward a strategic, integrated investment in a comprehensive Talent Development Bundle. The demonstrated synergistic return on investment offers a far more potent argument for resource allocation, positioning HR not as a cost center but as a strategic investor in human capital.

Secondly, the study demands a radical rethinking of program design and integration. The design of HRD initiatives can no longer follow a siloed approach. On-the-job training programs must be architecturally linked with mentorship, making the formal assignment of a mentor a mandatory component of the training cycle, rather than an optional afterthought. Concurrently, structured feedback mechanisms must be embedded directly into this developmental pipeline. This requires training both line managers and mentors on how to deliver specific, timely, and constructive feedback that is explicitly tied to the skills and behaviors targeted by the on-the-job training. By creating this integrated system, organizations can ensure that the seed of training is consistently nourished by the support of mentorship and

the guidance of feedback, fostering a virtuous cycle of development and performance. Ultimately, this research provides the empirical justification for Nigerian DMBs to transition from managing isolated HR interventions to cultivating a cohesive and synergistic development ecosystem.

7. Conclusion

In conclusion, this study definitively shows that the quest for peak employee performance in Nigerian Deposit Money Banks cannot be won by simply investing in bigger or better standalone HR programs. The path to success is more strategic and lies in designing smarter, integrated HRD bundles. The effectiveness of a fundamental practice like On-the-Job Training is not guaranteed; it is critically contingent upon the enabling environment created by supportive social structures (Mentorship) and reinforcing performance signals (Feedback). The empirical evidence confirms that the whole of this integrated bundle is profoundly greater than the sum of its individual parts. For bank executives and HR leaders, the imperative is unequivocal: to build a resilient, high-performing, and adaptable workforce capable of thriving amid disruption, a paradigm shift from a siloed, transactional approach to a synergistic, systemic approach to human resource development is not just advisable—it is indispensable.

Recommendation

The empirical evidence generated by this study necessitates a strategic reorientation in human resource development practices within Nigerian Deposit Money Banks. To translate the compelling findings on synergistic effects into tangible organizational improvement, the following actionable recommendations are proposed, targeting key organizational tiers.

For HR Departments and Senior Management, the mandate is to design a systemic and integrated approach to talent development. Primarily, this involves the institutionalization of a formal "HRD Bundling Policy." Such a policy would provide the necessary structural framework to ensure that the integration of On-the-Job Training, Mentorship, and Performance Feedback is not left to chance or individual discretion. It should explicitly mandate that the approval of any significant on-the-job training initiative is contingent upon the submission of a corresponding plan detailing mentorship support and a structured feedback protocol, thereby embedding synergy into the project lifecycle from its inception. Organizations must also commit to purposeful investment in both training mentors and celebrating their contributions. Moving beyond the mere assignment of mentors, it is crucial to implement certified training programs that equip mentors with advanced skills in coaching, providing constructive feedback, and offering psychosocial support. Complementary to this, a dedicated system for acknowledging and incentivizing exemplary mentorship should be developed, reframing it as a strategic career asset rather than a secondary responsibility. Finally, to ensure operational efficiency and scalability, banks should leverage technology for seamless integration. By implementing or optimizing Human Capital Management (HCM) systems, organizations can create automated workflows that seamlessly connect training completion with mentor matching and trigger feedback collection cycles, making the administration of the HRD bundle efficient and trackable.

The successful implementation of this new paradigm equally depends on the active engagement of Line Managers and Team Leaders, who act as the critical link between strategy and execution. Firstly, managers must actively champion the HRD bundle within their teams. They play a vital role in framing mentorship and feedback not as additional burdens but as indispensable elements of professional growth and success, thereby fostering a culture that values continuous, supported development. Secondly, they should implement real-time feedback during the application of on-the-job training. Following formal training, managers must be proactive in observing employees' attempts to apply new skills and provide immediate, specific, and constructive feedback. This practice serves to rapidly close the learning loop, reinforce correct application, and correct missteps before they become habitual, thereby maximizing the return on training investments. Lastly, managers have a responsibility to facilitate productive mentor-mentee relationships. This involves periodically checking in with both parties to ensure the relationship is functioning effectively, offering guidance, and helping to navigate any logistical or interpersonal challenges that may arise, thus ensuring that the mentorship component delivers its intended developmental value.

The compelling evidence of synergy revealed by this study presents Nigerian Deposit Money Banks with a clear and actionable imperative: to consciously orchestrate their human resource development practices into a cohesive, mutually reinforcing system. By systematically implementing the recommended strategies—from instituting a formal HRD Bundling Policy and investing in certified mentor training to empowering line managers as champions of continuous feedback—DMBs can effectively dismantle the silos that have long characterized their developmental efforts. This deliberate transition from a fragmented, transactional approach to an integrated, synergistic model is not merely an administrative shift but a profound strategic realignment. It catalyzes unleashing untapped talent across the workforce,

cultivating a culture where new skills are actively practiced, honed, and maintained. In an era defined by rapid financial innovation and intense competition, cultivating such a resilient, adaptable, and high-performing human capital base is no longer a mere advantage but the very foundation of sustainable competitive advantage, ensuring organizational vitality and growth in a dynamic and unforgiving market.

Compliance with ethical standards

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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