



# Human Resource Practices and Employee Retention: The Moderating Effect of Job Engagement

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## ABSTRACT

This study investigates the relationship between human resource management (HRM) practices and employee retention in Ghana's Information and Communication Technology (ICT) sector, emphasizing the moderating role of job engagement. High turnover rates in this sector pose significant challenges, prompting the need for effective HRM strategies. The study identifies key HR practices, including compensation and training and development, as critical drivers of employee retention. It employs a quantitative approach, utilizing structural equation modeling (SEM) to analyze data from employees at the National Information Technology Agency (NITA). The findings reveal that both compensation and training significantly influence retention rates, with job engagement enhancing these effects. Specifically, engaged employees are more likely to remain with their organizations when they perceive fair compensation and effective training programs. However, the study uncovers a complex interaction where high job engagement may negatively moderate the relationship between training and retention, suggesting potential role overload or misalignment with employee needs. The research contributes to existing literature by integrating theories such as Equity Theory, Human Capital Theory, and Job Demands-Resources Theory to explain how HRM practices can be optimized for better retention outcomes. The implications extend to HR managers who are encouraged to develop equitable compensation structures and comprehensive training initiatives while fostering an engaging work environment. Limitations include the study's cross-sectional design and focus on a single organization, which may affect generalizability. Future research is recommended to explore longitudinal effects and additional variables influencing employee retention across diverse sectors.

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## Introduction

In today's dynamic business environment, retaining top talent is vital for maintaining a competitive advantage. High turnover rates can incur significant costs, reduce productivity, and result in the loss of institutional knowledge (Shang, 2018). Effective Human Resource Management (HRM) practices play a crucial role in creating a positive work environment, enhancing employee engagement, and reducing turnover. HRM involves the management of both current and prospective employees (Cosgrove, 2022). Key practices such as training, development, and fair compensation have been identified as critical drivers of employee retention (Chen, 2014; Hammond & Churchill, 2018; Robbins & Coulter, 2016). Additionally, employee engagement—defined by vigor, dedication, and absorption (Bakker et al., 2020)—is integral to this process. Engaged employees are more likely to be satisfied, committed to their organizations, and contribute positively to organizational outcomes (Eldor et al., 2020; Sergio & Rylova, 2018).

The Job Demands-Resources (JD-R) model further underscores the significance of job resources and personal resources in fostering job engagement (Bakker et al., 2020). This model highlights how the availability of resources can buffer job demands, leading to higher engagement levels. Despite extensive research on the importance of HRM and engagement in general, specific industries face unique retention challenges.

The Information, Communication, and Technology (ICT) sector, despite its rapid expansion, particularly struggles with high turnover. Factors such as marketability, labor scarcity, and stiff competition for skilled professionals contribute to elevated turnover rates in ICT (Eva, 2017; Ramalho et al., 2018; Adikiah, 2018). A global survey by LinkedIn, for instance, reported a 13.2% turnover rate among ICT professionals, underscoring the sector's vulnerability (Corner, 2018). In Ghana, significant strides in the ICT sector's regulatory environment, such as the establishment of the National Information Technology Agency (NITA) and interoperability initiatives (NITA, 2017), have yet to translate into robust HRM practices that secure long-term employee retention (Osei-Wusu, 2013). Research points to a pressing need for structured HRM strategies to build and retain a sustainable ICT workforce in the public sector (Ewusi-Mensah, 2012; Mawusi, 2020).

The problem of employee retention in the ICT sector is particularly acute among middle-level employees with emerging family responsibilities. This challenge is compounded by factors such as intense competition, brain drain, and difficulties in forecasting future staffing needs (Binushika & Karandakatiya, 2020). Although these challenges are well-documented, there is a notable gap in empirical research on how HRM practices can address retention issues in Ghana's ICT sector, especially within the public service. Existing studies have largely overlooked the complex relationship between HRM practices, employee retention, and the moderating role of job engagement. Addressing this gap, the present study investigates how HRM practices influence employee retention in Ghana's ICT sector, focusing on the moderating effect of job engagement. This research aims to deepen the understanding of how integrating HRM strategies with enhanced employee engagement can improve organizational success and retention outcomes, offering valuable insights for policymakers and HR managers in the sector.

## Literature Review

This study is grounded in three key theories: Equity Theory, Human Capital Theory (HCT), and Job Demands-Resources (JD-R) Theory, with a specific focus on how these theories inform the relationships between compensation, training and development, job engagement, and employee retention.

### Equity Theory

Equity Theory, developed by Adams (1963), posits that employees perceive fairness based on the ratio of their inputs (e.g., effort, skills) to their outputs (e.g., compensation, recognition). When employees perceive

inequity, they may alter their performance or seek other employment opportunities (Madhani, 2019). Recent studies support the notion that fair compensation and equitable training opportunities enhance job satisfaction and retention (Arisandi et al., 2020; Park, 2018). Particularly, Bibi et al. (2018) found that equitable HR practices contribute significantly to employee loyalty and reduce turnover rates. This theory aligns with Hypotheses 1 and 3 by suggesting that perceived fairness in compensation and training can directly and indirectly (via job engagement) influence employee retention.

### **Human Capital Theory (HCT)**

Proposed by Becker (1962), HCT distinguishes between general and specific human capital, asserting that investments in employee training increase an organization's value and enhance retention. Recent research highlights the impact of specific training on retention. For instance, Georgiadis and Pitelis (2016) found that specialized training fosters organizational commitment, while Abdullahi (2023) showed that tailored training opportunities directly enhance retention in the financial sector. This theory informs Hypotheses 2 and 4 by suggesting that training and development, when viewed as investments in human capital, positively influence retention, especially when combined with job engagement.

### **Job Demands-Resources (JD-R) Theory**

The JD-R Theory (Bakker & Demerouti, 2017) posits that job engagement arises when job resources (e.g., compensation, development opportunities) are adequate to meet job demands. Bakker et al. (2018) emphasize that engagement, characterized by vigor, dedication, and absorption, moderates the relationship between HR practices and employee retention. Recent literature underscores the role of job engagement in enhancing the effectiveness of HRM practices. For example, Ashraf and Siddiqui (2020) found that engaged employees are more likely to stay with organizations offering competitive compensation and training. This theory underpins the study's moderating hypotheses (H3 and H4), suggesting that job engagement amplifies the positive impact of compensation and training on retention.

### **Influence of HRM Practices on Employee Retention**

Effective HRM practices, particularly compensation and training and development, are central to employee retention. Recent studies highlight the importance of these practices in fostering long-term organizational commitment.

### **Compensation**

Compensation remains a critical determinant of retention. Sorn et al. (2023) found that competitive compensation packages significantly enhance retention rates, recommending a tailored approach to meet diverse employee needs. In contrast, Nyaema and Wambua (2019) observed low retention rates due to inadequate compensation in Kenyan banks. This literature supports Hypothesis 1 by indicating that fair and attractive compensation directly influences employees' decisions to remain with their employers. However, the effectiveness of compensation may be influenced by other factors, such as job engagement (Krishnamoorthy, 2022).

### **Training and Development**

Recent research underscores the pivotal role of training and development in retention. Nguyen (2020) showed that career-linked training positively influences retention among young professionals. Abdullahi (2023) identified the absence of promotional opportunities as a significant barrier to retention. These findings support Hypothesis 2, suggesting that training and development are essential for retaining a skilled workforce. However,

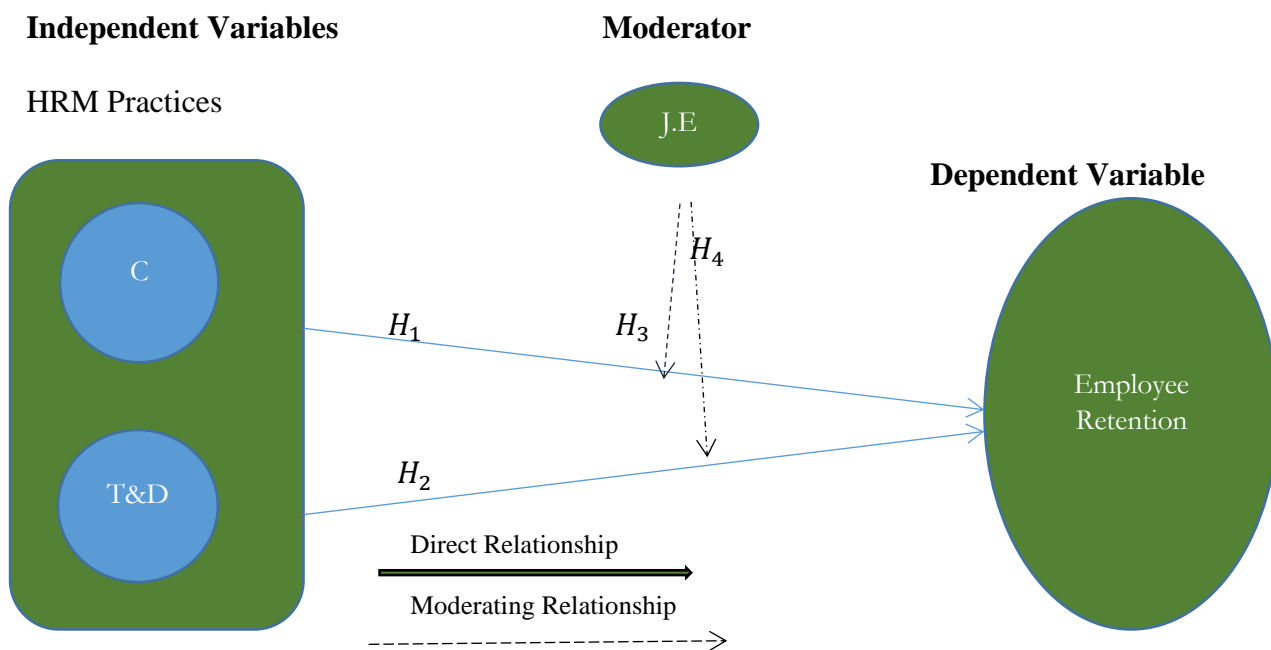
Omoikhudu (2017) noted that the effectiveness of training programs is also contingent on organizational culture and other complementary HRM practices.

### Job Engagement as a Moderator

Job engagement can strengthen the impact of HRM practices on retention. Sergio and Rylova (2018) found that engaged employees demonstrate higher job satisfaction and are less likely to leave their organizations. Bakker et al. (2018) further emphasized that engagement enhances the retention effects of HRM practices, particularly when job and personal resources are adequately provided. Thus, the moderating role of job engagement (Hypotheses 3 and 4) is critical, as it indicates that engagement can amplify the positive influence of both compensation and training on retention.

### Conceptual Framework

The conceptual framework visually represents the hypothesized relationships between the study variables: compensation, training and development, job engagement, and employee retention. The framework illustrates the direct effects (H1 and H2) of compensation and training on retention and the moderating role of job engagement (H3 and H4) in these relationships.



**KEYS WORDS:** C is Compensation; T&D is Training and Development; J.E is Job Engagement

Figure 1: Conceptual Model

### Explanation of the Conceptual Framework

**Direct Effects:** Equity Theory and HCT suggest that fair compensation (H1) and tailored training and development (H2) directly contribute to employee retention by ensuring that employees perceive a balanced input-output relationship and receive investments that increase their organizational value.

**Moderating Effects:** JD-R Theory posits that job engagement strengthens the link between HRM practices and retention. When job engagement is high, the positive impact of compensation (H3) and training

(H4) on retention is amplified, as engaged employees are more committed and satisfied with their work environment.

## Hypotheses

Based on the literature review and the conceptual framework, the study proposes the following hypotheses:

- H1: Compensation significantly influences employee retention.
- H2: Training and development significantly influence employee retention.
- H3: Job engagement significantly moderates the relationship between compensation and employee retention.
- H4: Job engagement significantly moderates the relationship between training and development and employee retention.

This framework aligns with the subsequent SEM analysis, which will test these relationships to provide insights into how integrated HRM practices and employee engagement can foster employee retention in the ICT sector.

## Methodology

This section details the research methodology employed, including the research paradigm, approach, design, population, sample, sampling techniques, instruments, and data analysis techniques.

The study adopted a positivist paradigm, which emphasizes objective reality and the use of quantitative data to test hypotheses and theories in a structured manner (Saunders & Lewis, 2017). This paradigm is suitable for studies that employ cross-sectional surveys and statistical analysis, allowing researchers to identify relationships between variables and generalize findings to a larger population (Clark & Creswell, 2008).

A quantitative approach was utilized due to its ability to systematically quantify data and identify patterns that can be generalized (Holton & Burnett, 2005). This approach is known for its objectivity, scientific rigor, and ability to produce statistically valid and replicable results. It involves collecting and analyzing numerical data to test specific hypotheses (Khodashahri, 2021; Alrazehi et al., 2021).

The study employed a descriptive cross-sectional survey design, which involves collecting data from a sample with similar characteristics at a specific point in time (Saunders & Lewis, 2017). This design is cost-effective and provides a snapshot of relationships between variables, making it an appropriate baseline for future research (Connelly, 2016).

The target population for this study consisted of 130 employees of the National Information Technology Agency (NITA) under the Ministry of Communication. Since this population size is relatively small and manageable, the study opted to use the entire population as the sample. By including all employees who had worked for at least one year, the study aimed to achieve a higher degree of representativeness and reduce the sampling error. This comprehensive approach ensures that findings accurately reflect the population, increasing the robustness and validity of the results (Memon et al., 2020).

Data were collected using a structured questionnaire with closed-ended questions. The questionnaire utilized a 5-point Likert scale to measure key variables such as compensation, training and development, job engagement, and employee retention. The scales were adapted from established measures in previous studies to ensure reliability and validity (Rukumba, 2021; Elsafty & Oraby, 2022; Schaufeli & Bakker, 2010).

Data analysis was conducted using Structural Equation Modeling (SEM) with the Partial Least Squares (PLS-SEM) approach. PLS-SEM was chosen for its ability to handle complex models with multiple variables and its higher statistical power, particularly in studies with small to medium sample sizes (Hair Jr. et al., 2014). The analysis involved two key steps:

1. Measurement Model: The model assessed reliability and validity using Composite Reliability (CR), Cronbach's Alpha, and Average Variance Extracted (AVE) (Hair et al., 2017). Model fit was evaluated using Standardized Root Mean Square Residual (SRMR) and Normed Fit Index (NFI) to ensure that the data adequately fit the proposed model (Henseler et al., 2016).

2. Structural Model: Using SmartPLS v4, the study employed bootstrapping to test the hypotheses and the interaction effects. This approach enabled the examination of direct, indirect, and moderating relationships among variables, confirming significant relationships between the independent and dependent variables.

### Multicollinearity

To ensure the robustness of the regression analysis, multicollinearity was tested using collinearity statistics. Variance Inflation Factors (VIFs) were examined to ensure they were below the threshold of 5, indicating the absence of multicollinearity issues (Kim, 2019).

### Ethical Considerations

The study strictly adhered to the university's research policy and ethical guidelines. Informed consent was obtained from each participant, clearly explaining the study's objectives, procedures, and rights. Participation was entirely voluntary, with assurances of confidentiality and anonymity. Participants were informed that they could withdraw from the study at any point without penalty. Additionally, the data collected were securely stored and used solely for research purposes, ensuring the privacy and rights of the participants were fully protected.

The methodological rigor of this study, including the choice of paradigm, approach, design, data analysis techniques, and ethical considerations, ensures the validity and reliability of the findings. This approach provides valuable insights and contributes significantly to the understanding of employee retention in the field of human resource management.

## Results and Discussion

This section presents the demographic profile of the employees of the National Information Technology Agency who participated in the study as shown in Table 1.

*Table 1: Demographic Profile of Employees at the National Information Technology Agency*

<b>Gender</b>	<b>Frequency</b>	<b>Percent</b>
Male	79	63.2
Female	46	36.8
Total	125	100
<b>Age</b>		
18-30 years	29	23.2
31-40 yaers	69	55.2
41-50 years	21	16.8
51-60 years	6	4.8
Total	125	100
<b>Education Level</b>		
SHS/WASSCE	3	2.4



HND	4	3.2
First Degree	83	66.4
Masters	28	22.4
Doctorate	1	0.8
Total	125	100

The demographic profile indicates a workforce predominantly composed of males (63.2%) and primarily aged between 31-40 years (55.2%). The education level is high, with 66.4% holding a First Degree and 22.4% holding a Master's degree, reflecting a well-educated sample overall. These characteristics provide a comprehensive overview of the demographic composition of the employees who participated in the study.

## Model Fit and Measurement Reliability

Table 2: Model Fit Indices for Confirmatory Factor Analysis

Fit Indices	Threshold	Final Confirmatory Factor Analysis (CFA) Model
SRMR	<0.08 (excellent); 0.08-1 (acceptable)	0.078
NFI	>0.7 (excellent); 0.7-1 (acceptable)	0.7

The model fit was evaluated using the Standardized Root Mean Square Residual (SRMR) and Normed Fit Index (NFI). The SRMR value of 0.078 falls within the acceptable range, indicating a well-fitting model. Similarly, the NFI value of 0.7 meets the minimum acceptable threshold, supporting the model's adequacy. These indices were chosen because they are commonly used to assess model fit in structural equation modeling, with SRMR being particularly sensitive to model misspecification and NFI indicating the proportion of improvement in fit compared to a null model.

Table 3: Reliability and Validity Metrics for Measurement Constructs

Construct	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
COMPENSATION	0.906	0.918	0.925	0.641
JOB ENGAGEMENT	0.928	0.958	0.938	0.628
RETENTION	0.888	0.902	0.923	0.750
TRAINING AND DEV.	0.956	0.957	0.962	0.715

Table 3 evaluates the reliability and validity of the constructs using Cronbach's alpha, composite reliability (rho\_a and rho\_c), and average variance extracted (AVE). The high Cronbach's alpha values (ranging from 0.888 to 0.956) indicate strong internal consistency. The composite reliability values exceed the acceptable threshold of 0.7, confirming the reliability of the constructs. The AVE values, all above 0.5, demonstrate that a substantial amount of variance in the indicators is captured by the latent constructs. These criteria were chosen based on established standards in the literature, where Cronbach's alpha values above 0.7 are generally considered acceptable, and AVE values above 0.5 indicate adequate convergent validity.

Table 4: Variance Inflation Factors (VIFs) for Multicollinearity Assessment

Constructs	VIF
COMPENSATION -> RETENTION	4.192
JOB ENGAGEMENT -> RETENTION	1.428
TRAINING -> RETENTION	4.361
JOB ENGAGEMENT x COMPENSATION -> RETENTION	3.578
JOB ENGAGEMENT x TRAINING -> RETENTION	4.058

The Variance Inflation Factors (VIFs) presented in Table 4 are all below the commonly accepted threshold of 5, indicating that multicollinearity is not a concern in this analysis. This ensures that the regression

estimates are reliable and that the independent variables do not exhibit problematic levels of collinearity, which could distort the results. The VIF threshold was chosen based on the standard practice that VIF values below 5 suggest no serious multicollinearity issues.

### Structural Model Analysis

Table 5: Summary of Structural Equation Model Analysis Results

	<b>R squared</b>	<b>Standard deviation (STDEV)</b>	<b>T statistics ( O/STDEV )</b>	<b>P values</b>
RETENTION	0.586	0.066	8.845	0.001

The model explains 58.6% of the variance in employee retention. The T-statistics value of 8.845 is significantly above the critical value (1.96 for a 95% confidence level), and the p-value (<0.001) indicates statistical significance. The R-squared value was selected as it indicates the proportion of variance in the dependent variable explained by the independent variables, and a value above 0.5 is generally considered substantial in social sciences research. The next table shows the path coefficients.

Table 6: Path Coefficients and Statistical Significance for Hypotheses Testing in the Structural Model

<b>Hypotheses</b>	<b>Relationship</b>	<b>Beta value</b>	<b>Standard deviation (STDEV)</b>	<b>T statistics ( O/STDEV )</b>	<b>F-square</b>	<b>P values</b>	<b>Decision</b>
H1	COMPENSATION RETENTION	-> 0.258	0.127	2.024	0.057	0.022	Supported
H2	TRAINING AND DEV. RETENTION	-> 0.517	0.129	3.994	0.024	0.000	Supported
H3	JOB ENGAGEMENT COMPENSATION RETENTION	x -> 0.246	0.139	1.769	0.072	0.039	Supported
H4	JOB ENGAGEMENT TRAINING AND DEV. RETENTION	x - -> 0.205	0.152	1.344	0.055	0.090	Supported

Table 6 provides detailed path coefficients, showing the direct and moderating effects of various independent variables on employee retention. The decision to support or reject hypotheses was based on the significance level ( $p < 0.05$ ) and the T-statistics, which should exceed the critical value for the hypothesis to be considered supported. These criteria were selected because they are widely accepted standards for testing the significance of relationships in structural equation modeling.

**H1:** The relationship between compensation and retention is positive and significant ( $\beta = 0.258$ ,  $p = 0.022$ ). This suggests that better compensation leads to higher employee retention.

**H2:** The relationship between training and development and retention is also positive and highly significant ( $\beta = 0.517$ ,  $p < 0.001$ ), indicating that effective training and development programs significantly boost employee retention.

**H3:** Job engagement moderates the relationship between compensation and retention positively ( $\beta = 0.246$ ,  $p = 0.039$ ), suggesting that higher job engagement strengthens the positive effect of compensation on retention.



**H4:** Job engagement moderates the relationship between training and development and retention, but this relationship is negative ( $\beta = -0.205$ ,  $p = 0.090$ ). This indicates that while job engagement is generally beneficial, its interaction with training and development might have complex effects on retention that warrant further investigation.

Figure 2 visually represents the structural model, showing the paths and coefficients between constructs. The model indicates that both compensation and training and development have strong positive effects on retention, while job engagement moderates these effects.

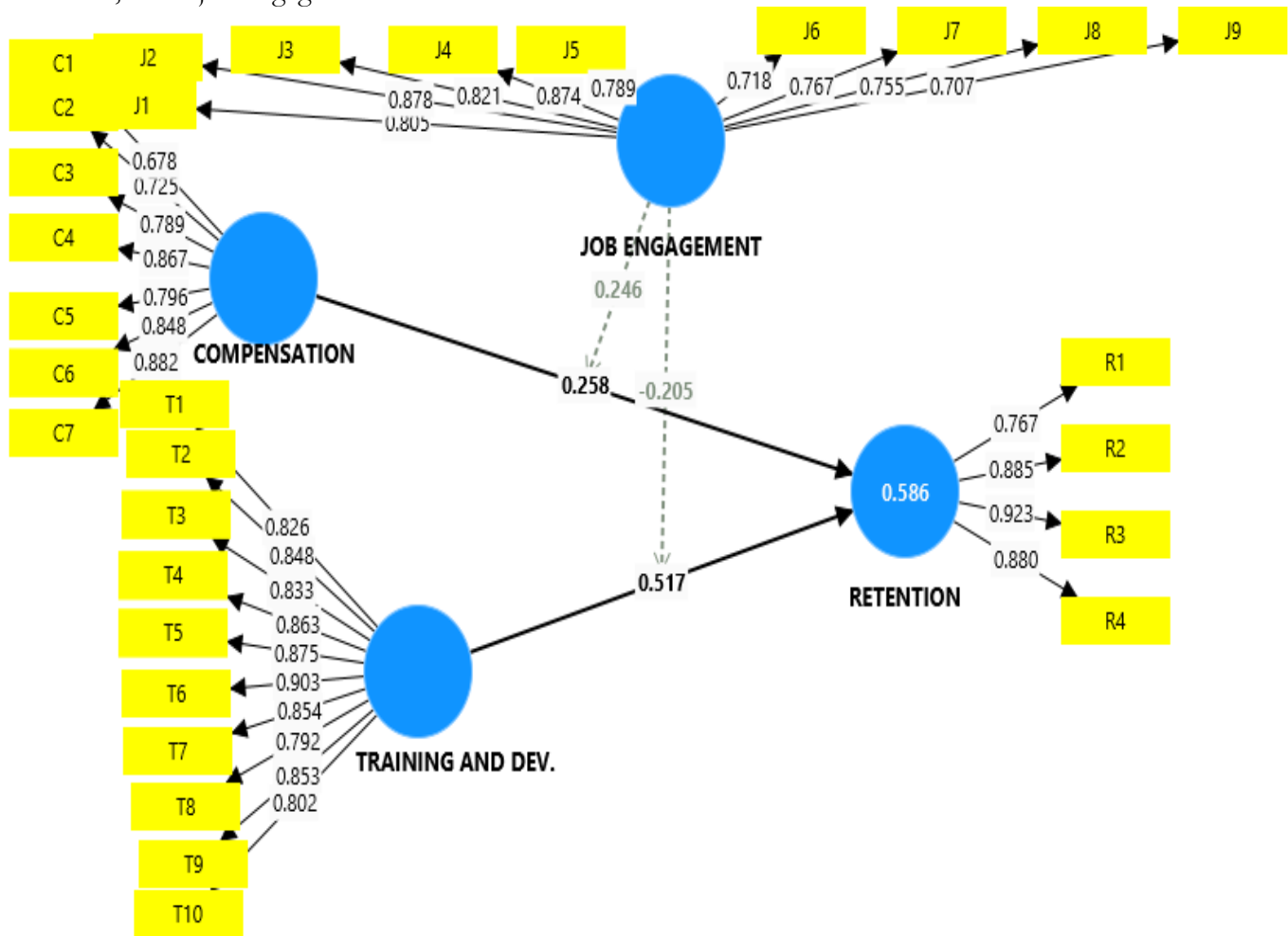


Figure 2: Result of the structural model

**Direct Effects:** Both compensation and training and development have strong positive effects on retention.

**Moderating Effects:** Job engagement moderates the effects of compensation and training on retention, highlighting its critical role in enhancing or altering the effectiveness of these HR practices.

The structural model analysis underscores the importance of compensation, and training and development in driving employee retention. The high R squared value (0.586) and significant path coefficients confirm the robustness of the model. The findings align with existing literature, which emphasizes the pivotal role of compensation and professional development opportunities in retaining employees.

Moreover, the moderating role of job engagement reveals nuanced insights into how engagement interacts with other HR practices. The positive moderation between job engagement and compensation suggests that engaged employees value compensation more, which in turn boosts their retention. However, the negative moderation between job engagement and training and development indicates a complex relationship that could be influenced by factors such as the quality and relevance of training programs or the varying perceptions of engaged versus less engaged employees towards training initiatives.

Overall, the model provides a comprehensive understanding of the factors influencing employee retention and highlights the critical role of job engagement in enhancing the effectiveness of compensation and training programs. Future research could delve deeper into the moderating effects observed, exploring the underlying mechanisms and potential strategies to optimize these relationships for improved retention outcomes.

### Analysis of Interaction Effects on Employee Retention

Figure 3 below presents the simple slope analysis examining the moderating effect of job engagement on the relationship between compensation and employee retention.

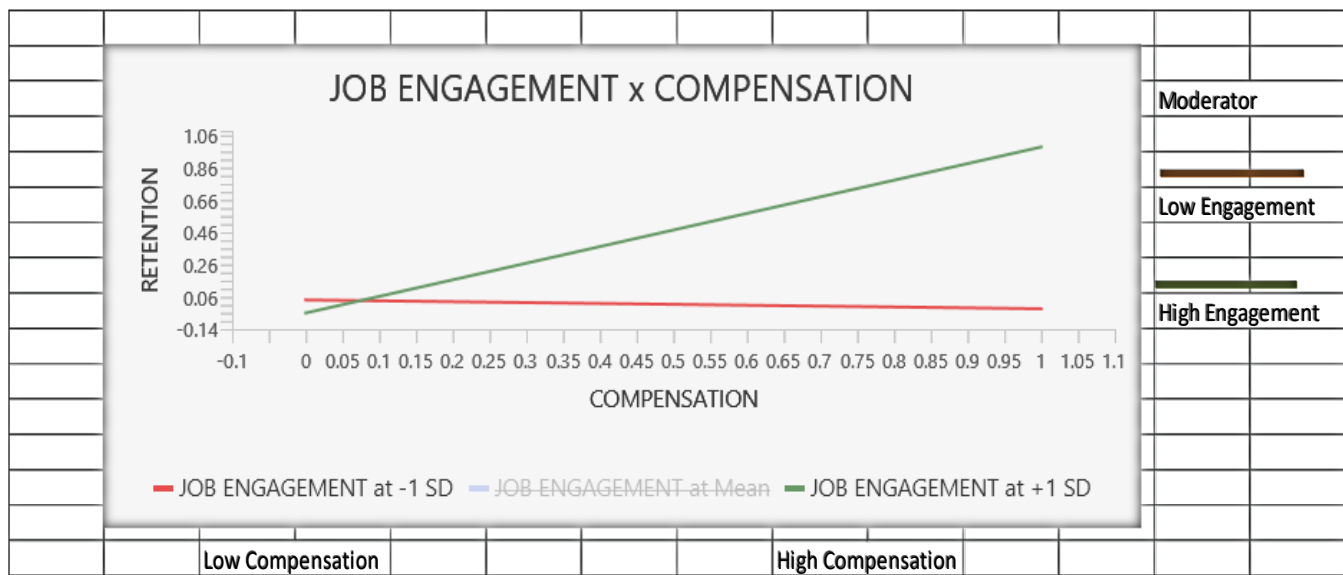


Figure 3: Simple Slope Analysis

The analysis indicates that higher levels of job engagement enhance the positive impact of compensation on retention. Specifically, employees with higher job engagement show a stronger relationship between compensation and retention, demonstrating that engagement amplifies the retention benefits of compensation. The following Figure 4 illustrates the simple slope analysis exploring the moderating effect of job engagement on the relationship between training and development and employee retention.

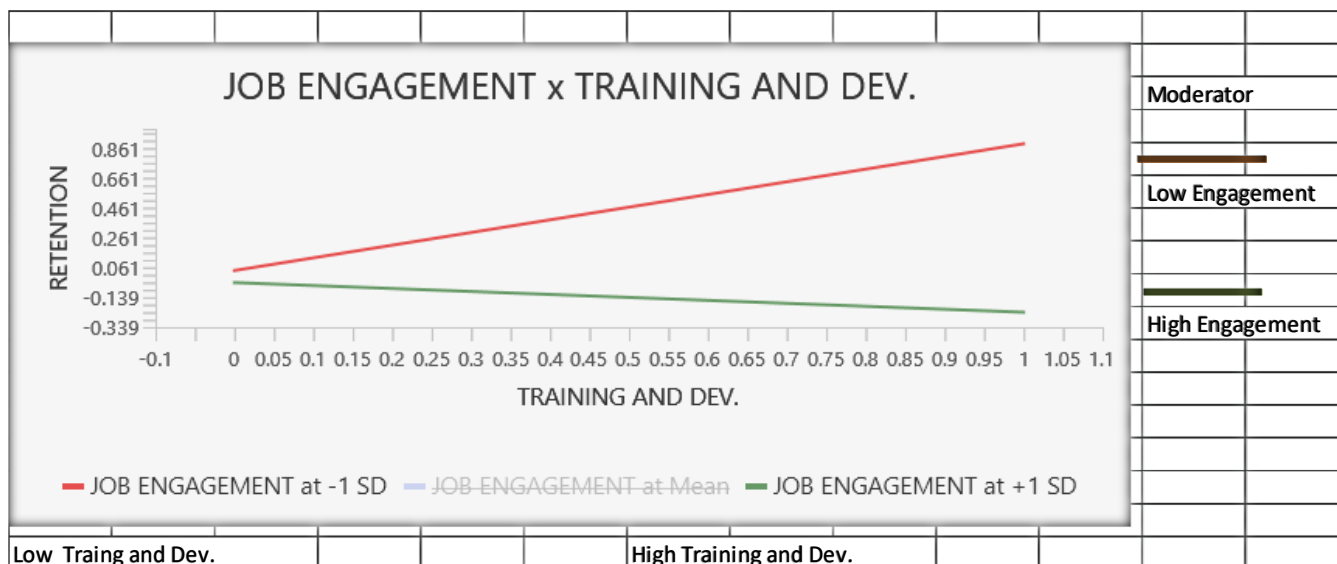


Figure 4: Simple Slope Analysis

Similar to the previous interaction, higher job engagement strengthens the positive influence of training and development on retention. More engaged employees derive greater retention benefits from training and development initiatives.

### Summary of Structural Model Analysis

The structural model, tested using Smart PLS 4.0, explains 58.6% of the variance in employee retention, indicating a robust model fit. The key findings reveal significant positive relationships between compensation and retention ( $\beta = 0.258, p = 0.022$ ) and between training and development and retention ( $\beta = 0.517, p < 0.001$ ). Additionally, job engagement significantly moderates these relationships, enhancing the effectiveness of compensation and training initiatives in retaining employees. These findings underscore the importance of fostering job engagement to maximize the effectiveness of compensation and training programs in retaining employees.

### Discussion

The present study investigated the relationship between compensation, training and development, and employee retention, with job engagement as a moderating variable. Four hypotheses were developed and tested, offering robust support for the moderating role of job engagement in strengthening the link between human resource practices and employee retention. This discussion explores these findings with existing literature, addressing both supporting and contradictory perspectives.

### Compensation and Employee Retention

The study found that compensation significantly influences employee retention, aligning with previous research by Khodashahri (2021) and Sorn et al. (2023), which highlighted the positive impact of both extrinsic and intrinsic rewards on retaining employees. Equity Theory (Adams, 1963) provides a theoretical lens to interpret this relationship, suggesting that employees assess the fairness of their compensation by comparing their input-output ratios to those of their peers. Perceptions of inequity lead to dissatisfaction and an increased likelihood of seeking alternative employment (Adams, 1963; Scott, 2018). The current study revealed that many NITA employees perceive their salary structure as unfair and are dissatisfied with flexible benefits. This finding

resonates with Madhani (2019) and Arisandi et al. (2020), who assert that equitable compensation systems are crucial for retention.

More recent literature further supports the study's findings. For example, Krishnamoorthy (2022) noted the importance of compensation in retaining IT sector employees, although the study highlighted that compensation alone is insufficient without a holistic HRM strategy. Nyaema and Wambua (2019) also identified inadequate compensation as a primary factor in employee turnover. Thus, consistent with recent research, this study underscores the necessity of fair compensation to retain talent, especially in public sector organizations like NITA.

## **Training and Development and Employee Retention**

Training and development emerged as another critical factor influencing retention, particularly among younger employees at NITA. This finding is consistent with Nguyen and Duong (2020), who emphasized the role of effective training in enhancing retention. Human Capital Theory (Becker, 1962) supports this view, positing that investments in employee training enhance both productivity and retention. Studies by Georgiadis and Pitelis (2016) further confirm a positive correlation between employee training and productivity.

However, this study also highlighted a lack of personal development opportunities and formal training among many NITA employees. This concern aligns with Abdullahi (2023), who identified limited promotional opportunities as a barrier to retention in Ghana's financial sector. Despite the positive relationship between training and retention, the current study found that when job engagement is low, the effectiveness of training on retention diminishes. This finding offers a nuanced perspective, suggesting that while training is vital, its impact on retention may be mediated by other factors, including job engagement.

## **Job Engagement as a Moderator**

The study revealed that job engagement significantly moderates the relationship between HR practices and employee retention. Engaged employees show higher physical, cognitive, and emotional involvement in their roles, leading to increased retention (Mensah, 2022; Mendes & Stander, 2011). The findings align with Hackman and Oldham's (1975) Job Characteristics Theory, which posits that job design influences key outcomes like job satisfaction, performance, and retention. This study's observation of low passion for work among employees is consistent with Jaharuddin (2019), highlighting the need for enhancing job characteristics such as task identity, significance, autonomy, and feedback to boost engagement and retention.

Interestingly, the study found a negative moderation effect of job engagement on the relationship between training and development and retention, suggesting that higher engagement may not always enhance the positive impact of training on retention. This finding diverges from Bakker et al. (2018) and Sergio and Rylova (2018), who suggested that engaged employees are more likely to benefit from training and stay with the organization. A potential explanation for this negative effect is offered by Christensen et al. (2008), who argued that when employees are already highly engaged, additional training may lead to role overload or stress, thereby diminishing the intended positive effect on retention. Furthermore, Ashraf and Siddiqui (2020) indicate that overly engaged employees may experience burnout if the training does not align with their perceived needs or career aspirations, leading to a counterproductive effect on retention.

## **Conclusion**

This study examined the influence of compensation and training and development on employee retention, with job engagement as a moderating factor. The findings highlight the significant impact of both compensation and training in enhancing retention rates at the National Information Technology Agency (NITA). Additionally, job engagement was identified as a crucial moderating variable, amplifying the positive

effects of these human resource practices on retention. These results underscore the importance of adopting comprehensive HR strategies that address both extrinsic and intrinsic motivational factors to retain employees effectively.

## **Implications**

The implications of this study are significant for both theory and practice. Theoretically, the study contributes to the understanding of Equity Theory and Human Capital Theory in the context of employee retention, providing empirical evidence that supports the importance of fair compensation structures and continuous development opportunities as key drivers of retention. The study also extends Job Characteristics Theory by demonstrating how job engagement can enhance the effects of HR practices on retention.

From a practical standpoint, organizations should prioritize developing and implementing equitable compensation packages and comprehensive training programs to boost employee satisfaction and loyalty. Furthermore, the findings emphasize the need to foster job engagement through purposeful job design and active employee participation. HR managers should focus on creating a work environment that promotes physical, cognitive, and emotional engagement to optimize retention rates.

## **Relation to UN Sustainable Development Goals (SDGs)**

This study also aligns with the United Nations Sustainable Development Goals (SDGs), particularly Goal 8: Decent Work and Economic Growth. By highlighting the importance of fair compensation, employee development, and job engagement, the study promotes the principles of sustainable economic growth, full and productive employment, and decent work for all. Implementing the findings can help organizations contribute to these global objectives by fostering workplaces that prioritize employee well-being, engagement, and fair labor practices.

## **Limitations**

This study offers valuable insights into employee retention at the National Information Technology Agency (NITA), but several limitations should be noted. First, the cross-sectional design limits the ability to establish causal relationships, as data was collected at a single point in time. Longitudinal studies could better capture the evolving impact of compensation, training, and job engagement on retention.

Second, the study's focus on NITA may limit the generalizability of the findings to other sectors or regions. NITA's unique organizational context suggests that caution is needed when applying these results elsewhere. Expanding future research to include a broader range of organizations could enhance the applicability of the findings.

Lastly, the reliance on self-reported data may introduce social desirability bias, potentially skewing the results. Future studies should consider using methods like triangulating self-reports with objective measures to reduce this bias.

## **Future Directions**

To build on this study's findings, future research should address its limitations and explore new directions. Longitudinal designs would help capture the dynamic nature of employee retention and its predictors, offering a clearer view of how these factors interact over time. Expanding the study to include a broader range of organizations across different sectors and regions would enhance the generalizability of the results.

Further research could examine additional moderating variables, such as organizational culture, leadership styles, and employee demographics, to gain deeper insights into the factors influencing retention. Qualitative methods like interviews and case studies could complement the quantitative data, providing a richer understanding of employees' experiences and the underlying reasons for their retention.

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