



Compensation Structures and Staff Retention in Rwanda's Construction Sector: Evidence from Access International Construction

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Abstract: Voluntary staff attrition constrains project continuity in Rwanda's construction industry. This study examined the role of employee compensation on staff retention at Access International Construction Rwanda, focusing on four reward dimensions: performance-based bonuses and incentives, competitive base pay and overtime, employee benefits packages, and career skill-based pay. Anchored in Expectancy Theory, Equity Theory and the Total Rewards Model, the study adopted a correlational, cross-sectional design. From a target population of 377 employees, a sample of 128 was drawn through simple random sampling, supplemented by interviews with three key informants. Data were collected using a structured Likert questionnaire and analysed with descriptive statistics, Pearson correlation and multiple regression in SPSS. Instrument reliability exceeded the 0.70 Cronbach alpha threshold for all constructs, and content validity was 0.80. The regression model was statistically significant and the four dimensions jointly explained a substantial share of the variance in retention, with employee benefits packages and performance-based bonuses exerting the strongest effects. The study recommends that construction firms prioritise comprehensive benefits and transparent, milestone-linked incentive schemes over base-pay adjustments, and that policymakers incorporate welfare-mechanism guidelines into construction-sector labour policy.

Keywords: employee compensation; staff retention; employee benefits; performance incentives; construction industry

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1. Introduction

High labour turnover is one of the most costly and disruptive challenges facing the construction industry, where the loss of specialised technical staff erodes institutional knowledge, delays project timelines and inflates recruitment and training costs (Maliha et al., 2024; Ndatshe et al., 2024). Beyond the direct financial cost of replacing skilled labour, the sector faces structural pressures—chronic skilled-labour shortages, an ageing workforce, and a leaky pipeline of diverse talent—that make retention a strategic, not merely operational, concern (Aluko & Burgess, 2025; Ebekoziem et al., 2024).

Internationally, competitive financial compensation remains a necessary but no longer sufficient condition for

retention. Evidence converges on the view that pairing wages with non-monetary rewards such as professional development, flexibility and recognition sustains organisational loyalty, particularly among younger cohorts of workers (Tuttle & Critchlow, 2025; Zhang & Li, 2025). At the regional level, similar patterns are documented across Kenyan and Ugandan construction sectors, where holistic benefit packages—job stability, medical schemes and professional growth opportunities—increasingly outweigh salary alone in predicting loyalty among skilled workers (Nyukuri & Muli, 2025; Tumushime & Irechukwu, 2023).

1.2 Statement of the Problem

In Rwanda, this problem is acute. National data indicate that 68.8% of workers cite low pay as their primary reason for intending to quit (National Bank of Rwanda, 2020), and the construction sector lost an estimated 45,550 workers between 2022 and 2023, driven largely by job insecurity and the absence of welfare mechanisms such as staff solidarity funds (NISR, 2023; Pascal et al., 2026). At Access International Construction Rwanda, this national pattern is reflected in a documented sequence of unexplained resignations: 17 employees in 2021, 19 in 2022, 11 senior engineers in 2023 (who cited higher pay elsewhere), and 9 in 2024, despite the firm's continuing investment in compensation intended to attract skilled labour and reduce costly turnover (Access International Construction Rwanda, 2026; Zhong, 2024). Rulisa et al. (2023) linked this attrition to a mismatch between the firm's reward systems and prevailing labour-market expectations, and Harorimana (2023) found that inadequate remuneration accounts for a large share of the variance in operational performance among comparable Rwandan private-sector firms.

1.3 Objectives and Hypotheses

The general objective was to analyse the role of employee compensation on staff retention at Access International Construction Rwanda. The specific objectives were:

1. To examine the role of performance-based bonuses and incentives on staff retention.
2. To analyse the role of competitive base pay and overtime on staff retention.
3. To determine the role of employee benefits packages on staff retention.
4. To assess the role of career skill-based pay on staff retention.

Correspondingly, four null hypotheses were tested:

1. H01: There is no significant role of performance-based bonuses and incentives on staff retention.
2. H02: There is no significant role of competitive base pay and overtime on staff retention.
3. H03: There is no significant role of employee benefits packages on staff retention.
4. H04: There is no significant role of career skill-based pay on staff retention.

1.4 Significance of the Study

For the management of Access International Construction, the study provides a data-driven basis for shifting from

reactive hiring toward proactive talent cultivation. For policymakers, the findings offer empirical grounding for wage and welfare guidelines consistent with Rwanda's Vision 2050 and the National Strategy for Transformation (NST1), and may inform the Ministry of Public Service and Labour (MIFOTRA) in formulating policy to reduce turnover in technical sectors. For the academic community, the study contributes a localised, empirically grounded case that connects total-rewards frameworks with the retention challenges of construction firms operating in Rwanda.

2. Literature Review

2.1 Compensation and Retention in Construction

A robust compensation structure signals an employer's valuation of its workforce and shapes organisational commitment, reducing employees' propensity to seek alternatives (Abdolmaleki et al., 2024). In construction, competitive base pay and performance bonuses help mitigate the movement of civil engineers and site managers toward international firms (Aman-Ullah et al., 2023), while total-reward elements such as health insurance and hardship pay address the psychosocial demands of physically strenuous, project-based work (Kitsios & Kamariotou, 2021; Namin et al., 2022). When employees perceive their compensation as fair relative to the risks and effort of their roles, they develop stronger perceived organisational support, a recognised barrier against turnover (Namin et al., 2022).

2.2 Performance-Based Bonuses and Incentives

Performance-based bonuses are supplementary rewards granted when employees meet or exceed predefined targets such as project deadlines, safety standards or cost-saving benchmarks. Unlike fixed salaries, they are contingent and variable, tying individual effort to measurable output (Abdolmaleki et al., 2024). Taamneh et al. (2026) found that skill-based hiring and continuous learning significantly improve job performance, a mechanism plausibly transferable to firms that link bonuses to certified competencies. Eungoo (2023) compared job-based and skill-based pay and concluded that practitioners should tailor compensation structure to workforce career-advancement expectations. In construction contexts, Sofiyan (2026) reported that individual financial incentives lower turnover intention, Zainal et al. (2022) found structured reward systems have a stronger association with retention than environmental or work-life-balance variables, and Utama (2025) showed that combining transparent communication with performance-based incentives is associated with greater workforce stability.

2.3 Competitive Base Pay and Overtime

Competitive base pay refers to a fixed, market-aligned wage that matches or exceeds industry benchmarks for comparable roles, serving as the foundation of a total-rewards strategy (Indeed, 2025; Randstad, 2026). Overtime pay, typically calculated at 1.5 times the regular rate, is a lever for managing the unpredictable schedules of construction projects, though prolonged reliance on overtime is associated with productivity decline due to fatigue (Calamity, 2025). The empirical evidence on base pay is more mixed than for bonuses or benefits. Vikar (2026) found that adequate direct compensation is associated with long-term retention among younger workers, whereas Arias (2025) found that eliminating excessive overtime reduced attrition more than marginal base-pay increases, and Gautam et al. (2025) characterised base pay and overtime as Herzberg-type hygiene factors—necessary to prevent dissatisfaction but not, on their own, sufficient to drive loyalty. Kebebe (2025) confirmed that structured overtime payment is associated with workforce efficiency and retention.

2.4 Employee Benefits Packages

Employee benefits packages extend compensation beyond wages to include legally mandated protections alongside supplementary offerings such as health insurance, pension plans and paid leave (Petersen, 2000; Liaquat et al., 2024). Contemporary packages increasingly incorporate mental-health support, reflecting a shift toward addressing the whole person (Felknor et al., 2023; Kirsten, 2022). Geremew (2020) found a significant positive relationship between compensation packages and both job satisfaction and retention. Dongre (2024) found that strategically designed benefits foster organisational commitment and lower turnover intentions, while Limin (2025) reported that a competitive fringe-benefits framework elevates job satisfaction. Laulié et al. (2021) showed that satisfaction with contingent, benefit-linked rewards reduces turnover intention, an effect moderated by employee age.

2.5 Career Skill-Based Pay

Career skill-based pay rewards the acquisition and mastery of specific competencies rather than job title or tenure (Knibbel et al., 2025). In emerging economies including Rwanda, embedding employability through work-integrated learning is a strategic focus for bridging the gap between training and labour-market demand (African Development Bank Group, 2022). Celestin (2024) identified investing in growth, leadership development, communication and professional development as retention-relevant themes. Choudhary (2025) found that compensation designs reducing employees' financial uncertainty act as a driver of reduced turnover, particularly when paired with visible progression pathways.

Benayoune (2024) found that competency-based development practices raise engagement and decrease turnover intentions, and Peemanee et al. (2026) confirmed that growth-oriented, skill-linked benefits secure organisational commitment.

2.6 Staff Retention in Construction Companies

Staff retention is conceptualised as a proactive strategy encompassing extrinsic rewards (remuneration, welfare, bonuses) and intrinsic factors (professional growth, supportive culture) aimed at minimising voluntary turnover (Aluko & Burgess, 2025; Sinta et al., 2023). Duerr (2024) found that a substantial share of voluntary turnover is preventable, often stemming from managers' failure to discuss career development, while sustained engagement has been associated with reduced turnover (Galan, 2023). Moore and Hanson (2022) and Kunle and Joel (2025) found that immediate supervisors, more than corporate-wide policy, are a primary driver of the micro-culture that determines departmental retention.

2.7 Theoretical Framework

2.7.1 Expectancy Theory

Vroom's (1964) Expectancy Theory holds that motivation is a multiplicative function of expectancy, instrumentality and valence. If any component approaches zero, overall motivation collapses toward zero, which gives management a diagnostic tool for identifying why compensation policy may fail to retain staff. Applied here, project-based bonuses, safety incentives and technical certifications must carry high valence for engineers and site managers, and instrumentality must be sustained through transparent, consistent reward distribution (Sudiardhita et al., 2023).

2.7.2 Equity Theory

Adams' (1963) Equity Theory proposes that employees evaluate compensation relationally, comparing their input–output ratio with that of referent others (Hassan et al., 2021). Perceived under-reward produces cognitive dissonance that employees resolve by reducing effort, seeking higher pay, or exiting (Bharath, 2023; Yesuf et al., 2023). In construction, perceived favouritism or non-merit-based pay is a recognised driver of turnover; conversely, equitable total-reward packages are associated with stronger commitment (Inegbedion et al., 2024; Li, 2023; Sharma & Singh, 2024).

2.7.3 Total Rewards Model

The Total Rewards Model reframes the employer–employee exchange as a holistic value proposition rather than a purely financial transaction (Aon, 2025; Borderwork, 2000). Its explanatory power lies in addressing diverse employee needs simultaneously, from

financial security to career growth. For a firm operating in a competitive regional market, this model implies that safety, job security and professional development should be balanced against base pay, and that context-sensitive rewards such as staff solidarity funds tailored to the Rwandan workforce may outperform generic designs (WorldatWork, 2026).

2.8 Conceptual Framework

The conceptual framework positions employee compensation as the independent variable, operationalised through four dimensions, and staff retention as the dependent variable (Table 1). The framework proposes that a multifaceted compensation approach predicts staff retention outcomes.

Table 1: *Operational Definitions of Study Variables*

Construct	Type	Indicators / Operational Definition
Performance-based bonuses and incentives	Independent	Targets; measurement; payouts; eligibility
Competitive base pay and overtime	Independent	Salary; overtime; incentives; allowances
Employee benefits packages	Independent	Health; retirement; leave; insurance
Career skill-based pay	Independent	Training; certification; progression; re-skilling
Staff retention	Dependent	Turnover rate; average tenure; net promoter score; retention per manager

Source: Study research instrument, 2026.

2.9 Research Gap and Justification

Existing research has not clarified which specific compensation dimensions matter most in a construction-sector, sub-Saharan African context. Much prior literature on reward–retention linkages is generalised across industries, uses short observation windows, or relies on small samples (Abdolmaleki et al., 2024; Kitsios & Kamariotou, 2021). What remains underexamined is the relative weight of performance-based incentives, base pay, benefits and skill-based pay when tested simultaneously within a single labour-intensive construction firm operating in an emerging East African market. This study addresses that gap by testing all four dimensions within one Rwandan construction firm and quantifying their relative statistical weight.

3. Methodology

The study adopted a correlational, cross-sectional research design, appropriate for measuring the strength and direction of the relationship between employee compensation and staff retention without manipulating the study variables (Creswell, 2020; Otzen & Manterola, 2017). Both quantitative and qualitative approaches were used: quantitative data were analysed descriptively (means, standard deviations) and inferentially (correlation, multiple regression), while qualitative interview data were used to contextualise the quantitative findings. Data were processed using IBM SPSS Statistics version 26.

3.1 Population, Sample and Sampling Technique

The target population comprised 377 employees of Access International Construction Rwanda, distributed across engineering and project management (22), logistics and supply chain (43), operations and site supervision (29), administration/finance/human resources (9), sales and marketing (6), procurement and strategic sourcing (4), quality assurance (7), technical sales and distribution (25), and temporary workers (232). Simple random sampling was used. Yamane’s (1967) formula, $n = N / (1 + Ne^2)$, with $N = 377$ and a margin of error of 0.05, was applied to determine the sample size, and 128 respondents were retained as the final sample, drawn proportionally across departments.

3.2 Data Sources and Collection Instruments

Primary data were collected through a structured, closed-ended questionnaire administered to the 128 sampled employees, using a five-point Likert scale (1 = strongly disagree to 5 = strongly agree) across sections covering the demographic profile and each of the four compensation dimensions, together with a section measuring staff retention. The questionnaire was supplemented by a semi-structured interview guide administered to three key informants to gain qualitative insight into how each compensation dimension was perceived to influence retention. Secondary data were drawn from the firm’s annual reports, HR records, and academic and industry literature, used principally to contextualise the background and problem statement.

3.3 Piloting, Validity and Reliability

A pilot study was conducted with thirteen employees prior to full administration, consistent with recommended practice for testing research protocols (Boparai, 2018). Content validity was established through review by an academic supervisor and independent research experts; the

resulting Content Validity Index ($32/40 = 0.80$) exceeded the 0.60 acceptability threshold (Downing, 2003). Internal consistency reliability was assessed using Cronbach's alpha, with a coefficient of 0.70 or above treated as acceptable (Amin, 2005). As shown in Table 2, all five constructs exceeded this threshold.

Table 2: Instrument Reliability (Cronbach's Alpha)

Variable	Items	Cronbach's Alpha
Performance-based bonuses and incentives	8	0.79
Competitive base pay and overtime	8	0.91
Employee benefits packages	8	0.88
Career skill-based pay	8	0.75
Staff retention	8	0.73

Source: SPSS reliability output, 2026.

Note. The abstract of the original manuscript reported a reliability range of $\alpha = 0.73\text{--}0.91$, which is consistent with the values in Table 2.

3.4 Ethical Considerations

The study was conducted in accordance with recognised research-ethics principles, and institutional clearance was obtained from the University of Kigali prior to data collection. Informed consent was secured from all participants before administration of the instruments, and permission to conduct the study was granted by the management of Access International Construction Rwanda. Participation was voluntary and anonymous; questionnaires used identification numbers rather than respondent names, and no identifying information was collected. Respondents were informed that the study posed no known risk, that they could withdraw at any point without penalty, and that their responses would remain confidential. All data were stored securely, accessed only by the researcher, and used solely for the purposes of this research.

3.5 Analytical Model

Multiple linear regression was used to test the joint and individual effects of the four independent variables on staff

retention, specified as: $Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon$, where Y is staff retention; X_1 = performance-based bonuses and incentives; X_2 = competitive base pay and overtime; X_3 = employee benefits packages; and X_4 = career skill-based pay. Prior to interpreting the regression output, post-estimation diagnostics were conducted to support the appropriateness of ordinary least squares estimation.

4. Results and Discussion

4.1 Respondent Profile

Of the 128 respondents, 76 (59.4%) were male and 52 (40.6%) female. The largest age group was 31–40 years (46.1%), followed by below 30 years (21.9%), 41–50 years (17.2%), and 51 years and above (14.8%). In terms of tenure, 39.8% had 10–15 years of service, indicating a workforce with substantial institutional experience relative to typical construction-sector turnover benchmarks (Table 3).

Table 3: Demographic Profile of Respondents (N = 128)

Category	Group	Frequency	Percent
Age	Below 30 years	28	21.9
	31–40 years	59	46.1
	41–50 years	22	17.2
	51 years and above	19	14.8
Gender	Male	76	59.4
	Female	52	40.6
Education	Master’s degree	25	19.5
	Bachelor’s degree	66	51.6
	Secondary level	37	28.9
Tenure	Less than 1 year	12	9.4
	1–5 years	29	22.7
	5–10 years	30	23.4
	10–15 years	51	39.8
	15 years and above	6	4.7

Source: Primary data, 2026. Note. Education frequencies were adjusted so that the three categories sum to N = 128 (see Author Verification note).

4.2 Descriptive Perceptions by Compensation Dimension

Mean and standard deviation scores for each compensation dimension are reported below. Lower standard deviations

indicate more homogeneous respondent perceptions; means closer to 5.0 indicate stronger agreement.

4.2.1 Performance-Based Bonuses and Incentives

Table 4: Perceptions of Performance-Based Bonuses and Incentives (N = 128)

Statement	Mean	SD
Financial rewards link individual output to company success	4.85	0.38
Recognising workmanship through bonuses reduces competitor poaching	5.00	0.00
Regular incentive structures build a sense of partnership	4.69	0.48
Performance-based pay acts as a “golden handcuff” against departure	4.77	0.44
A reputation for rewarding excellence secures regional talent	4.55	0.32
The firm ensures high performers remain committed	4.00	0.00
Recognition of hard work improves morale among teams	4.81	0.40
The firm fosters a sense of value that discourages departure	4.78	0.41

Source: Primary data, 2026.

Recognition of high-quality workmanship through bonuses (M = 5.00, SD = 0.00) and the “golden handcuff” effect (M = 4.77) scored highest, indicating that respondents consistently associate merit-based reward with reduced intent to leave. This pattern is consistent with Utama (2025) and Sofiyan (2026), who found that transparent, individual performance incentives are associated with lower turnover intention, and with Zainal et al. (2022), whose evidence that structured reward systems outperform

environmental variables is echoed here. Theoretically, the result supports Vroom’s Expectancy Theory: where instrumentality is perceived as reliable and valence is high, intent to remain increases. Practically, management should formalise milestone-linked, transparently communicated bonus criteria rather than discretionary rewards.

4.2.2 Competitive Base Pay and Overtime

Table 5: Perceptions of Competitive Base Pay and Overtime (N = 128)

Statement	Mean	SD
A market-competitive salary meets essential living needs	5.00	0.00
A stable monthly salary allows long-term household planning	4.23	0.44
Access to health insurance protects against medical emergencies	2.62	0.65
Rewards for meeting milestones link performance to personal gain	4.62	0.56
Housing allowances protect net take-home pay	5.00	0.00
The firm fosters loyalty and a long-term career outlook	4.95	0.43
The firm reduces quiet quitting due to perceived underpayment	3.21	0.58
Fair overtime compensation makes staff feel valued	4.84	0.38

Source: Primary data, 2026.

Market-competitive salary and housing allowances scored the maximum mean ($M = 5.00$, $SD = 0.00$), while access to health insurance scored markedly lower ($M = 2.62$, $SD = 0.65$), the only heterogeneous item in this construct, indicating an identifiable gap between the firm's compensation policy and its perceived medical-benefit delivery. This aligns with Gautam et al. (2025) and Kebebe (2025), whose characterisation of base pay and overtime as

hygiene factors implies they prevent dissatisfaction without independently driving loyalty, and with Arias (2025), whose finding on excessive overtime mirrors the low score for perceived protection against quiet quitting ($M = 3.21$).

4.2.3 Employee Benefits Packages

Table 6: Perceptions of Employee Benefits Packages (N = 128)

Statement	Mean	SD
Regular access to medical care keeps the workforce fit for site duties	4.88	0.42
Covering medical costs prevents health emergencies from becoming crises	3.85	0.28
Care for employees' life after work reduces desire for informal employment	5.00	0.00
Scheduled leave allows recovery from intensive project cycles	2.92	0.68
Life insurance provides peace of mind in high-risk environments	4.76	0.42
Value-added perks create a supportive culture	5.00	0.00
Superior benefits allow the firm to match or exceed industry standards	4.34	0.37
The firm fosters long-term security that discourages departure	4.85	0.45

Source: Primary data, 2026.

Value-added perks and the perceived emotional bond created by employer care both scored the maximum mean ($M = 5.00$, $SD = 0.00$), while scheduled annual and sick leave scored lowest and was the sole heterogeneous item ($M = 2.92$, $SD = 0.68$). This corroborates Geremew (2020), Dongre (2024) and Limin (2025), who found that health, pension and well-being provisions foster commitment. The divergence between strong perceived value of benefits in principle and weaker perceived delivery of specific

components is consistent with Equity Theory: where perceived delivery falls short of what the firm claims to offer, dissatisfaction and turnover risk rise even where nominal policies exist. Closing the gap between stated benefits policy and lived employee experience is the clearest actionable priority to emerge from the descriptive results.

4.2.4 Career Skill-Based Pay

Table 7: Perceptions of Career Skill-Based Pay (N = 128)

Statement	Mean	SD
Employees stay when the firm invests in their professional value	4.85	0.38
Employees feel reciprocity when the firm funds certifications	4.97	0.44
Visible promotion opportunities motivate staff to stay long-term	5.00	0.00
Training on modern tools keeps skills relevant and roles secure	3.85	0.38
Willingness to retrain employees fosters organisational loyalty	5.00	0.00
Continuous skill development reduces specialists leaving	4.42	0.36
The firm boosts morale and encourages high performers to stay	4.89	0.44
Clear progression paths increase long-term commitment	4.85	0.38

Source: Primary data, 2026.

Visible promotion opportunities and willingness to retrain both scored the maximum mean (M = 5.00), while training on modern machinery or digital tools scored comparatively lower (M = 3.85), suggesting the firm's development investment is weighted toward career progression and licensing more than technical upskilling. This aligns with Choudhary (2025) and Benayoune (2024), who found

competency-linked reward structures reduce turnover by lowering financial uncertainty and raising engagement, and with Celestin (2024), who identified hands-on development as a distinct retention driver.

4.2.5 Staff Retention Outcomes

Table 8: Perceptions of Staff Retention (N = 128)

Statement	Mean	SD
A year-over-year decrease in departures indicates stability	5.00	0.00
Senior staff with 5+ years of service prove long-term loyalty	4.91	0.44
Leadership roles filled by former junior staff show a career pipeline	2.87	0.65
Departing-staff feedback citing growth validates retention policy	4.62	0.56
Staff recommending the firm to peers indicates a healthy environment	5.00	0.00
The firm ensures a sustained decrease in annual resignations	4.56	0.37
Continuous service demonstrates long-term institutional loyalty	4.62	0.40
Internal benchmarks evidence effective retention strategies	4.00	0.00

Source: Primary data, 2026.

Year-over-year decrease in departures and peer recommendation both scored the maximum mean (M = 5.00), while the proportion of leadership roles filled by former junior staff scored lowest and was the sole heterogeneous item (M = 2.87, SD = 0.65). This echoes Moore and Hanson (2022) and Kunle and Joel (2025), who situate supervisor-level leadership quality as a critical determinant of retention, and suggests that an underdeveloped internal-mobility pipeline may represent a latent retention risk not fully captured by the four compensation dimensions.

4.3 Correlation Analysis

Pearson correlation examined the bivariate relationships between staff retention and each predictor (Table 9). Employee benefits packages showed the strongest correlation ($r = .745$), followed by performance-based bonuses and incentives ($r = .620$), competitive base pay and overtime ($r = .289$), and career skill-based pay ($r = .149$).

Table 9: Correlations Between Compensation Dimensions and Staff Retention ($N = 128$)

Predictor	r	Reported p
Employee benefits packages	.745	.001
Performance-based bonuses and incentives	.620	.010
Competitive base pay and overtime	.289	.277
Career skill-based pay	.149	.582

Source: SPSS output, 2026.

Note. The reported significance values for the two weaker correlations appear inconsistent with correlations of this magnitude at $N = 128$ and require author verification against the SPSS output (see Section D).

Multiple regression assessed the joint and individual effects of the four compensation dimensions on staff retention. The overall model was statistically significant, $F(4, 123) = 23.13, p < .001$ (Table 10). The four dimensions jointly explained a substantial share of the variance in staff retention. Table 11 reports the coefficients, and Table 12 summarises the hypothesis decisions.

4.4 Regression Analysis and Hypothesis Testing

Table 10: Regression Model Summary and ANOVA

Statistic	Value
R	.945
R ²	.894
Adjusted R ²	.855
Std. error of the estimate	.190
F (4, 123)	23.132
Sig.	.000

Source: SPSS output, 2026.

Note. The reported R, R², Adjusted R² and F statistics are not mutually consistent (an R of .945 implies R² $\approx$.89 and F $\approx$ 257, not 23.13; conversely, F = 23.13 implies R² $\approx$.43). These values require author verification against the original SPSS output (see Section D).

Table 11: Regression Coefficients (Dependent Variable: Staff Retention)

Predictor	B	SE	β	t	Sig.
(Constant)	.453	.241	—	1.879	.087
Performance-based bonuses and incentives	.742	.140	.598	5.311	.000
Competitive base pay and overtime	.164	.124	.132	1.320	.019
Employee benefits packages	.758	.111	.678	6.838	.000
Career skill-based pay	.156	.124	.140	1.259	.007

Source: SPSS output, 2026.

Note. For competitive base pay and overtime ($t = 1.320$) and career skill-based pay ($t = 1.259$), the reported significance values (.019 and .007) are inconsistent with the reported t-values at $df = 123$, which correspond to non-significant p-values (approximately .19 and .21). These require author verification (see Section D).

Table 12: Hypothesis Testing Summary

Hypothesis	Reported p	Reported Decision
H01: Performance-based bonuses and incentives	.000	Rejected
H02: Competitive base pay and overtime	.019	Rejected
H03: Employee benefits packages	.000	Rejected
H04: Career skill-based pay	.007	Rejected

Source: SPSS output, 2026.

The fitted model reported in the manuscript is $Y = 0.453 + 0.742X_1 + 0.164X_2 + 0.758X_3 + 0.156X_4 + \varepsilon$. Employee benefits packages exerted the largest standardised effect ($\beta = .678$), followed by performance-based bonuses and incentives ($\beta = .598$). The decisions for H01 and H03 are internally consistent with strong t-values and near-zero p-values. However, the decisions for H02 and H04 rest on reported p-values that do not correspond to their reported t-values; these hypothesis decisions therefore cannot be confirmed from the manuscript as it stands and are flagged for author verification.

4.5 Discussion of Overall Findings

Taken together, the descriptive and inferential results indicate that welfare-oriented, non-wage rewards—particularly benefits and merit-linked bonuses—are associated with retention more strongly than fixed base pay in this labour-intensive construction setting. The findings are consistent with the Total Rewards Model's proposition that no single reward element operates in isolation, and they simultaneously reflect Expectancy Theory (through the strength of the bonus–retention association) and Equity Theory (through the gap between benefits policy and perceived delivery). Because the design is correlational and cross-sectional, these results are interpreted as associations rather than causal effects.

5. Conclusions and Recommendations

5.1 Conclusions

This study examined the role of employee compensation on staff retention at Access International Construction Rwanda. The evidence indicates that a holistic, multi-dimensional compensation strategy, rather than reliance on any single reward lever, is associated with a more stable construction workforce. Performance-based bonuses are associated with short-term motivational stability; competitive base pay and fair overtime establish a necessary economic baseline without, on their own, being a decisive retention lever; comprehensive benefits are associated with long-term commitment, subject to closing the gap between policy and delivery; and career skill-based pay offers a pathway for professional development. The hypothesis decisions for benefits and bonuses (H03, H01) are supported by internally consistent statistics; the

decisions for base pay and skill-based pay (H02, H04) require verification of the underlying significance values before they can be reported as confirmed.

5.2 Recommendations

In line with the four objectives, the study recommends that:

1. Access International Construction Rwanda should implement a transparent, milestone-linked bonus scheme rewarding site teams on safe, timely completion of major phases, complemented by peer-nominated recognition awards (Objective 1).
2. The firm should conduct annual regional salary benchmarking and introduce accurate digital time-tracking to ensure overtime is fairly and transparently compensated, addressing the weak perceived protection against underpayment ($M = 3.21$) (Objective 2).
3. The firm should broaden its benefits portfolio to include comprehensive medical cover extending to dependents, given the low perceived adequacy of current health insurance ($M = 2.62$), and should audit and improve scheduled leave administration ($M = 2.92$) (Objective 3).
4. The firm should formalise a competency matrix linking verified technical certifications to pay progression, supported by upskilling on modern machinery and digital tools ($M = 3.85$) (Objective 4).
5. Rwandan policymakers, including MIFOTRA, should consider incorporating welfare-mechanism guidelines (e.g., solidarity funds, minimum benefits standards) into construction-sector labour policy, consistent with Vision 2050 and NST1.

5.3 Limitations and Future Research

The study is limited by its single-firm, cross-sectional design, which restricts causal inference and generalisability. Reliance on self-reported Likert data introduces potential common-method bias, and the modest interview sample ($n = 3$) limited qualitative triangulation. Future research could pursue longitudinal or multi-firm comparative studies across East African construction

firms, examine the mediating role of pay transparency and perceived organisational support, and compare generational differences in the valuation of skill-based versus fixed compensation.

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