
Environmental Risk Management and Personnel Well-Being Among Selected Construction Companies: A Study of Selected Construction Companies in Ogun State, Nigeria

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Abstract: *The study examined how personnel well-being in Nigerian construction organisations is influenced by environmental risk management. It aimed to address issues such as irregular working hours, tight deadlines for work goals, and fluctuations in construction demand, which, along with other factors, create a stressful environment that affects employees' mental well-being and personal lives. A descriptive research design was employed, with the population consisting of employees from five selected construction companies in Ogun State. These companies were chosen because they are highly ranked and provide access to a broader and more diverse population. Primary data were collected from the selected companies, while secondary data were sourced from other sources. The study examined the impact of Personal Protective Equipment, Environmental Regulatory Compliance, and Risk Mitigation Strategies on employee job satisfaction in Nigerian construction firms. Using a survey method and simple random sampling, 100 respondents were selected through structured questionnaires, with the sample size determined using the Taro Yamane formula. The data were analysed with SPSS. To foster an environment conducive to consistent, positive productivity and higher profitability for construction organisations, the study recommends that stakeholders adopt environmental risk management to address risks that affect employees' work-life balance. It was concluded that the predictors studied had a significant influence on employees' job satisfaction.*

Keywords: personal protective equipment, environmental regulatory compliance, risk mitigation strategy, employee job satisfaction, construction companies.

INTRODUCTION

Environmental risk management (ERM) involves identifying, assessing, and mitigating risks posed by environmental factors to businesses and the economy (Paul, 2017). It aims to minimise

negative impacts on natural resources, public health, and economic stability. Environmental risk management helps businesses avoid costly environmental disasters, protect assets, and reduce liability. By integrating environmental considerations into economic planning, ERM promotes sustainable practices that ensure long-term economic viability. Companies that adopt proactive environmental strategies can differentiate themselves in the marketplace, leading to increased profits and market share (Robert, 2018). Environmental risk management is essential for balancing economic growth with environmental sustainability. Work-life balance refers to the equilibrium between the demands of one's job and the personal life outside of work (Jeffrey & Gary, 2006). Achieving this balance is crucial for employee well-being, job satisfaction, and overall productivity. It is an optimal arrangement of time and energy between work responsibilities and personal life activities, including family, leisure, and self-care (Ellen & Brenda, 2016). A healthy work-life balance leads to higher employee productivity, benefiting organisational performance and economic output. Companies that promote work-life balance tend to have lower turnover rates, reducing recruitment and training costs, which will absolutely enhance overall economic stability (Anna & David, 2013). Improved work-life balance can lead to lower absenteeism rates, resulting in a more reliable workforce and increased economic efficiency.

Construction companies are businesses that plan, design, and execute building projects, including residential, commercial, and infrastructure developments (Peter & Zahir, 2017). They are vital to economic development, driving growth, job creation, and infrastructure enhancement. The construction industry significantly drives economic growth, contributing to GDP through infrastructure projects, residential housing, and commercial buildings (David & Andrew, 2007). It provides millions of jobs worldwide, supporting employment levels and economic stability. The sector often employs a diverse workforce, promoting skill development. Investments in construction enhance infrastructure, which is essential for other sectors of the economy, such as transportation, utilities, and housing (Gupta & Bhattacharya, 2018). The adoption of new technologies in construction, such as Building Information Modelling (BIM) and sustainable practices, can lead to increased efficiency, lower costs, and improved economic competitiveness. The aim of this study is to address issues related to irregular working hours, tight deadlines for work goals, and fluctuations in construction demand; these, along with other factors, create a stressful environment that affects personnel's mental well-being and personal lives. The study seeks to examine the impact of personal protective equipment, environmental regulatory compliance, and risk mitigation strategies as predictors of employee job satisfaction in Nigerian construction companies.

LITERATURE REVIEW

Conceptual Review

Mark (2010) defined risk management as the systematic process of identifying, assessing, and prioritising risks, followed by coordinated efforts to minimise, monitor, and control the likelihood or impact of adverse events. Environmental risk management involves proactively identifying and managing potential environmental hazards to prevent adverse outcomes, thereby protecting public

health and ecosystems (Robert, 2018). It incorporates sustainability principles into organisational risk assessment and decision-making, ensuring that economic activities do not compromise environmental integrity (Thomas & John, 2004). It also entails engaging stakeholders, such as community members, regulatory bodies, and industry partners, to identify and manage environmental risks, fostering transparency and collaboration (Raji, 2018). Environmental risk management (ERM) is an important tool for construction companies working towards laudable long-term goals while navigating an increasingly complex and uncertain environment (Raji & Oteoda, 2025).

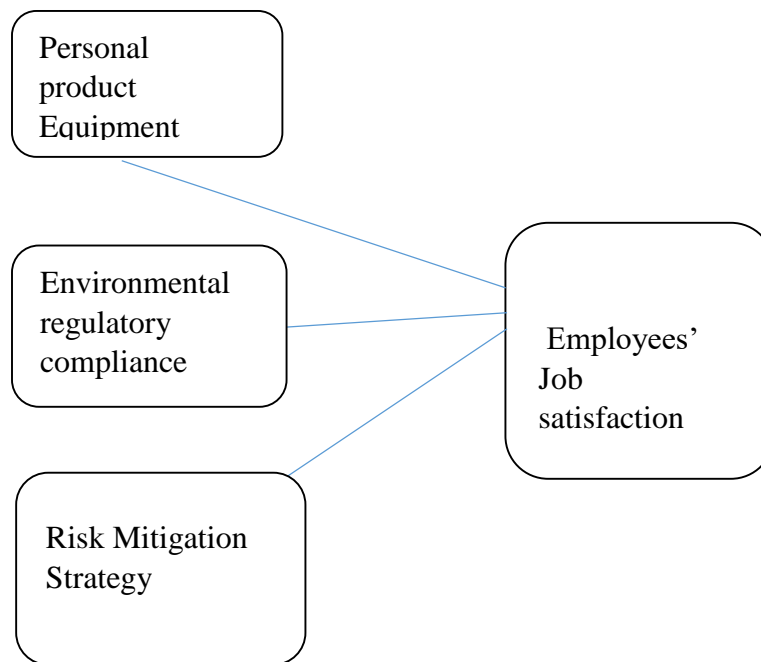


Fig 1: Conceptual framework

The diagram in figure 1 above is the conceptual framework of the study. Epe (2014) is the diagrammatic representation that shows the relationship between the predictors and the response variable.

Personal Protective Equipment (PPE) refers to specialised clothing and equipment designed to protect individuals from hazards that could cause injury or illness in the workplace (David, 2014). PPE includes items such as helmets, gloves, masks, goggles, and protective clothing. When employees feel safe, they are more likely to be productive, contributing to greater efficiency and organisational performance (Richard, 2016). Investing in PPE can lead to significant long-term savings by preventing accidents and the costs associated with worker compensation claims and

lost working days. Compliance with safety regulations regarding PPE helps organisations avoid fines and liabilities, ensuring smoother operations and financial stability (John, 2018).

Environmental regulatory compliance involves organisations adhering to environmental laws and regulations designed to reduce adverse environmental impacts (Andrew, 2019). This compliance can significantly affect employees' job satisfaction by fostering a safer, more responsible workplace. Compliance with environmental regulations often improves workplace health and safety standards, directly boosting employee well-being and satisfaction (Lisa, 2020). Organisations that prioritise environmental compliance demonstrate a commitment to sustainability, which can enhance employee pride and loyalty, leading to higher job satisfaction. A workplace that follows environmental standards is often a sign of a positive organisational culture, encouraging job satisfaction through a clean and safe environment (Mark, 2021). Companies known for their environmental responsibility can increase employee morale, as staff feel they are part of a socially responsible organisation.

Risk mitigation strategy involves proactive measures taken by organisations to reduce the likelihood and impact of potential risks (John, 2018). This strategy is crucial for fostering a safe and supportive work environment, which can significantly influence employees' job satisfaction. Implementing risk mitigation strategies often leads to safer workplaces, reducing accidents and health hazards, which directly boosts employee morale and job satisfaction (Linda, 2019). Higher job satisfaction resulting from effective risk mitigation can increase employee productivity, benefiting overall organisational performance and economic output. Organisations that prioritise risk mitigation and employee safety can enhance their reputation, attract top talent, and foster customer loyalty (Michael, 2020). By creating a supportive work environment through effective risk management, organisations can ensure long-term sustainability and stability, contributing to economic resilience and reflecting an organisation's dedication to employee welfare. This approach fosters a culture of trust and support that enhances job satisfaction.

Employee job satisfaction in the construction industry refers to the level of contentment and fulfilment that workers experience in their roles (Edward, 2016). This satisfaction can be influenced by various factors, including work conditions, management practices, pay, and opportunities for growth. High job satisfaction among construction workers leads to improved productivity and efficiency on job sites, positively affecting project timelines and costs (Nabil, 2019). The ability to maintain a healthy work-life balance is increasingly important because it affects overall job satisfaction and employee retention. By fostering job satisfaction, construction companies can build a loyal workforce, ensuring stability and sustainability in a highly competitive market (Mohamed, 2018). Competitive salaries, benefits, and bonuses are strong determinants of employee satisfaction, as financial security is a primary concern for many workers. However, effective leadership and communication from management can enhance job satisfaction by fostering trust and collaboration among workers.

Theoretical Review

Stakeholder theory. Freeman (1994) posits that organisations must consider the interests of all stakeholders, including employees, when making decisions. In the context of environmental risk management, this theory highlights the importance of balancing environmental responsibilities with employee well-being. By addressing environmental risks, companies can enhance employee satisfaction and work-life balance, leading to improved organisational performance.

Work-Life Balance Theory. Greenhaus and Allen (2014) describe this theory as focusing on the balance between work responsibilities and personal life. Effective environmental risk management can help achieve work-life balance by reducing stressors related to environmental hazards and fostering a healthier work environment. This balance is particularly important in the construction industry, where long hours and demanding projects can cause employee burnout.

Environmental Management Theory. Hart, (1995). This theory underlines the importance of integrating environmental considerations into business practices. It proposes that effective environmental risk management not only benefits the environment but also boosts employee satisfaction and work-life balance. By cultivating a culture of sustainability, construction firms can enhance employee morale and retention.

Empirical Review

Lingard and Rowlinson (2020) examined the effect of safety management practices on work-life balance in construction companies. The study employed qualitative interviews alongside quantitative surveys. A mixed-methods approach was used as the research design. The population comprised construction workers and management personnel. Purposive sampling techniques were employed for interviews, while random sampling was utilised for surveys. Two methods were used for data analysis: NVivo for qualitative analysis and SPSS for quantitative analysis. The highlighted gap was the lack of empirical data linking safety management and work-life balance, particularly in construction companies. The study revealed that strong safety management practices contribute to improved work-life balance and employee satisfaction. In conclusion, organisations that enhance safety protocols positively impact employee well-being. The study recommends that stakeholders develop and enforce robust safety management systems to support work-life balance.

Zeng et al. (2019) examined the impact of Environmental Management on Employee Well-Being and work performance. The study employed a quantitative approach using structured questionnaires and a cross-sectional survey design. The population comprised employees in construction firms and related industries. Simple random sampling was used. SPSS and AMOS for structural equation modelling were also employed for data analysis. Limited research has specifically linked environmental risk management to employee work-life balance in the construction sector, highlighting a research gap. The findings revealed that effective environmental management practices are positively correlated with enhanced employee well-being and work-life balance. The study concluded that construction companies that prioritise environmental risk

management can improve employee satisfaction and productivity. It is recommended that companies implement comprehensive environmental management systems to foster a supportive work environment.

Kira and Wainwright (2021) examined the role of environmental management practices in enhancing employee engagement. Quantitative, survey-based research with a descriptive correlational study design was employed. The population consisted of employees in construction and related industries, and stratified random sampling was employed. SPSS statistical package was used for data analysis. Findings revealed that effective environmental management practices significantly enhance employee engagement and work-life balance. It was concluded that there is a direct relationship between environmental practices and employee satisfaction. It is recommended that stakeholders should encourage construction companies to adopt sustainable practices to boost employee engagement and satisfaction.

METHODOLOGY

To reach a larger, more diverse population and assess the policy's impact on society and the regulatory environment, the researchers used a survey to understand staff perceptions of the policy. Primary data were collected from specified construction companies, while secondary data were drawn from other sources. A descriptive research design was employed, with the population comprising employees of five selected construction firms in Ogun State. Simple random sampling was used, and 100 respondents were surveyed using structured questionnaires. The sample size was determined using the Taro Yamane formula, given the known population size. Data were analysed using SPSS, and the validity of the questionnaires was ensured through pre-testing, which demonstrated that they met reliability standards. Multiple regression was also employed to predict an outcome and determine how specific factors influence it.

Model Specification: The following model, adapted from widely used models in earlier studies such as Kira and Wainwright (2021), describes the relationship between the dependent variable and the explanatory variables.

$$EJS = f(PPE, ERC, RMS)$$

The above functional relationship is translated into an equation as follows:

$$ES = \beta_0 + \beta_1PPE + \beta_2ERC + \beta_3RMS + \mu$$

Where:

ES = Employee Job Satisfaction

PPE = Personal Product Equipment

ERC= Environmental Regulatory Compliance

RMS = Risk Mitigation Strategy

β_0 = intercept or constant

β_1 , β_2 , & β_3 = coefficients of the explanatory variables or factor sensitivities

A priori expectations: β_0 , β_1 , β_2 , & $\beta_3 \neq 0$

μ = the error term

Data Analysis

The table 1

GENDER

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid MALE	70	70.0	70.0	70.0
FEMALE	30	30.0	30.0	100.0
Total	100	100.0	100.0	

Source: field survey April, 2026

According to Table 1 above, 30% of workers in the population were female, and 70% were male.

Table 2 shows the analysis of the workers' age

Age

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 20-25 years	7	7.0	7.0	7.0
26-30 years	46	46.0	46.0	46.0
31-35 years	29	29.0	29.0	29.0
36-40 years	7	7.0	7.0	7.0
41-45 years	7	7.0	7.0	7.0
46-50 years	2	2.0	2.0	2.0
50 years and above	2	2.0	2.0	100.0
Total	100	100.0	100.0	

Source: field survey April, 2026

According to the table above, workers in the 20–25 age group make up 7.0% of the workforce, while those in the 26–30 age group make up 46.0%, those in the 31–35 age group make up 29.0%, and those in the 36–40 age group make up 36.0%. 7.0% of workers aged 41–45, 7.0% of workers aged 46–50, 2%, and 2.0% of workers aged 50 and beyond.

Table 3: Analysis of Academic Qualification

Academic qualification

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid WAEC	7	7.0	7.0	7.0
ND/NCE	34	34.0	34.0	41.0
HND/B.Sc	53	53.0	53.0	94.0
Masters/PhD	6	6.0	6.0	100.0
Total	100	100.0	100.0	

Source: field survey April, 2026

According to the data above, during the study period, 7.0% of the workers held a WAEC, 34.0% held an ND/NCE, 53.0% held an HND/BSc, and 6.0% held a Master's/PhD.

Table 4 shows the analysis of the job position

Position Held

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Junior	40	40.0	40.0	40.0
Senior	32	32.0	32.0	32.0
Admin	28	28.0	28.0	100.0
Total	100	100.0	100.0	

Source: field survey April, 2026

According to the data above, throughout the study period, 40.0% of employees were junior staff, 32.0% were senior staff, and 28.0% were administrative personnel.

Table 5 shows the analysis of ANOVA

ANOVA^a

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	58.126	3	19.375	3.916	.011 ^b
Residual	475.034	96	4.948		
Total	533.160	99			

Source: field survey April, 2026

The variation explained by predictors in relation to the dependent variable, employee Job Satisfaction, is shown in Table 5 above by the regression sum of squares of 58.126. The variation not explained by the model is shown by the residual sum of squares of 475.034, which indicates

additional factors that may influence the dependent variable. The ratio of the variation described by the model to the unexplained variance is represented by the F value, which is 3.916. The regression model is statistically significant, with a significance value of 0.011. We reject the null hypothesis since the p-value is less than 0.005. According to the study, there is strong evidence that at least one predictor significantly contributes to the model.

Table 6

Model Summary

Model	R	R Square	Adjusted R-Square	Std. Error of the Estimate
1	.330 ^a	.709	.681	2.22447

Source: field survey April, 2026

a. Predictors: (Constant), personal product equipment, Environmental Regulatory Compliance, Risk Mitigation Strategy

Assumption 1 Goodness of Fit: The coefficient of determination, R² value of 0.709, is displayed in Table 6 above. This suggests that personal product equipment, environmental regulatory compliance, and risk mitigation Strategy account for roughly 70.9% of the variation in employees' job satisfaction. According to Tabachnick and Fidell (2007), the R² value also indicates the model's power; the closer it is to 1, the better the fit. After controlling for degrees of freedom, the model accounted for roughly 68.1% of the systematic variance in employees' job satisfaction, according to the adjusted R².

Table 7

Coefficient

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	4.617	.800		5.773	.000
Personal Product Equipment	.187	.093	.233	2.018	.046
Environmental Regulatory Compliance	.037	.100	.040	.368	.014
Risk Mitigation Strategy	.085	.091	.117	.933	.033

a. Dependent Variable: Employee job satisfaction

Source: field survey April, 2026

Coefficient of the variables: Keeping all other variables constant is indicated by the constant's value of 4.617. There will be a 4.617 rise in employees' job satisfaction. The table shows that

employees' job satisfaction will increase by 0.187 for every 1-unit increase in Personal Product Equipment, with a coefficient of 0.187. With a coefficient of 0.037, Environmental Regulatory Compliance indicates that employees' job satisfaction will rise by 0.37 units increase in Environmental Regulatory Compliance. Finally, the coefficient of 0.085 for Risk Mitigation Strategy means that there will be a 0.085 rise in employees' job satisfaction for every unit increase in Risk Mitigation Strategy.

T-test: The majority of the predictors in each study should be significant on their own. The t-test is a useful tool for identifying significant relationships between variables. The alternative hypothesis can be accepted and the null hypothesis rejected if the p-value associated with the t-statistic is less than 5 per cent (0.05). If not, we take the opposite action. An employee's job satisfaction is significantly impacted by the variables used in the investigation. For each predictor, the model displays probabilities of 0.046, 0.014, and 0.033, respectively. This suggests a substantial influence on employees' job satisfaction. These findings suggest that Personal Product Equipment, Environmental Regulatory Compliance, and Risk Mitigation Strategy have a major impact on the employees' job satisfaction in Nigerian construction companies. This will undoubtedly impact the profitability growth of construction companies and result in low manufacturing productivity and limited job creation.

FINDING, CONCLUSION AND RECOMMENDATIONS

To create a supportive environment for employees that promotes regular, positive productivity and higher profitability for the construction organisation, the study recommends that stakeholders adopt environmental risk management to address risks related to employees' work-life balance. The study found that the predictors had a significant impact on employee job satisfaction.

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