

# The Impact Of Safety Practies On Construction Employee Performance

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## Abstract

Safety practies is essential for every organization's success, but it's particularly essential in highly competitive sectors like construction, which need a high level of consistency and commitment. Safety practies increase committed to the company's goals, greater in efficiency, and generate higher-quality work. The objective of this paper is to investigate the factors that affect safety practies, including Supervision & monitoring, Workplace reporting, Training programs, Safety regulation, PPE (Personal Protective Equipment) and how these factors affect workers' job performance. Questionnaires were used to gather data for the study, which focused on construction sector employees in the Thiruvallur. Convinance sample method have been used and sample size of study was 117. The data was analyzed using SPSS software t-test, ANOVA, correlation coefficient, were used to analyse the data it is found that the factors of employee engagement has a positive Correlation among the variable it is also founded there is highly significant relationship between the safety practies and the employee performance it is suggested to provide a good Supervision & monitoring, Workplace reporting, Training programs, Safety regulation, PPE (Personal Protective Equipment) system can foster the positive work culture which makes the employee satisfied, enchanche the trust among the employee which increase the employee performance toward the work.

**Key words:** safety practies, employee performance, Supervision & monitoring, PPE (Personal Protective Equipment), productivity

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## INTRODUCTION

Being presented with a large number of workplace health problems, job accidental deaths, and injuries, the construction business is among the most dangerous. Because construction work is physically demanding, workers are always at risk for things like falls, electric shock, accidents involving machinery, and exposure to dangerous substances. These risks highlight how important it is for the construction industry to have strong safety protocols. On construction sites, safety practices include a broad range of procedures, guidelines, and actions intended to reduce hazards, safeguard employees, and foster a culture of safety. These procedures consist of appropriate instruction, the use of personal protection equipment (PPE), compliance with legal requirements, frequent site inspections, and clear information about any risks. Effective safety measures have an important effect on employee performance, job fulfilment, productivity, and overall organisational efficiency in addition to lowering workplace fatalities and injuries. For a number of reasons, safety procedures are essential in the construction sector. First of all, they aid in preventing accidents and injuries at work, which can have detrimental effects on both companies and employees. Construction sites are frequently dangerous places where even small safety violations can have disastrous results. By putting in place thorough safety procedures, these risks are decreased and employees can carry out their jobs without worrying about getting hurt. The relationship between construction worker performance and safety procedures is examined in this introduction. In addition to discussing how an effective safety culture improves worker performance, it looks at the major elements impacting safety practices and emphasises the significance of safety at work in the construction sector. Additionally, it takes into account how worker safety affects building projects' overall success from an economic and psychological standpoint.

## REVIEW OF LITERATURE

Sanni-Anibire, M. O., Mahmoud, A. S., Hassanain, M. A., & Salami, B. A. (2020). Due to many deaths and accidents that occur there each year, the construction sector is among the most hazardous in the

world. Despite the establishment and implementation of safety initiatives in numerous countries, the situation appears to have remained unchanged. The goal of this research is to provide a risk assessment methodology that can be applied to improve construction projects' safety performance. To determine risk ratings and weights for the different construction incidents and their possible causes, the study used weighting-by-ranking surveys and pairwise comparisons. Information has been gathered from safety experts at 15 sizable building sites located around Saudi Arabia's Eastern Province. According to the survey, the most common cause of accidents on construction sites is strong winds, while "falling objects" have the greatest risk score. A vehicle park construction project is currently underway, and the suggested approach was used. According to the results, the best performance in safety was found in slips, trips, and falls. Additionally, according to the six sigma assessments, the median project safety performance was 2.33-sigma, meaning that 22,739 accidents may happen for every million opportunities. The report also included suggestions for enhancing the case study's safety performance.

**Boadu, E. F., Wang, C. C., & Sunindijo, R. Y. (2020).** The findings revealed that these features of the building sector in developing nations, specifically the dearth of educated and qualified workers, dependence on labour-intensive techniques, and absence of a unified regulatory body, pose significant obstacles to H&S management. As a result, this study suggested strategic actions that are adapted to the unique characteristics of the industry. The results of this study can be used as a foundation for research particular to developing nations because the building sector there shares many traits. By shedding light on the aspects of the industry that present obstacles to H&S performance, the study advances the larger body of research on H&S performance improvement in developing nations.

**Pandit, B., Albert, A., Patil, Y., & Al-Bayati, A. J. (2019).** According to the study's findings, employees who operate in environments with a more favourable safety atmosphere are more likely to recognise hazards and perceive safety risks. Furthermore, hazard recognition performance acted as a mediator between the safety climate and safety risk perception. To put it another way, safety risk perception levels were influenced by safety atmosphere, which in turn influenced hazard recognition performance. In addition to having an indirect impact on safety risk perception through hazard recognition performance, safety climate also had an independent impact on safety risk perception. Practicing professionals looking to enhance safety performance in the construction sector will find value in the study's conclusions.

**Babalola, O., Ibem, E. O., & Ezema, I. C. (2019).** To identify and classify the various lean methods used in the construction sector and the advantages they offer, this paper drew upon a thorough review of published literature found in Scopus, Science Direct, and Google Scholar. Descriptive statistics and content analysis were used to examine the contents of 102 documents that were published between 1996 and 2018. There were 32 distinct lean practices found, which were divided into four categories: design and engineering, planning and control, construction and site management, and health and safety management. About 20 different economic, social, and environmental advantages were connected to the application of lean methods in the construction sector, according to the review, which also revealed that just-in-time and the last planner system were the two lean approaches most frequently used. According to this analysis, lean methods offer a strong chance of increasing construction sector efficiency and creating a sustainable built environment, but these objectives will only be achieved with a critical mass adoption and ongoing implementation.

**Shi, Y., Du, J., Ahn, C. R., & Ragan, E. (2019).** According to the findings, people are more likely to follow instructions and continue walking normally in dangerous situations when information is demonstrated with positive outcomes (not falling group). Participants walked more quickly and erratically after being shown information about the falling group's unfavourable outcomes, which further increased their risk of making mistakes and engaging in risky behaviours. The usefulness of virtual reality in safety research is demonstrated in this study, which also offers suggestions for improved safety education initiatives.

**Wu, G., Hu, Z., & Zheng, J. (2019).** The study shows that Job burnout has a negative impact on job performance; role conflict has a negative effect on job burnout but a non-significant influence on job performance; role ambiguity has a significant and adverse impact on job burnout and job performance; and career calling moderates the relationship between role ambiguity and job burnout negatively and role conflict and job performance positively. Additionally, the findings demonstrate that career calling can

mitigate the negative impact of role conflict on job burnout. This study adds to the corpus of knowledge by introducing career calling and managing role stress in a reasonable manner. The report also offers some recommendations that are pertinent to the management of construction projects.

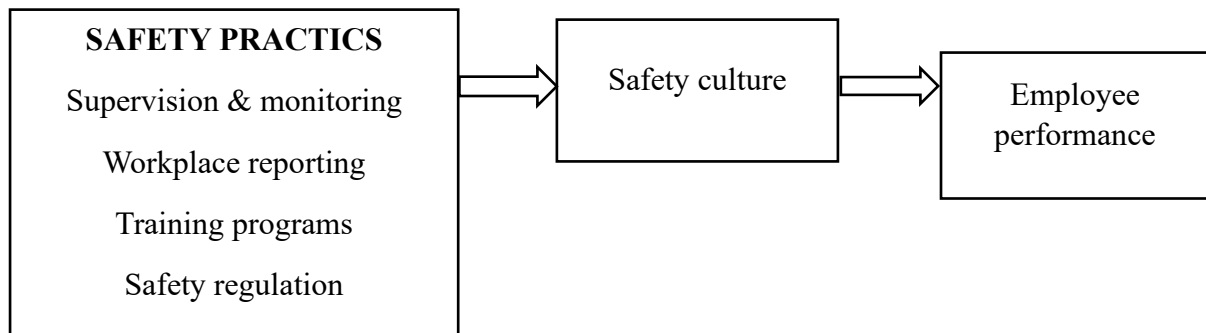
**Cooper, B., Wang, J., Bartram, T., & Cooke, F. L. (2019).** This study investigates the social mechanisms via which employee performance is impacted by well-being-oriented HRM strategies. Four hypotheses are supported by the study, which uses two-wave data from 561 managers and staff across 62 Chinese bank branches. First, HRM practices that prioritise well-being have a good impact on the social climate, which is defined by shared language, trust, and cooperation. Second, the relationship between these HRM practices and employee resilience is mediated by the social context. Third, performance is positively impacted by employee resiliency. Finally, the relationship between performance and social climate is mediated by resilience. This study is one of the first to demonstrate how HRM strategies that prioritise well-being create a positive social atmosphere that increases employee performance and resilience. The results emphasise how important group experiences are for enhancing relationships at work and raising individual performance.

**Obrenovic, B., Jianguo, D., Khudaykulov, A., & Khan, M. A. S. (2020).** This study fills a research vacuum by examining the effects of psychological characteristics and work-family conflict on job performance. It employed structural equation modelling (SEM) with AMOS 23 and an online survey with five-point Likert scales for 277 Bahraini employees. Research shows that work-family conflict has a detrimental impact on psychological safety and well-being, both of which have an impact on job performance. Work-family conflict has an indirect effect on performance through these psychological characteristics, according to mediation study. In contrast to other research that only looked at well-being, this study emphasises job performance outcomes. The study provides organisations with useful information on how to reduce work-family conflict in order to improve psychological safety, employee well-being, and overall workplace effectiveness.

**Nnaji, C., & Karakhan, A. A. (2020).** This study looks at how technology might help improve construction safety performance and address the high incidence of fatalities and injuries in the sector. Adoption obstacles still exist despite increased interest in safety solutions. 102 construction professionals were surveyed to evaluate the use, advantages, and drawbacks of technology. Although technology improves safety conditions, opposition to ongoing adoption is still a problem, according to the findings. Critical implementation challenges are identified in the report, along with solutions. In order to maximise the effectiveness of safety technologies, it is necessary to solve these restrictions and advance their integration. For researchers and industry practitioners, the study offers insightful advice on how to overcome obstacles and promote the use of safety technology in construction, which will ultimately improve workplace health and safety management.

**Iqbal, Q., & Ahmad, N. H. (2021).** This study uses the dynamic capability theory and the natural resource-based view (NRBV) to examine sustainable leadership as a key component in attaining sustainable performance. Partial least squares structural equation modelling is used to analyse data from 369 SMEs in Pakistan. The study concludes that (a) organisational learning improves sustainable performance, (b) sustainable leadership has a positive impact on organisational learning, and (c) organisational learning partially mediates the relationship between sustainable performance and sustainable leadership. The study offers useful advice for businesses dealing with sustainability issues while expanding the theoretical knowledge of sustainable leadership and development. Businesses can improve long-term performance and support sustainable development goals by integrating sustainable leadership and encouraging organisational learning.

### Framework of the Study:



Construction safety procedures are crucial for raising production, decreasing workplace accidents, and boosting worker performance. A culture of awareness and accountability is fostered by efficient supervision and monitoring, which guarantees adherence to safety requirements. Attention to occupational health standards, the proper application of personal protective equipment (PPE), frequent training, and danger identification are important safety precautions. By guaranteeing participation, increasing output, and enhancing staff morale, supervision is essential to preserving safety. Keeping an eye on safety procedures lowers absenteeism, boosts productivity, and avoids project delays. Implementation, however, may be limited by issues like change aversion and insufficient training. Construction companies should implement digital monitoring systems, engage in ongoing safety training, and enforce stringent safety regulations in order to maximise performance. Proactive safety management and close supervision not only safeguard employees but also improve project success in general. A safer, more productive workplace and a more motivated workforce are the results of putting safety first.

#### Workplace reporting:

In order to improve worker performance and provide a safe working environment, workplace reporting is crucial in the construction sector. By recording safety concerns, events, and regulatory compliance, it facilitates accountability, transparency, and ongoing improvement. By identifying hazards early on, effective reporting reduces workplace disturbances and accidents. An organised reporting system increases accountability by guaranteeing that management and employees follow safety procedures. Because they can work effectively without worrying about getting hurt, employees are more productive as a result. By providing workers a voice in addressing safety problems and establishing confidence between management and employees, workplace reporting also raises employee morale. An structured reporting system ensures that management and staff adhere to safety protocols, which improves accountability. Employee productivity rises as a result of being able to perform efficiently without fear of injury. Workplace reporting also boosts employee morale by giving employees a say in safety issues and building trust between management and staff.

#### Training programs:

Due to training programs improve worker performance, safety, and overall efficiency, they are essential in the construction sector. Training that is properly organised gives employees the skills they need to operate equipment and adhere to safety procedures, which lowers the number of incidents that occur at work. By empowering staff to accomplish tasks more quickly and accurately, effective training programs save project delays and expensive rework. Continuous training also boosts morale and job satisfaction because it makes employees feel more appreciated and confident, which improves retention rates. Another important advantage of following occupational health and safety laws is that they assist businesses stay out of trouble with the law and keep their workplaces safe. Additionally, training keeps companies competitive in the market by enabling employees to adjust to new technology and contemporary construction techniques. Construction companies may develop a trained staff, raise safety standards, and guarantee project success by placing a high priority on employee training. This will ultimately result in long-term growth and sustainability.

#### Safety regulation:

By guaranteeing a safe and organised workplace, safety rules in the construction industry are crucial for enhancing worker performance. Strict compliance with safety regulations and standards lowers workplace mishaps, resulting in fewer injuries and lost productivity. Employee confidence is increased by a well-regulated safety framework because it makes workers feel appreciated and protected, which boosts morale and job satisfaction. Adherence to safety regulations guarantees legal compliance as well, assisting businesses in avoiding penalties, legal issues, and project delays. Workers can complete jobs more effectively and without fear of risk when safety standards are properly implemented. These regulations include the use of personal protective equipment (PPE), hazard identification, and frequent safety training. A strong safety culture also promotes discipline and accountability among staff members, which lowers risks and fosters teamwork. Construction companies may boost project success, increase labour productivity, and establish a reputation for dependability and professionalism by giving safety requirements top priority. This will ultimately lead to long-term industry growth.

**Personal protective equipment (ppe):**

By guaranteeing safety, reducing occupational injuries, and fostering efficiency, personal protective equipment, or PPE, is essential for improving worker performance in the construction sector. PPE, such as gloves, safety glasses, helmets, and high-visibility apparel, reduces exposure to risks and enables employees to carry out their jobs with assurance and efficiency. PPE lowers absenteeism by reducing accidents and injuries, guaranteeing a steady and effective staff. Workers who feel protected are more attentive, which enhances attention and productivity. In addition to helping construction companies follow to safety standards, proper PPE use helps them avoid fines and project delays. Furthermore, a strong PPE culture encourages accountability and collaboration, where employees put their own and their coworkers' safety first. Companies that make investments in top-notch PPE show that they care for their employees' welfare, which raises morale and increases job satisfaction. In the end, PPE is necessary to keep a construction crew that is safe, effective, and productive.

**Safety culture:**

By creating an atmosphere where everyone takes responsibility for safety, safety culture in the construction industry is crucial for raising worker performance. In order to reduce workplace accidents and injuries, a good safety culture places a high priority on proactive risk management, appropriate training, and attention to safety standards. This guarantees that workers may operate effectively and with confidence without worrying about getting hurt. When safety is a core value of the organisation, employees are more motivated, engaged, and productive, which increases job satisfaction and decreases absenteeism. A strong safety culture also promotes open communication, allowing staff members to report risks without worrying about reprisals and facilitating prompt risk reduction. Strong safety cultures also help organisations avoid penalties and project delays by adhering to regulatory safety rules. Leadership's dedication to safety strengthens cooperation and responsibility, which improves project efficiency overall. Construction companies build a safe, productive workforce by integrating safety into everyday operations, which eventually results in long-term success and the sustainability of the sector.

**Employee performance**

In the construction industry, worker performance is essential to project success, worker safety, and general productivity. High-performing workers minimise delays and expensive rework by completing jobs precisely and on schedule. Their output has a direct effect on client satisfaction, budget adherence, and project schedules. Employees that are driven and skilled add to a productive workplace by encouraging cooperation and teamwork. Effective performance also improves safety since skilled workers are more likely to adhere to procedures, operate machinery correctly, and avert mishaps. Effective employees also minimise waste, maximise resource use, and raise the standard of the project as a whole. Strong supervision, appropriate training, and a positive workplace culture are all ways that employers may improve employee performance. Motivation and job satisfaction are further enhanced when exceptional achievement is acknowledged and rewarded. Prioritising employee performance ultimately results in a more productive workforce, safer construction sites, and successful projects, all of which contribute to the industry's long-term growth and sustainability.

# RESEARCH METHODOLOGY:

This study is based on both primary and secondary data. This study was conducted using a quantitative approach. Data were collected using a questionnaire provided to human resources personnel via Google Forms. The respondents were from the construction sector located in Tiruvallur district and the sample was collected using convenience sampling method. The sample size of this study is 117 respondents. Secondary data was collected from various sources such as magazines, research papers, books, and websites.

## Data Analysis and Interpretation

**TABLE 1** Demographic Profile of Employees

Demographic Variable		No. of Respondent	Percentage
Age Group	Below 25	35	29.9%
	25 to 30	21	17.9%
	36 to 40	40	34.1%
	Above 40	21	17.9%
Gender	Male	75	64.1%
	Female	42	35.9%
Experience	Less than 2 years	25	21.3%
	2 to 5 years	38	32.4%
	5 to 8 years	40	34.1%
	Above 8 years	14	11.9%
Education	Diploma	18	15.3%
	UG	25	21.3%
	PG	39	33.3%
	Others	35	29.9%
Marital Status	Married	56	47.9%
	unmarried	61	52.1%

Out of  
117

employees 35 employees were below 25 years, 21 employees are 20 to 30 years, 40 employees are 36 to 40 years, and 21 employees are above 40 years. Out of 117 Employees, there is 75 male and 42 female. Out of 117 employees 25 member has lesser than 2 years of experience, 38 employees have 2 to 5 years of experience, 40 employees have 5 to 8 years of experience, and 14 employees are having experience of above 8 years. Out of 117 employees 18 employees are educated till diploma, 25 employees are educated till UG, 39 employees are educated till PG, and 35 employees are other. Out of 117 employees 56 employees are married and 61 employees are unmarried

## Hypothesis 1

H<sub>0</sub>: There is no significant relationship between employee strong safety regulation among employee performance

H<sub>1</sub>: There is significant relationship between employee strong safety regulation among gender employee performance

**Table-2** Showing t-test for employee strong safety regulation among employee performance

Safety practices	Male		Female		t-value	P-Value
	Mean	SD	Mean	SD		
Supervision & monitoring	3.95	0.66	4.30	0.52	2.287	0.024

Workplace reporting	3.80	0.78	3.95	0.72	1.120	0.265
Training programs	4.10	0.65	4.38	0.52	2.420	0.017
Safety regulation	4.00	0.70	4.25	0.60	2.034	0.045
PPE	4.10	0.64	4.35	0.55	2.124	0.036
Over all safety practics	20.00	2.80	21.60	2.50	3.234	0.001

**Inference:** From the above table 2, it can be seen that P values of, Supervision & monitoring, Training programs, Safety regulation, personal protective euipment (PPE) is lesser than 0.05 which indicate there is significant relationship between these factors and the performance of the employees. P value of Workplace reporting is greater than 0.05 with significant there is no significant difference between workplace reporting and employee performance. The over all safety practics P value is less than 0.001 which indicates there is a high significant relation between over all factors and employee performance.

### Hypothesis 2

H<sub>0</sub>: There is no association difference between factors of safety practics and work experience of the employee

H<sub>1</sub>: There is significant relationship between factors of safety practics and work experience of the employee

**TABLE 3** ANOVA for significant difference among work experience with respect to Factor of Safety practices

Safety practices	Work Experience (in years)				F Value	P Value
	less than 2 years	2- 5 years	5-8years	Above 8 years		
Supervision & monitoring	10.78(4.99)	11.35(4.76)	13.01(5.04)	14.03(4.57)	9.137	0.001
Workplace reporting	15.56(3.86)	15.87 (3.89)	16.08(3.82)	16.32(3.77)	0.724	0.535
Training programs	14.768(3.41)	14.45(3.13)	15.63(3.12)	16.09(3.07)	3.034	0.029
Safety regulation	11.57(4.210)	11.81(3.67)	12.44(3.77)	13.44(3.52)	4.614	0.003
PPE	13.73(4.34)	14.76(4.15)	14.35(4.29)	16.01(3.26)	5.275	0.001
Over all safety practics	66.27(13.11)	69.21(11.98)	71.47(13.45)	75.92(11.36)	9.900	0.001

**Inference:** From the above table 3, it can be seen than P value of Supervision & monitoring, Training programs, Safety regulation, Ppe (personal protective equipment). Factors of safety practics are lesser than

0.005, which indicate there is a no significant between these factors and the work experience of the employee. P value of training program and workplace reporting is greater than 0.005 with signifies there is significant difference between training program and experience of the worker, training program and experience of the worker. The over all factors of safety practices P value is less than 0.001 which indicates there is no high significant difference between over all factor and the experience of the employees

### Hypothesis 3

H<sub>0</sub>: There is no significant relationship between factors of safety practices

H<sub>1</sub>: There is significant relationship between factors of safety practices

**TABLE 4:** Correlation among the factors of safety practices

Factor of safety practices	Supervision& monitoring	Workplace reporting	Training programs	Safety regulation	PPE
Supervision & monitoring	1.000	0.327**	0.471**	0.290*	0.412**
Workplace reporting		1.000	0.258**	0.125	0.368**
Training programs			1.000	0.215*	0.439**
Safety regulation				1.000	0.236**
PPE					1.000

**Inference:** From the above table 4, the correlation coefficient between supervision& monitoring and workplace reporting  $r = 0.327$ ,  $p < 0.01$ , the correlation coefficient between supervision& monitoring and training program  $r = 0.471$ ,  $p < 0.01$ , the correlation coefficient between supervision& monitoring and safety regulation  $r = 0.290$ ,  $p < 0.05$ , the correlation coefficient between supervision& monitoring and PPE (personal protection equipment)  $r = 0.412$ ,  $p < 0.01$ . The correlation coefficient between workplace reporting and training program  $r = 0.258$ ,  $p < 0.01$ , the correlation coefficient between workplace reporting and safety regulation  $r = 0.125$ ,  $p < 0.05$ , the correlation coefficient between workplace reporting and PPE (personal protection equipment)  $r = 0.368$ ,  $p < 0.01$ . The correlation coefficient between Training programs and safety regulation  $r = 0.215$ ,  $p < 0.05$ , the correlation coefficient between Training programs and PPE (personal protection equipment)  $r = 0.439$ ,  $p < 0.01$ . The correlation coefficient between safety regulation and personal protection equipment  $r = 0.236$ ,  $p < 0.05$ . The over all factors of safety practices P value is less than 0.01 which indicates there is a high significant relationship between over all factor and the safety practices. which gives positive safety culture for the organization leads to enhancing employee performance.

### Findings and Suggestions

The study has overlooked and analysed safety practices lean toward to grow substantially when there is supervision& monitoring for several reasons like training program. Employee performance increases significantly with work place reporting by Establish in clear supervisory guidelines, be sure that supervisors and site managers often assess the quality of the job and offer constructive criticism to employees so they may get better. Employee performance increases significantly with good training program due to several



important factors enhances technical skills (equipment use, construction techniques). Also Builds soft skills (communication, leadership, conflict resolution). And improves problem-solving and adaptability. safety regulation give enhances knowledge of attention to safety-first thinking, encourages employee performance for both individual and group safety, reduces risky behaviour by means of law enforcement and instructing. PPE personal protective equipment is the term for the specific equipment and clothing that employees wear to protect themselves against any illnesses or injuries at work. It serves as a protective barrier between employees and prospective hazards on the job site. Protects from falling objects, sharp materials, moving machinery, Common PPE: hard hats, safety boots, cut-resistant gloves, Reduces impact injuries, cuts, bruises, fractures.

## CONCLUSION

The study highlight thst employee safety practices give a positive imapact on employee performance. Strong safety measure like commitment towards the safety protocol, regular use of ppe (personal proactive equipment), continous learning process of safety training and close supervision and monitoring, are directly linked to a reduction in worplace accident and increase in employee security. Improved productivity decreased turnover and increase job satisfaction all leads to enhanced individual and team performance in safety workplace that result support the idea that worker are more likely to be engaged, dedicated and productive when they feel appreciated and proctected. In conclusion, safety is a proactive element that improves worker performance and organisational efficiency in which additional to being legal requirement. Construction firm must place high priority for ongoing safety training, enforce legal requirement and promote an environment where safety in deeply rooted in all procedure in additionl to enhancing performance this will support long-term sustainability and employee retention in construction industry.

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