HEALTH AND SAFETY

Safety Incentive Schemes Used by Indigenous and Expatriate Contractors on Construction Sites in Ibadan, Nigeria

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Published November 2026

Abstract

Safety incentive schemes are now being used as one of the ways construction organisations can ensure workers follow occupational health and safety. Safety incentives can include money based rewards, recognition awards, group based incentives, certificates and various other rewards. However there is a need for empirical research to identify how construction organisations, specifically indigenous and expatriate contractors are using safety incentives within Nigeria. This study aims to identify the safety incentives used by indigenous and expatriate contractors in construction sites in Ibadan, Oyo State, Nigeria. A descriptive survey methodology was used to gather data from structured questionnaires sent to construction professionals working within the selected construction companies. Ten construction companies were used within the study, with five being indigenous and five being expatriate contractors. A total of 120 questionnaires were sent out, of which 100 valid responses were received (83.3%). The responses included 75 from indigenous contractors and 25 from expatriate contractors. The data was analysed using descriptive statistics, mean scores and ranking. The results showed the highest mean score was recognition awards (3.01). This was followed by being praised publicly in toolbox meetings and safety briefings (2.97). Team incentives were next (2.83) followed by gifts and mementos (2.80) and safety bonuses (2.78). Certificates and recognition for reporting hazards and near misses had the same mean score (2.75). The lowest mean score was for promotion and extra benefits (2.40). This shows that recognition and more immediate incentive options were given higher priority by those surveyed. However the mean scores show that safety incentives are generally not highly implemented. The study concluded that within construction organisations in Ibadan a variety of money based and non-money based safety incentives are being used. However, recommendations were made that contractors should create clear, transparent and consistent systems that will reward safe behaviour.

Keywords: construction industry; construction safety; expatriate contractors; indigenous contractors; safety incentives; safety incentive schemes

1 Introduction

The construction industry plays an important role in the development of the nation providing buildings, roads, bridges and other infrastructure that help the economy and society. However, the construction industry is a hazardous industry due to the varying work environments, heavy machinery, working at heights, excavation, electrical and moving of materials. This can leave workers exposed to occupational health and safety issues leading to injuries, deaths, disruptions and extra costs. Research has shown that accidents within construction are influenced by many interacting factors including workers, machinery, site conditions, organisational and management factors (Haslam et al., 2020; Choudhry et al., 2007).

Occupational health and safety is an important part of construction project management. Safety management should not just include personal protective equipment and safety policies but should include management commitment, employee engagement, correct supervision, ongoing training and creating processes within organisations to promote safe behaviour. Construction safety management is a process of managing risk by co-ordinating organisational and operational factors (Lingard and Rowlinson, 2020). Differences have been found between Nigerian construction contractors and their efforts and performance in occupational health and safety (Idoro, 2011).

Many construction organisations have created safety incentive schemes to encourage workers to follow safety requirements. Safety incentives are any rewards or recognition given to workers or groups of workers who display certain safety behaviours or have met safety targets. This can include money based rewards, recognition awards, certificates, gifts, group based incentives and other rewards. By rewarding safe behaviour, it can encourage workers to follow the correct safety protocols. Recognition and achievement are important factors to motivate employees (Herzberg, 1968). Geller (2001) discusses how the use of behaviour based approaches can improve safety attitudes.

Within the construction industry safety incentive schemes can be used to reward individual, group workers for meeting safety targets. Individual incentives can be used to reward workers who consistently follow the correct safety protocols, wear PPE correctly or report unsafe conditions. Group incentives can be used to reward workers for showing commitment to safe behaviour. Company wide incentives can be used to reward a department or project team meeting specific safety targets. There are many variations to incentive schemes and the frequency of rewards, how much they are worth and what they are can affect how they are received by employees (Hinze, 2002). Recognition and group based incentives can be important parts of incentive schemes.

It is important to look at the use of safety incentive schemes within the Nigerian construction industry. Within the construction industry there are many different financial, managerial and organisational factors. This can cause some organisations to not be able to create formal safety schemes. Idoro (2011) looked at efforts made by Nigerian construction contractors to manage occupational health and safety and Idoro (2019) looked at safety performances of indigenous and multinational construction firms. This gives insight into the organisational factors within Nigeria.

There can be differences between indigenous and expatriate contractors due to different organisational structures, management systems, financial capabilities and safety management. However, it is important to look at evidence to see how much each type of contractor is actually using the safety incentive. Ogundipe et al. (2025) looked at barriers to implementing safety incentives within the Nigerian construction industry and found that governance within organisations, reward processes, budget planning and performance indicators can impact how they are implemented.

Whilst safety incentives aim to encourage safe behaviour, the usefulness will partly depend on the type of incentive used. If the scheme is not well communicated, is not consistent or is unclear how they will not be effective. If the rewards are only given for not having any accidents this can create an undesirable situation where workers do not want to report accidents or near misses. Therefore safety incentive schemes should be created to reward safe preventative behaviour and active involvement within safety management. It is important to look at the actual behaviour of employees in relation to safety (Lee and Kim, 2024).

Identifying safety incentive schemes used by construction contractors is an important first step to understanding how organisations are encouraging safe behaviour on construction sites. This gives

insight into what types of money and non-money based rewards are available to workers and can be used to look at how much of each scheme are being used. This study looks to identify the safety incentive schemes used by indigenous and expatriate contractors on construction sites in Ibadan, Oyo State, Nigeria.

1.1 Concept of construction safety

Construction safety refers to the policies, processes and actions put in place to protect workers, visitors, equipment and others on site from occupational hazards. This includes identifying hazards, assessing risk, control measures and ensuring workers follow the safety requirements. Construction sites are unpredictable so hazards and risks can vary depending on what activity is being carried out. This means safety management should be ongoing.

Haslam (2020) looked at factors that cause accidents within the construction industry. They showed that it is important to consider how workers, environments, equipment and organisation interact. Choudhry et al. (2007) discussed the culture of safety within the construction industry. They showed how safety within the workplace can be impacted by the attitudes people have, management priorities and everyday activities. This shows that safety within construction cannot just be enforced. It also needs to create a working environment that encourages employees to understand what is expected from them in terms of safety.

Within construction project management safety performance can be influenced by management commitment, communication, training, supervision and employee engagement. To effectively manage safety they need to incorporate it within the planning and decision making process (Lingard and Rowlinson, 2020). Evidence has shown that occupational health and safety management efforts are relevant to the performance of Nigerian construction contractors (Idoro, 2011). This reinforces the need for construction firms to implement methods to encourage employees to take responsibility for safe behaviour.

1.2 Concept of safety incentive schemes

Safety incentive schemes are a method of rewarding workers or groups of workers for displaying certain safety behaviours or meeting certain safety targets. The aim is to encourage positive behaviour and get employees to actively engage with safety. This can include money and non-money based incentives.

Incentives can be split into two main categories; money based and non-money based. Money based incentives include giving workers money based rewards such as safety bonuses. Non-money based incentives include recognition awards, certificates, praise, gifts, group recognition and opportunities for development. Both can be used to reward safe behaviour but depend on the organisational factors.

Recognition and achievement are important factors to motivate employees (Herzberg, 1968). This helps to understand why recognition based incentives can be relevant within the construction industry. This can encourage employees to feel their contributions to safety are valued by the organisation. Geller (2001) discussed how behaviour based approaches can help to encourage safe behaviour.

However safety incentives should not replace safety management. They cannot make up for poor supervision, unsafe equipment, poor site conditions or lack of training. They should be used

alongside existing safety policies. A well designed incentive scheme should help meet the overall safety goals of the organisation and encourage employees to engage in preventative behaviour.

1.3 Theoretical perspectives on safety incentives

Motivation theories such as Herzberg's Two Factor theory and the Theory of Planned Behaviour can be applied to understand safety incentive schemes.

Herzberg's Two Factor theory separates different elements that result in job satisfaction and those that prevent dissatisfaction. Factors like recognition, achievement and responsibility have been found to be key factors of motivation (Herzberg, 1968). In construction, recognition schemes can make workers feel motivated if they are acknowledged for contributing to safe working practices. This can be done through awarding them recognition, praising them publicly and giving them certificates. This can help to understand why non monetary recognition may be relevant.

The Theory of Planned Behaviour helps to understand how a person will intend to behave based on their attitude, subjective norms and perceived behavioural control (Ajzen, 1991). This can apply to safety in construction to understand how workers intend to behave safely based on their attitude to safety procedures, the expectations of supervisors and colleagues and perceived ability to follow safety requirements. Incentive schemes can help increase the perceived ability to behave safely by encouraging workers to follow organisational expectations and increasing social recognition.

Armitage and Conner (2001) completed a meta analysis to understand how effective the Theory of Planned Behaviour was at explaining different types of behaviour. Fang et al. (2015) applied behavioural theory to look at safety behaviour in construction. This demonstrates how incentives may play a role in influencing organisational expectations and increasing worker motivation to behave safely. However, if workers do not have the necessary equipment, training and authority to complete tasks safely then they may not behave safely.

1.4 Safety incentives and safety management

Safety incentive schemes can be most beneficial if they are part of a larger safety management system. Organisations in construction need to have clear safety policies, good communication, training and monitoring of safety. Incentive schemes will increase this by rewarding those who follow the expected behaviours.

Hinze (2002) discusses how safety incentive schemes can reduce injuries. The study showed that companies who had higher success rates with incentives tended to give lower value incentives regularly, with a strong focus on recognition. This shows that how the incentive schemes are set up can be just as important as how much money is being given as an incentive.

More recently, studies have looked at how incentives can be set up. Ogundipe et al. (2024) completed a review looking at how incentive schemes can be set up in the construction industry. The study highlighted some key areas like behaviour based and outcome based approaches. Within Nigeria, the study identified barriers to implementing incentives such as the reward process, budget planning, performance indicators, policy and organisational governance (Ogundipe et al., 2025).

Lee and Kim (2024) demonstrated that incentive schemes should be assessed based on how workers behave. The study used an image based activity classification technique to look at how workers behaved with different incentive schemes. This is relevant as statistics may not give enough detail on whether workers are following safety requirements.

1.5 Indigenous and expatriate contractors in the Nigerian construction industry

Although indigenous and expatriate contractors operate in the same general construction environment they may have different organisational structures, management, financial resources and systems in place. This could affect how occupational health and safety policies are put in place.

Idoro (2011) completed a comparison of occupational health and safety management efforts and performance within Nigerian construction contractors. This is relevant as it gives a foundation for understanding differences in safety management practices. Idoro (2019) also completed a study comparing occupational health and safety performance between indigenous and multinational contractors in Nigeria. Therefore, the type of contractor plays an important role in construction safety research.

However, this does not mean that every contractor will have the same incentive schemes based on their type of organisation. To understand what incentive schemes are being used, data should be collected from workers and other construction professionals.

This study looks at both indigenous and expatriate contractors within Ibadan. This is not to understand which type of contractor uses more incentive schemes as the objective one results are presented as an overall mean. Instead, it identifies what incentive schemes are being used by those who responded.

1.6 Barriers to safety incentive schemes

There may be barriers to implementing safety incentive schemes due to organisational, financial and admin issues. Even if an incentive scheme is set up there may not be consistency in its use due to lack of funds, unclear criteria for rewards, poor communication and lack of commitment from management.

Ogundipe et al (2025) completed a study looking at barriers to implementing safety incentives within the Nigerian construction industry. They identified 6 main categories of barriers; differences with the reward process, no budget planning for incentives, conflicting performance indicators, no national safety incentive policy, construction company governance systems and no automation. This demonstrates that incentive schemes will need to have the correct admin and organisational support.

It is also important to ensure that the rewards are fair. If workers feel that the rewards are unfair or that the criteria is not applied equally by management then they may lose confidence in the incentives. Criteria should be well communicated to ensure everyone knows what they need to do to qualify for a reward. Accident free goals should also be carefully managed to ensure workers are not discouraged to report injuries, unsafe situations or near miss incidents.

2 Methodology

The study was designed as a descriptive survey to identify what safety incentive schemes are being used by indigenous and expatriate contractors on construction sites in Ibadan, Oyo State, Nigeria. This was chosen as the study aimed to gather information from construction professionals.

The study looked at 10 construction companies, 5 indigenous and 5 expatriate. The participants were construction professionals with relevant knowledge or experience of construction activities and safety within organisations. A structured questionnaire was used to collect data.

120 questionnaires were handed out to the selected participants. Of these 100 responses were received, giving an 83.3% response rate. Of these 75 responses were from indigenous contractors (75%) and 25 responses were from expatriate contractors (25%).

The questionnaire included statements about different safety incentive schemes. Participants were asked to show how much they were used within their organisations by using a 5 point scale. Very Utilised (5), Utilised (4), Moderately Utilised (3), Rarely Utilised (2) and Not Utilised (1).

Data was analysed using descriptive statistics. This was done by calculating the mean. This helped to identify how each safety incentive scheme ranked based on the responses. The schemes were ranked from highest to lowest mean.

The results were interpreted based on the overall mean scores provided in objective one. As there are no mean scores for indigenous and expatriate contractors, the ranking can be seen as an overall trend.

3 Results and discussion

3.1 Safety incentive schemes used by indigenous and expatriate contractors

The study identified twelve safety incentive schemes reported by respondents working with indigenous and expatriate construction contractors in Ibadan. The results were analysed using mean scores and ranking to determine the relative position of each scheme.

Table 1. Mean scores and ranking of safety incentive schemes

S/N	Safety incentive scheme	Mean score	Ranking
1	Employee recognition awards for following safety procedures	3.01	1st
2	Public commendation during toolbox meetings and safety briefings	2.97	2nd
3	Team-based rewards for meeting safety targets	2.83	3rd
4	Gifts and souvenirs for safe behaviour	2.80	4th
5	Safety bonuses for employees with good safety records	2.78	5th
6	Certificates for workers demonstrating good safety practices	2.75	6th
7	Recognition for reporting hazards and near-miss incidents	2.75	6th
8	Paid leave or incentives for accident-free periods	2.73	8th
9	Monetary rewards for accident-free performance	2.62	9th
10	Safety competitions among workers or teams	2.41	10th
11	Promotion opportunities linked to safety performance	2.40	11th
12	Additional welfare packages for workers with good safety compliance	2.40	11th

Source: Field survey, 2026.

From Table 1, it can be seen that employee recognition for following safety procedures was most frequently mentioned with a mean score of 3.01. This was followed by public praise in toolbox meetings and safety briefings with a mean score of 2.97. Team-based incentives were mentioned third with a mean score of 2.83 and gifts with a mean score of 2.80. Safety bonuses ranked fifth with a mean score of 2.78.

Certification and recognition of reporting hazards/near miss incidents both received the same score of 2.75 and were mentioned sixth. Paid time off/incentives for being accident free received a mean score of 2.73 whilst monetary incentives for being accident free received a mean score of 2.62. Safety games received the lowest score with a mean score of 2.41. Promotion opportunities and extra welfare were mentioned last with a mean score of 2.40.

The top scheme mentioned was employee recognition for following safety procedures. This suggests that recognition based incentives were relatively more popular. Employee recognition allows organisations to acknowledge workers who demonstrate commitment to safety standards. This can also help to show workers what management expect from them in terms of their safe behaviours. This aligns with Herzberg (1968) who notes that recognition is an important motivator and Geller (2001) who discusses how positive reinforcement can be used to improve safety in the workplace.

This aligns with Hinze (2002) who noted that recognition is an important part of safety incentive schemes. Those organisations who were more successful in their incentive schemes focused on the recognition element rather than the value of the incentive. This highlights that employee recognition is an important aspect of safety management within construction.

Public praise in toolbox meetings and safety briefings received a mean score of 2.97 and was mentioned second. This suggests that public praise for safe behaviours was also relatively popular. Toolbox meetings allow supervisors and safety staff to inform workers about the hazards, explain safety procedures and discuss issues at the site. Giving workers recognition during toolbox meetings can help to show how important it is for workers to follow procedures.

This aligns with the fact that communication and promoting a safety culture are key parts of safety management within construction organisations (Choudhry et al., 2007). Safety culture is influenced by the common expectations within an organisation and day-to-day behaviours (Choudhry et al., 2007). Communication and co-ordination from management is also an important part of safety management (Lingard and Rowlinson, 2020). Public praise could therefore be seen as an effective method of informing workers about the importance of safe working practices.

Team-based incentives received a mean score of 2.83 and were mentioned third. This suggests that team-based recognition was also mentioned. Within construction many tasks require collaboration between different trades and teams. Often the safety of one worker will rely on others so it is important that everyone feels responsible for safety. Team-based incentives may help to increase collaboration between workers and show that they all have a shared commitment to safety.

This aligns with Hinze (2002) who found that those organisations who were more successful in their safety incentive schemes focussed on rewarding whole crews for safe behaviours. This suggests that team-based recognition may be suitable if safety relies on working collaboratively. It also highlights that incentive schemes should recognise that construction work is team-based.

Gifts received a mean score of 2.80 and were mentioned fourth. This indicates that non-monetary appreciation was mentioned. Giving gifts can be a way of rewarding workers who demonstrate safe behaviours without organisations having to give large amounts of money. The high rank suggests that simple methods of recognition can be used by construction organisations.

Safety bonuses received a mean score of 2.78 and were mentioned fifth. Unlike recognition and gift-based incentives this provides a monetary incentive. This indicates that monetary incentives were mentioned. Whilst monetary incentives may provide extra motivation to workers, criteria must be clearly defined and fairly applied.

This is relevant as Hinze (2002) noted that the value and frequency of rewards should be considered when creating incentive schemes. This also aligns with Ogundipe et al. (2025) who highlighted issues with the processes of incentives and budgeting within Nigerian construction firms. If organisations do not have sufficient funding or clear processes for deciding who is eligible then it may be difficult to implement a bonus scheme.

Certification and recognition of reporting hazards/near miss incidents both received a mean score of 2.75. This indicates that they were mentioned equally. Certification can give workers a formal recognition of involvement in safety schemes. Recognition for reporting hazards/near miss incidents can help to motivate employees to provide information to help prevent accidents.

It is very important that hazard/near miss reporting is included in the incentive schemes. Construction organisations will need accurate information about any unsafe conditions or incidents to identify risks and put in place corrective actions. Having an incentive scheme for reporting hazards can help with prevention based safety management. Lee and Kim (2024) highlight how it is important to measure real safety behaviours of workers. This supports how incentive schemes should recognise positive safety behaviours such as hazard reporting.

Paid time off/incentives for being accident free received a mean score of 2.73 and were mentioned eighth. Monetary incentives for being accident free received a mean score of 2.62 and were mentioned ninth. This indicates that accident free incentives were mentioned. However, they were less popular than the top schemes.

The lower ranking of these schemes should also be noted. Accident free incentives may cause issues if not well thought out. If workers feel that they will lose out on their reward if they report an injury or near miss incident they may be less likely to report any safety issues. An effective incentive scheme should aim to reward preventative behaviours and promote openness. Lee and Kim (2024) demonstrate why it is important to directly measure the safety behaviours of workers.

Safety games received a mean score of 2.41 and were mentioned tenth. This suggests that games were not as popular as the top schemes. Games can be used to encourage workers to get involved with safety awareness activities. However, they may require extra organisation, supervision and communication.

Promotion opportunities and extra welfare both received the same score of 2.40 and were mentioned eleventh. These schemes received the lowest score. This may indicate that incentives related to long-term benefits and extra welfare were not as popular. However, this does not provide any insight into why they received the lowest score. Further investigation would need to be carried out to determine whether this is due to company policies, lack of funding, worker preferences or other factors.

Overall, it can be seen from the results that recognition based schemes were mentioned most. Employee recognition, public praise and team-based incentives were the top three schemes mentioned. Monetary incentives such as safety bonuses and monetary incentives were also mentioned. This aligns with Hinze (2002) who noted that recognition and team-based incentives are important aspects of safety incentive schemes.

The findings are relevant to the Nigerian construction industry. Ogundipe et al. (2025) found that there are barriers to implementing incentives. This includes issues with the processes of rewards, budgeting, performance measures and company governance. The schemes mentioned in this study require clear criteria and consistent management to ensure that awards, bonuses, certifications and

other benefits are effectively implemented. The findings suggest that different types of incentives are in place.

It is key to understand that the mean scores given relate to a 5 point scale. The highest score was 3.01 and the lowest was 2.40. As the scale gave a score of 3 for 'moderately used', this does not indicate that the schemes mentioned were heavily used. This simply indicates the order of the schemes. The difference between the highest and lowest score was only 0.61, meaning that the mean scores received were quite similar.

Overall mean scores were given for this objective. Whilst the research was carried out on both indigenous and expatriate contractors, individual mean scores were not provided. Therefore it would be incorrect to say that indigenous contractors were more likely to use a certain incentive than expatriate contractors. This provides information about what incentives are being used by the respondents but if individual data was available further analysis could be carried out.

Overall, the findings show that both financial and non-financial safety incentive schemes are being used by the construction organisations. Recognition based schemes were the most popular with employee recognition and public praise being the top schemes. Promotion opportunities and extra welfare were the least popular. It has shown how important it is to recognise safe behaviours but also that incentives need to be implemented more clearly and consistently.

4 Conclusion

The study identified the safety incentive schemes used by indigenous and expatriate contractors at construction sites in Ibadan, Oyo State, Nigeria. Twelve schemes were analysed using mean scores and ranking based on responses from construction professionals working with selected construction companies.

The findings show that employee recognition for following safety procedures was the most mentioned scheme with a mean score of 3.01. Public praise in toolbox meetings and safety briefings were mentioned second with a mean score of 2.97. Team-based incentives were mentioned third with a mean score of 2.83, followed by gifts with a mean score of 2.80. Safety bonuses were mentioned fifth with a mean score of 2.78.

Certification and recognition of reporting hazards/near miss incidents both received a mean score of 2.75 and were mentioned sixth. Paid time off/incentives for being accident free received a mean score of 2.73 and monetary incentives for being accident free received a mean score of 2.62. Safety games were mentioned last with a mean score of 2.41. Promotion opportunities and extra welfare were mentioned last.

The findings show that both financial and non-financial incentive schemes were mentioned. However, recognition based schemes were relatively more popular. This aligns with the literature as recognition, team incentives and positive reinforcement are important within construction safety management.

Overall, it can be concluded that different types of safety incentives are being used by construction organisations within the research. However, the mean scores show that they are not being used equally. The findings indicate an overall ranking of the schemes. There is no indication that indigenous contractors are using more incentives than expatriate contractors as individual mean scores were not provided.

5 Recommendations

Based on the findings of the study, the following recommendations are made:

1. Construction organisations should strengthen the use of employee recognition awards for workers who consistently follow safety procedures. Clear criteria should be established to ensure that recognition is based on observable safety-related conduct and is applied fairly.
2. Contractors should make public commendation part of routine toolbox meetings and safety briefings. Supervisors and safety officers should acknowledge workers and teams who demonstrate appropriate safety practices while using these meetings to reinforce safety expectations.
3. Incentive schemes should recognise preventive safety behaviour, including hazard identification, near-miss reporting, participation in safety training and compliance with safety procedures. Contractors should avoid relying exclusively on accident-free targets, as this may discourage the reporting of incidents.
4. Construction organisations should establish transparent procedures for awarding safety incentives. Workers should understand the criteria for receiving rewards, how performance will be assessed and who is responsible for administering the schemes.
5. Contractors should periodically review their incentive programmes to determine whether the schemes remain relevant to workers and organisational safety objectives. The review should consider workers' participation, fairness of reward allocation and the extent to which the schemes encourage preventive behaviour.

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