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How safety rewards can help and hinder: a case study

Abstract

There is no clear consensus within construction safety literature as to whether companies that use safety rewards are safer than those that do not. Through an ethnographic approach, a reward systems used on a large construction project was investigated. The researcher utilised participant observation as a main research tool within the H&S department attending the project between one and three times a week for three years. Data was collected through site walk-arounds, attending meetings, informal discussions and the project safety survey results. The results suggested that safety rewards are worth incorporating in wider safety management systems, as the majority of workers believed they encouraged them to act in a safer manner, especially when the individual award was of financial worth. There should be clear protocol and criteria for safety acts that are worthy of winning an award for the rewards program itself to be reputable. Group awards that reward low or no incidents within a certain period of time create risks of under-reporting, so it is recommended other incentive options should be explored. There should also be a clear protocol on restrictions and limitations for workgroups with high turnovers.

Key Takeaways

- Safety rewards are worth incorporating in wider safety management systems as they have the potential to influence safe behaviours of over half the frontline workforce
- Reward systems are only beneficial when decisions and protocols around the systems are deemed to being fair by those in the organisation. This fairness helps, rather than hinders, the promotion of a just culture.

1.0 Introduction

One of the strategies adopted on UK construction sites in an attempt to mitigate unsafe behaviours is to implement a Safety Rewards Scheme. It has long been understood that there is a link between unsafe acts and accidents, and within the construction industry it has been argued that there has to be a reduction in unsafe acts (Shin et al., 2014) in order to see improvements in practice. The aim of the case study research presented here was to explore the safety reward system as practically implemented on a single large construction project (of value +£500m) in the UK. More specifically, the research questions aimed to answer:

- How influential was the safety reward system perceived to be?
- What constituted a motivating award?
- What can hinder the success of individually-targeted and group-targeted reward systems?

2.0 Construction safety rewards systems

The aim of rewards, incentives and recognition is to alter the ideas, values and practices carried out in order to achieve safety behaviours (Eiff, 1999; Vredenburg, 2002; Wiegmann et al., 2002) . They generally present bonuses, gifts or prizes to employees or groups of employees for achieving certain target levels of injury or accident free working hours (Vecchio-Sadus & Griffiths, 2004). Safety awards are used on construction projects, yet their effectiveness is still debated.

Proponents claim that safety can be improved through behavioural-based safety approaches, in the form of safety observations, goals, feedback and incentives to promote safety behaviour (Cameron & Duff, 2007). For example, Mullan et al. (2015) found that studies that used rewards, incentives and punishment were more effective than those that merely provided information about consequences of 'unsafety' or how to perform the behaviour. Yet, critics of behavioural-based approaches have argued that there can be drawbacks with undertaking safety observations, such as eroding trust,

promoting blame, and an unhelpful focus on quantity of observations (Oswald et al., 2018); and that incentives can be counterproductive in the long-term (Guo et al., 2015). Cameron and Duff (2007) also noted that researchers have overwhelmingly favoured initiatives based on goals and performance feedback, only without having to be of material reward; and Hopkins & Maslen (2015) highlighted that individuals seek to please their bosses for psychological rewards, independent of any material rewards involved.

Safety incentives in construction can target individuals throughout the organisational hierarchy from senior executives (McDermott et al., 2017) to frontline workers (Oswald et al., 2017). In research terms, there has been more focus on frontline workers, through discussions of behavioural-based approaches, and analysis of accident rates and reward schemes. For instance, from an analysis of strategies' effectiveness reducing injury rates, Alarcon et al. (2016) found that safety incentives & rewards were the effective; and that companies that do not implement them have an accident rate 51% higher than companies that do. Likewise, Goodrum & Gangwar (2004) found that incentives are effective at improving many of the safety performance metrics used in construction. Yet Hinze (2002) found that the safest firms are not necessarily the ones that use safety awards; and Geller (1996) argued that safety incentives do reduce injuries when used correctly, but when implemented incorrectly they can do more harm than good. Maslen & Hopkins (2014) revealed that it was not the financial incentive alone that motivated individuals to be safe, but instead that incentives tap into other human motives, such as the need for approval, and the need to be recognised as making a valuable contribution.

3.0 Research Methods

This case study project used an ethnographic approach (O'Reilly, 2005) to the empirical research. Ethnography is an 'iterative-inductive research (that evolves in design through the study), drawing on a family of methods, involving direct and sustained contact with human agents, within the

context of their daily lives (and cultures), watching what happens, listening to what is said, asking questions' (O'Reilly, 2005:3). Ethnographic studies allow researchers to immerse themselves in a chosen empirical setting for long periods of time, throughout which the researcher's experience, in terms of participation and/or observation at the research site, is used to generate interpretation of the events that took place (Dey, 2002). Drawing upon both quantitative, such as questionnaire surveys, and qualitative data, such as interviews and observation (Kawulich, 2005) to explore a phenomenon in detail creates what Pole & Morrison (2003:8) call 'inclusive ethnography'.

In this case study project, the lead researcher adopted the role of participant observer, becoming a member of the H&S department. Travelling to the research setting approximately twice a week for three years between 8am and 5pm, the researcher gathered a significant body of data. In a three year period over 1500 hours were spent at the setting, with over 200 field notes recorded, and 150 units of documentary data collected. A proportion of this data was relevant to the theme of safety rewards. The researcher used the health & safety advisors as key informants and gatekeepers to allow access to observation opportunities. The H&S advisors were located in different physical areas of the project, and were able to introduce the researcher to the various construction workgroups through a 'snowball sampling' strategy. Being a large civil engineering project the operative trades were typically ironworkers, welders, scaffolders, carpenters etc. The researcher adopted an overt approach, where the purpose of the research was explained to workers, and a protocol developed for established rapport with participants (see Author et al., 2014). The data gathered related to this theme was categorised further into two sub-themes: individually-based and group-based awards.

In this study, data collection involved using contextually appropriate ethnographic methods that included combinations of: participant observation of workers at key areas on construction sites (including site inductions and other forms of training; site offices, canteens, work sites etc.); informal and unstructured interviews with employees throughout the hierarchy from directors to site labourers; and documentary analysis of the contractor's site safety survey results. This exposure to

the natural setting, rather than a contrived setting, is arguably a major strength of ethnographic approaches in terms of validity (LeCompte & Goetz, 1982). The qualitative and quantitative data was organised using nVivo and analysed through a thematic analysis (see Braun & Clarke, 2006). In terms of generalizability, a sample-population analysis (statistical generalizability) was not undertaken; but instead, case studies seek analytical generalisation, which is an appropriate logic for this type of research (Yin, 2013). Analytic generalizability is 'the extraction of a more abstract level of ideas from a set of case study findings – ideas that nevertheless can pertain to newer situations other than the case(s) in the original case study' (Yin, 2013: 325).

4.0 Results

The Safety Award Scheme in operation on this site had two different types of award: individually-based and group-based. In the individual, nominated employees could win a monetary award (e.g. shopping voucher) for a positive safety act that month. Anyone on the project could nominate an act by another worker to encourage inclusion of all employees. However, this also created some challenges; in months of low nominations, there was little choice, and often winners were from the departments that were pro-actively engaging with the award system, and at times for acts that did not always seem worthy of being rewarded. This led to suspicions of injustice within the awards process, with one worker suggesting that 'only one team are [ever] awarded'. The team that this worker referred to was a department which had many workgroups and individuals winning awards. In the winning group, all members received a team t-shirt for a length of time (typically a year) without a lost time accident.

Such awards aim to incentivise both positive safety behaviours (through individual awards), and the avoidance of negative safety behaviours, which could lead to accidents (through group awards). By incentivising positive safety behaviours and de-incentivise negative, the individual and group awards in the Scheme were designed to complement each other.

4.1 Effectiveness of the Award Scheme

The survey results indicated that the majority of workers believed the Scheme had a positive influence on their own safety behaviours, suggested award schemes should be seriously considered in an overarching safety management system. Over 65% of the respondents either strongly agreed or agreed with the statements: 'The Safely Award Scheme encourages me to work safely' (See Figure 1); and 'The Safely Award Scheme encourages me to make interventions when I witness people working unsafely' (see Figure 2).

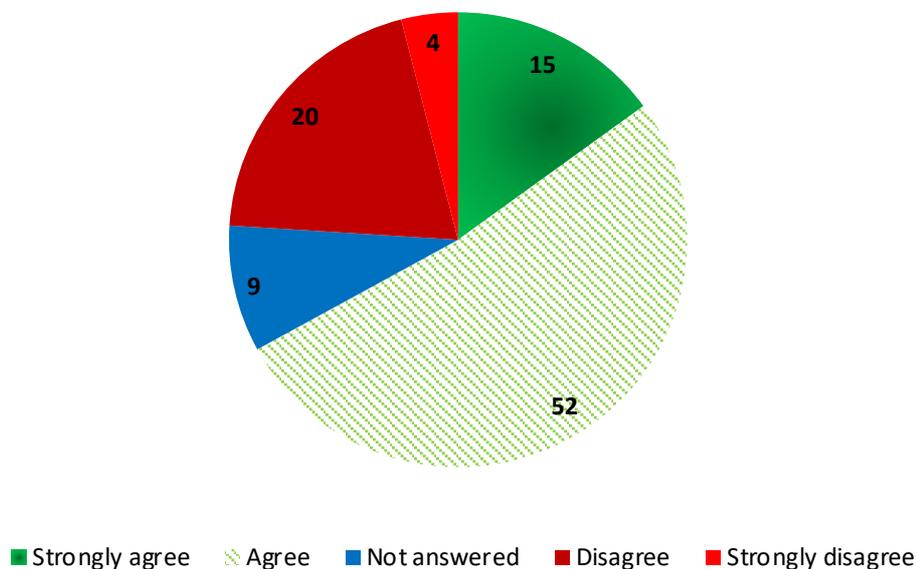


Figure 1: Percentage response to 'The Safely Award Scheme encourages me to work safely' (n=424 respondents)

This suggests that financial incentives have a place within an overarching safety management system. However, the design of an effective reward system is far from simply providing an incentive that motivates workers, as undesired and unexpected behaviours can still occur.

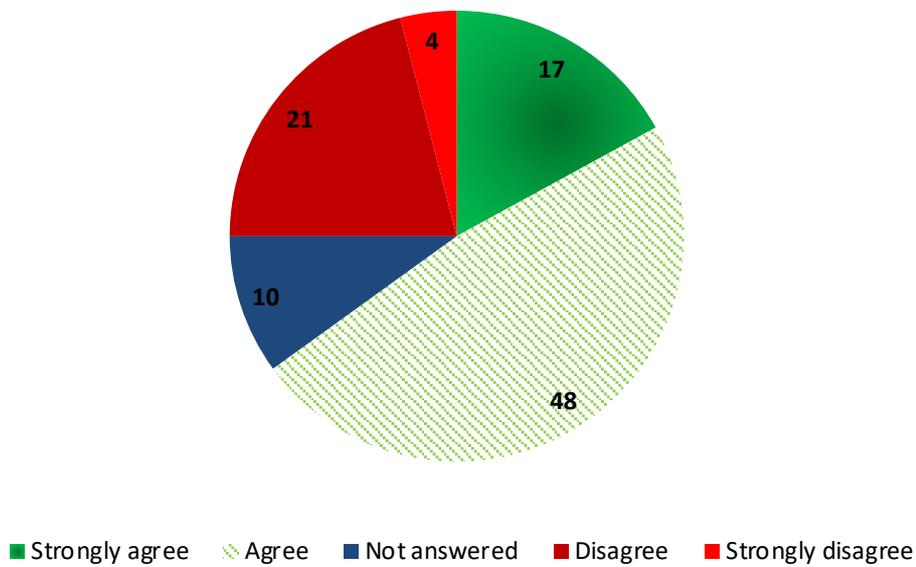


Figure 2 Percentage response to 'The Safely Award Scheme encourages me to make interventions when I witness people working unsafely' (n=424 respondents)

Those that disagreed or strongly disagreed gave further insights in the comments section of the survey. For example, comments included:

Respondent A: 'It shouldn't be awards. Working safely is something mandatory.'

Respondent B: 'I don't believe in a reward scheme for safety. All staff should act safely on a construction site without the carrot of a chocolate watch.'

Respondent C: 'Rewards are the wrong way to go about this. A systematic change in the culture is what is needed, not short term gains through rewards.'

Although the Safety Award Scheme is not expected to be influential for behaviour change of all employees, the survey results do suggest it influenced the majority, and it is therefore deserving of further attention.

4.2 Individual-based and Group-based awards

At the frontline, operatives were strongly financially motivated. For example, one respondent stated:

'Operatives are only interested in money so [give out] vouchers'

The frontline workers often expressed frustration when superiors were awarded with the safety individual reward:

Operative: *'Why do supervisors get awarded? We do the work, and they already take the money'*

In some cases, the winners of the award did not believe they had gone 'above and beyond' normal safety expectations to be awarded:

Supervisor: *'well I'm confused... 'cause see I actually won an award... but I had done nothing special, was just doing my job.'*

The challenge with the monthly award was that often there would often only be very few candidates to choose from, meaning the award could be given for an act that did not seem worthy. For operatives, the individual award had a more influence as a motivator than the group awards, which had little financial worth. For example, the team t-shirt was distributed for being 100 and 365 days loss-time accident free were regarded as a poor motivator for workers:

Operative: *'we don't have a bad accident for a year, and we get a [expletive] t-shirt.... A year is quite a long time. When am I ever going to wear a team t-shirt?'*

Both the individual and group award should therefore be designed and detailed with care, as the findings show they are susceptible to unexpected challenges and undesirable behaviours. For example, in one of the H&S meetings, a H&S advisor warned others of a previous experience:

'We need to careful with the award. On my last job, guys started a fire, so they could put it out in an attempt to win the award!'

Unexpected challenges also arose around the awards process. For example, the unsteady and transient nature of the workforce caused confusion surround protocol for team awards:

H&S manager: *'four out of 22 of the guys have been there a year and they want t-shirts for all of them! Only four should qualify; but then one of the guys said: 'you can't give one sweetie to one kid and not to another.'* Anyway in the end it was decided at management level that none would be issued.'

For team awards there was confusion over the criteria when teams with a transient workforce and/or high turnover qualified. This typically resulted in awards not being distributed, creating feelings of injustice amongst workers. In this case there was a lack of clarity as to whether the whole team should be awarded, when only four out of 22 had been present during the entire duration of the award time period. The use of such time period parameters also created risks of under-reporting with regards to the group-based award. For example, in reference to the 100-day incident free group award, one H&S advisor stated:

'I wouldn't want to be the guy that ruined the whole team's award on day 99'

This could have encouraged under-reporting of incidents on the project, which was widely acknowledged by research participants. For example, one member of the security team stated:

'So much gets swept under the carpet, it has become a trip hazard'

Hence, there was awareness of the risks of non-reporting, but no clear suggestions on how to manage them.

5.0 Discussion

The survey results suggest that Safety Awards Schemes are worth incorporating in wider safety management systems, as they have potential to influence the majority of workers to act in a safer manner. Goodrum & Gangwar (2004) found that craftworkers have a much more positive reaction to incentives than their managers; and the results in this study also suggest that an effect award for a

safety reward system which incentivises frontline workers is one of worth. However, despite having the ability to influence the majority of frontline workers, a safety reward needs to be designed appropriately to have impact; and even still, there will be workers of the opinion that awards should not be needed to incentivise safe work. Indeed a poorly planned safety award system risks causes more harm than good, in terms of worker perceptions of organisational fairness, a just culture, and worker reporting.

A key component in an organisation's safety culture is the manner in which safe and unsafe behaviours are evaluated and the consistency of the rewards and penalties that are issued (Reason, 1990). Eiff (1999) stressed the need for a fair evaluation to promote safe and discourage unsafe behaviours. Bolt et al. (2012) reported that a just/fair characteristic was one of the many characteristics that contributed to the health and safety success of the 2012 London Olympic Park project, which achieved zero fatalities and an Accident Frequency Rate of just 0.15 (Wright, 2012). Hopkins & Maslen (2015) also argued that evaluation is considerably more of a motivator than the money that goes with it. One of the workers in the team stated '*you can't give one sweetie to one kid and not to another*', suggesting he thought the proposed actions were unfair. This challenge is perhaps intensified in the construction industry. Unlike other industries, the construction industry has a project-based, dynamic, transient nature, where there is frequently a high turnover of workers. Stable groups have not only been linked to improved safety performance (Gherardi & Nicolini, 2002) but also productivity (Hughes & Thorpe, 2014). However, many construction frontline workgroups are small, and therefore group members are more likely to feel like they can make a difference (Hopkins & Maslen, 2015). Instead of awarding all workgroup members t-shirts in the high turnover group, no t-shirts were awarded despite the team qualifying for the award, which could appear unfair. Vendenburgh (2002) highlighted that distributing prizes and money without a clear and consistent set of contingencies can reduce the potential to obtain the desired outcome. Hence, it is very important that construction companies creating incentive schemes have a clear and fair protocol for such situations.

Another potential issue is when the award directly equates prizes with a number of incidents (Krause & McCorquodale, 1996). The results in this study supported the notion that these programs encourage workers to not report an incident so they will not lose individual incentives or be the reason that the whole group does not receive an award. OSHA (2012) is critical of injury rate bonuses, because these schemes suppress reporting. They are particularly critical where a team is awarded if no-one is injured within a certain timeframe, as the pressure to not report is overwhelming. Reporting an injury may not only affect their bonus, but also their workmates. Hence, the group award can send a paradoxical message to workers, as organisations encourage all incidents to be reported to learn lessons, yet the organisation are also rewarding fewer loss-time accidents. The extent of this issue, led Hopkins & Maslen (2015) to recommend that CEOs should be incentivised to reduce accidents, while ordinary workers should instead be incentivised to report bad news, rather than suppress it.

To summarize, the key elements of a positive reward system as identified through this case study project can be found in Table 1.

Award Design	Award Criteria	Award Evaluation
<p>Motivation The award should be motivating. This study found financial awards to be more motivating than non-financial (e.g. team t-shirts)</p> <p>Reasonable The award should be of reasonable value. Too little reduces motivation, and too great can allow for perverse outcomes (e.g. creating a fire to extinguish it, in an attempt to win an award).</p> <p>Behaviours over accident rates The awards should focus on safe behaviours rather than accident free periods, which encourage under-reporting.</p>	<p>Eligible winners It should be clear who can and cannot win the award. Frontline workers may feel it is unfair if managers can be awarded.</p> <p>Nomination process The nomination process should be clear and rigorous. Consideration of how often an award is distributed. Low nominations can risk rewarding unworthy acts if choice is limited.</p> <p>Unanticipated scenarios A clear protocol for unexpected scenarios should be considered. For instance, if group winners are still awarded, despite there being high worker turnover during an award period.</p>	<p>Fair evaluation Transparency is essential so that workers feel it is a fair award process. Continually awarding the same teams, departments or individuals can raise suspicions of this. Protocols to avoid this should be considered. Avoid awarding unworthy acts that can be deemed basic safety requirements, rather than safety excellence. This undermines the award system, and risks feelings of injustice among workers, and even confusion among winners who believe it were undeserved. Examples of types of winning acts could help create a shared perception of fairness in the award process.</p>

Table 1: Features of a positive reward system

6.0 Conclusions

Safety rewards are worth incorporating in wider safety management systems, as they have potential to influence the majority of workers to act in a safer manner. However, they should also be: designed with an appropriate award, judged fairly using clear protocols on what actions are worthy for winning, and where restrictions or limitations apply. This case study suggests that for frontline workers, the individual award should be of financial worth; the act should be perceived as above and beyond normal safety expectations; and there should be clear guidance on who qualifies for the individual awards. For the group awards that reward low or no incidents within a certain period of time, the risks of under-reporting still remain, suggesting other options should be explored. There should also be clear protocol on qualification for groups with a high turnover. It is recommended that reward systems are clearly thought through, with criteria clearly stipulated to avoid underreporting, feelings of unjust and confusion over award qualification, and a lack of social acceptance for non-worthy winners. Future work should explore what helps and hinders reward systems in other contexts and countries to build further theoretical understanding into this complex area of health and safety.

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