

AN INVESTIGATION INTO A HEALTH & SAFETY REWARDS SYSTEM ON A LARGE CONSTRUCTION PROJECT

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Construction companies have widely adopted incentive systems rewarding safe acts and/or low accident rates. Through an ethnographic approach, a reward system used on a large construction project (+£500m) in the UK was investigated. As part of a wider study, the researcher visited a construction project one to three times a week for three years, and utilised participant observation as the main research tool. Data was collected through site walk-arounds, attending meetings, H&S survey results, and informal discussions with employees. H&S survey results revealed that money/vouchers (43%) were the most popular reward choice for construction workers. This was followed by branded clothing (9%), paid leave (8%) and outings (8%), such as golf days; suggesting workers were motivated by financially-based rewards, rather than certificates (6%) or public recognition (4%). An effective reward system required more than an appropriate motivator, as several challenges arose including: a lack of nominations; winners believing they did not deserve an award for ‘just doing their job’; variations in prizes from shopping vouchers to iPads which led to feelings of inequality; and operative dissatisfaction when supervisors received awards. The challenges revealed can be used to aid construction companies in creating effective H&S reward programmes.

Keywords: unsafe behaviour, rewards, incentives, awards, H&S

INTRODUCTION

It has long been understood that there is a link between unsafe acts, unsafe conditions and accidents. Unsafe acts have been identified as more difficult to observe than unsafe conditions (Gould and Joyce, 2009), due to the difficulties in witnessing fluid and momentary acts when compared to static and unchanging conditions (Smith *et al.*, 2017). Within the construction industry it has been argued that there should be further efforts towards understanding and reducing unsafe acts (Shin *et al.*, 2014; Oswald *et al.*, 2015), as there remains little to improve on in terms of physical conditions (Donald and Young, 1996). One of the strategies adopted by large construction companies in an attempt to mitigate unsafe acts is to implement a health and safety (H&S) incentive or reward scheme. Lipscomb *et al.*, (2013) noted that it was clear that both H&S reward and punishment systems were frequently in place in construction, and therefore both should

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warrant careful evaluation. In terms of construction H&S research knowledge, there is uncertainty and limited understanding into H&S incentive approaches. The aim of the research was to explore the H&S reward scheme implemented on a large construction project (+£500m) in the UK. More specifically, two research questions were investigated: 'which awards motivate construction workers?' and 'what challenges are there in designing an effective H&S reward programme?' The findings can be used to help construction companies in developing effective H&S reward programmes.

FINANCIAL INCENTIVES AND HEALTH AND SAFETY

The first question to address is whether financial incentives are an appropriate human motivator within a corporate environment. The use of financial incentives to meet business objectives has been called into question by many authors. Pink (2009), outlined three direct challenges to financial incentives: they ignore human motivations that may be more powerful than economic self-interest; they destroy other motivations; and they create unintended and perverse outcomes. He claims that organisations have not yet been able to understand what really motivates people, and that they need to redesign themselves to take advantage of intrinsic motivation (Ibid.). This can include autonomy (freedom to work in one's own terms and one's own time), mastery (the ability to develop ones skills and ability to apply them to new challenges) and purpose (the possibility of making a contribution to the world) (Ibid.). Hopkins and Maslen (2015) explain that if companies allow the realisation of such intrinsic motivators, there would be no need for additional extrinsic motivators; aside from a reasonable level of fixed pay. It is harder, but not impossible, to implement Pink's (2009) recommendations in industries such as the construction industry, that produce manufactured goods (Hopkins and Maslen, 2015). For such industries his recommendation could be seen as a goal or long term ambition (Ibid.).

Drawing upon Maslow's (1943, 1954) hierarchy of needs there are human motivations that go beyond monetary desires, such as the need for: belonging; approval; making a valuable contribution; self-transcendence; self-esteem; self-respect; and for self-actualisation. Hence human motivation is complex, and it cannot be assumed that financial incentives will determine human behaviour. Yet, in some cases, financial rewards and incentives have been proven to provide temporary compliance and behaviour change (Eriksson, 2011). There is also evidence that the larger the incentive for workers who perform routine tasks that only involve mechanical skill at the bottom of the corporate hierarchy, then the greater the response (Pink, 2009). Hopkins and Maslen (2015) noted that this does not suggest that incentives invariably motivate behaviour, but that in some circumstances, they do. When considering Vroom's expectancy theory, which suggests people will behave in ways that achieves expected results (Druker and White, 1996), individuals may expect potential reward for safe working, and are therefore motivated by the incentive. The fact that human motivation is complex does not in itself undermine the potential of financial bonuses to influence behaviour in corporate settings.

Reward schemes are ways of achieving control in organisations (Kerr and Slocum, 2005) and ways of promoting desired individual and organisational behaviour to achieve the organisation's goals (Lawler, 1995). From an H&S perspective, the aim of rewards, incentives and recognition is to alter the ideas, values and practices carried out in order to achieve H&S behaviours (Vredenburg, 2002). They typically award individuals or groups of employees that achieve certain target levels of injury or accident free working hours (Vecchio-Sadus and Griffiths, 2004). On construction projects, they are commonly used, even though the safest firms are not necessarily the ones that use incentives (Hinze,

2002). Incentives may be effective in reducing workplace injuries, depending on how the rewards are structured (Ibid.), though there is no guarantee that individuals will behave the way the organisation intended (Kerr, 1995; Pink, 2009). Previous research has found mixed conclusions, with some suggestions that safety incentive programmes do positively affect safety performances of construction companies (Goodrum and Gangwar, 2004; Gangwar and Goodrum, 2005; Molenaar *et al.*, 2009); whilst other studies were unable to find a strong link between safety incentives and improved safety performance (Hinze, 2002; Rose and Manley, 2011).

RESEARCH METHODS

Ethnography is a method of studying a specific group in their natural setting usually through participant observation (Phelps and Horman, 2010). As defined in ‘classic’ approaches to ethnography (see Atkinson *et al.*, 2007), it includes combinations of observing behaviours, participating in activities, writing extensive notes, interviewing and reflecting on one’s own role throughout the research. Ethnography is now emerging as part of the repertoire of approaches to understanding the construction industry, and can offer new routes to knowledge (Pink *et al.*, 2013).

Ethnographers often use participant observation as a main tool for data collection. On this project this included a mixture of: attending site inductions, site offices, canteens, work sites, meetings and having informal interviews with employees throughout the hierarchy from directors to labourers. Information on the setting was also gathered from various project documents. Ethnographic researchers can often benefit from being given access to documents that may not normally have been available to other researchers applying different research methods (Hammersley and Atkinson, 2007). In this study documentary data included site H&S survey responses, safety observation reports and meeting minutes. Such documents have not always been given the attention they deserve within ethnographic work (Hammersley and Atkinson, 2007) despite having the capacity to reveal to the researcher details about the context and social world they were created in (Pole and Morrison, 2003).

Data gathering through conversations and other sources, such as documentary data, can also lead to a form of triangulation, which ethnographers use as a matter of routine (Bryman, 2001). Triangulation involves a comparison of data on the same phenomenon at different phases of the fieldwork, different times and the accounts of different participants (Hammersley and Atkinson, 2007). In social research, relying on one single piece of data can lead to the danger of being exposed to undetected errors (Ibid.), as social reactivity, such as the Hawthorne effect can occur (see Oswald *et al.*, 2014, for a discussion within a construction industry context). Hence different kinds of data reaching the same conclusion can give more confidence in the finding (Hammersley and Atkinson, 2007). A common triangulation method is to compare data produced from different data collection techniques, which can provide a basis for checking interpretations (Ibid.). Triangulation is often a feature of ethnography (Bryman, 2001) and it is possible to triangulate both qualitative and quantitative data. Triangulating quantitative (such as the responses to a site H&S survey in this study) and qualitative data (participant observation) to explore in detail is a pluralism of method, but not a methodological pluralism - a case Pole and Morrison (2003) wish to argue for in what they call inclusive ethnography.

The data were analysed using a thematic approach, which gives the researcher a ‘bird’s-eye view’ of emerging patterns that could be drawn out (Aronson, 1994). This approach identifies patterns across data sets that are relevant in addressing the research aims (Braun

and Clarke, 2006). The thematic analysis consists of six stages: familiarisation with data, generating initial codes, searching for common themes, reviewing them, defining and naming themes and producing a final report (Ibid.).

ETHNOGRAPHIC FINDINGS AND DISCUSSION

The following two sections present and discuss the research findings. The first part investigates the first research question, 'which awards motivate construction workers?' and second explores 'what challenges are there in designing an effective H&S reward programme?' The quotations used within the text are representative of the typical perceptions on the project, and the data from the site H&S survey is presented in combination with ethnographic insights as appropriate.

Which awards motivate construction workers?

The project used a combination of awards with financial worth and public recognition to reward winners. The awards consisted of gift vouchers for monthly winners, alongside public recognition through posters and a project-wide congratulatory email. For acts of H&S excellence, iPads were distributed instead of gift vouchers. The project's H&S department asked specific questions relating to the H&S award scheme in an H&S survey undertaken on site. There were 147 responses to a question focused on the prize, with survey respondents asked to complete the sentence: 'I think that the individual rewards for the Award Scheme should be...'

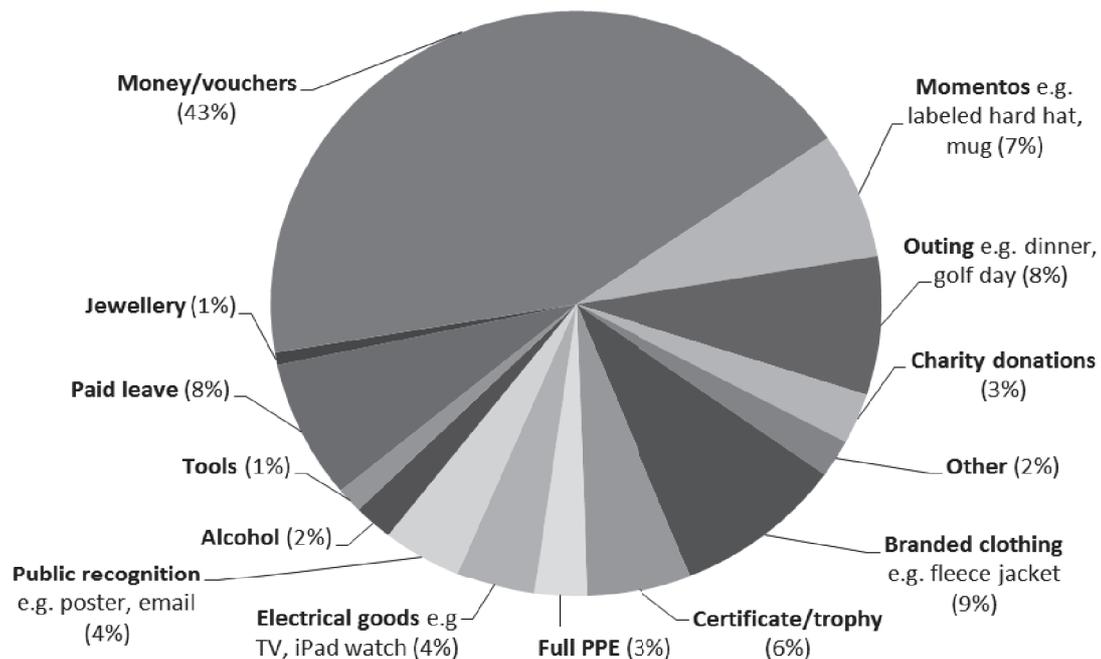


Figure 1: The H&S award prize suggestions from 147 workers

The researchers categorised the answers into fourteen groups. Figure 1 above illustrates the percentage popularity of each category. Almost half of the workers wanted money or gift vouchers (43%) for winning the H&S award. For example, respondents stated: 'bonus'; 'vouchers for major retailers'; 'money'; 'big wedge of cash'. Ethnographic discussions on-site also confirmed that money was a strong motivator for the construction workers:

H&S advisor: 'The guys want to do overtime whenever they can get it. They don't mind doing all the hours, 'cause money is a big driver for them.'

Motivation is a critical factor within an incentive programme (Goodrum and Gangwar, 2004) and therefore it is very important to understand how incentives could motivate workers to be safe. Rose and Manley (2011) noted that financial incentives can enhance motivation at a personal level, and the findings here suggest that financial rewards were indeed a strong motivation for workers. Branded clothing (9%), paid leave (8%), outings (8%), electrical goods (4%), alcohol (2%), tools (1%) and jewellery (1%) were other choices that, while are not legal tender, have financial value. This reinforces the finding that workers were driven by awards with financial worth. It is worth noting that alcoholic prizes could be counterproductive, as they have been previously linked to accidents (see for example Biggs *et al.*, 2012; Oswald *et al.*, 2013; Marques *et al.*, 2014).

Some workers also suggested non-financial rewards in the form of public recognition (4%), certificate/trophies (6%) and mementos (7%), though this was a much less popular choice than financial rewards. Award winners were publically congratulated and photographed receiving the award with the project director. The photograph would be communicated throughout the project via email and posters. Aside from money being a very important driver, ethnographic discussions with employees also highlighted other reasons why non-financial awards, in the form of public recognition, were a less popular choice. A security manager summarised this during a meeting:

...some won't like the stigma of being the safety winner, the limelight of their photo being up on the wall; and it puts pressure on them to not make mistakes, 'cause they are a safety champion. They can't be seen to do anything wrong.

Maintaining one's image is extremely important to individuals in the workplace (Mullen, 2004), and H&S winners may have additional pressure of feeling they are now unable to make a mistake, or break a rule. Considering there are recognised gaps between rules and working practices (Lofquist *et al.*, 2017), and in some cases operatives would break the rules to complete tasks, workers may not want to be a public H&S champion, as they acknowledge they bend the rules on occasion.

Three per cent of workers desired to make a donation to a charity of the winner's choice, while another three per cent stated the prize should be PPE, which should be mandatorily worn on site and provided by employers. It could be interpreted that a small percentage used the survey question to highlight to senior management that they had not received all the appropriate PPE.

Some participants did not offer a suggested prize, and instead used the survey question as an opportunity to communicate that they disagreed with the appropriateness of H&S incentives. For example, workers stated: 'It shouldn't be awards. Work safely is something mandatory.'; 'Going home safely should be reward enough'; 'You don't work safely or make interventions to get an award, you do it so people are safe'. Hence, not all were motivated by the award scheme. This perception represents a challenge of H&S award programmes and their design and is discussed in more detail in the following section.

What challenges were there in designing an effective H&S reward programme?

The design of a reward or incentive programme needs very careful consideration as there can be unexpected and/or undesirable behaviours that are induced by the scheme. For example, Hopkins (2008) noted that bonuses paid to managers for cost-cutting could result in the increased likelihood of major accidents, as managers may take additional risks to save costs. Hence, firms must be careful when implementing incentives or they may not generate the desired result (Hinze, 2002). One of the undesirable behaviours within the reward programme was that there was a lack of nominations:

H&S Manager: 'we only got two nominations again this month.'

A key characteristics of a well-designed incentive programme is that the programme receives a high level of visibility within the organisation (Vredenburg, 2002). In the H&S survey undertaken by the project, 74% agreed that they 'have been told about the Safety Award Scheme', which suggests that while the majority were aware of the scheme, there were still over a quarter that had not been briefed about the programme. Some of those that were aware of the scheme also did not appear to value it. For example, operatives commented:

'let's be honest here, safety awards only matter if you are in R2'; 'Waste of time unless you work for R2; 'Only one department is awarded'

R2 was a department whose members frequently won the H&S award. Operatives in other departments explained that the H&S reward scheme 'didn't matter' to them, and they did not appear to be motivated by the possibility of winning the award. Operatives also thought the award should be targeted for the workers doing the physical construction work, and not their supervisors. They repeatedly questioned:

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

Construction workers were frustrated when a financial award that they thought should be distributed to them, was being awarded to their superiors, who were not doing the high-risk work, and were already receiving higher wages than them. The lack of nominations reduced options for the selectors of the award, which could have influenced the decision to include supervisors in the award. Some of the supervisors themselves even believed they did not deserve it:

Supervisor: 'See the safety award...what are you meant to have to do to get it?'

H&S professional: 'it was meant for those that go above and beyond'

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

The award was being devalued as it was being distributed for acts perceived as part of the job, and not for surpassing H&S expectations. It is very important that the incentive is awarded to those that undertake behaviours that are perceived as acts of excellence. When awards are distributed for actions that do not go above and beyond what is expected, it is understandable that workers would question the worth of the programme, and that some would have the opinion that there is a moral obligation to stay safe, and so an award for safe behaviour would not change their actions. Hence, it is very important that the criteria for the H&S award scheme is communicated clearly, and is awarded only to acts of excellence where for example, an individual has demonstrated an improvement in the way H&S is performed on site, highlighted a significant latent failing within the system, or has reduced H&S risks to others in one way or another.

The lack of nominations limited the selector's choice every month. If there were no acts of H&S excellence within the candidates, the selectors were still required to choose a winner. This meant there were times when winners were awarded for acts that were perceived as not going above and beyond expectations. Luthan (1992) explained that in such award programmes that have a recurrent award at a specific time, reinforcement is strong immediately before the prize award date, but weak for a considerable period after. If incentives are only to be awarded when individuals consistently go above and beyond H&S expectations, this questions the use of time-intervals (e.g. monthly) in reward systems; and instead distributing an award whenever the reward criteria is met should be considered. This type of award would rely on the fun of participating, as the occurrence

of the reward is unpredictable (Cameron and Duff, 2007). Considering that the evaluation process can be more of a motivator than the money that goes with it (Hopkins and Maslen, 2015), this evaluation aspect of what constitutes a worthy prize should be carefully thought through and communicated. This could increase the likelihood of receiving strong nominations, and avoid the award being distributed for acts not perceived as worthy, which in turn belittles the programme.

Care should also be taken when offering multiple prizes, as this can cause feelings of confusion and inequality. On the project a £50 gift voucher was awarded to the winner of the monthly H&S award. On rare occasions, iPads were awarded instead, and were intended for acts of H&S excellence. However, due to their infrequency this created confusion to whether they existed as a prize. For example, an H&S advisor explained a conversation that occurred within a project meeting:

‘One of the foreman asked a senior manager what happened to the iPads as prizes. The answer he got was like something straight out of a politician’s mouth: he didn’t answer the question, just went in roundabouts. They were being awarded early in the project, when there was still money. Not now.’

The iPad prize was only to be used for acts of H&S excellence, but this devalued the monthly award that consisted of a gift voucher prize. It appeared that it was important to have clear criteria of what types of behaviour deserve reward to avoid such unintended negative reactions to awards. Participants in the programme should be able to understand what the incentive programme is designed to accomplish and how their performance is being measured (Halloran, 1996). When designing the programme it should be planned to continue for the duration of the project, and be independent of the financial stresses on the project during the construction phase. Removal of awards during periods of financial strains on the project can create feelings of injustice within the workforce, thereby potentially reducing positive feelings towards H&S, and H&S management overall.

CONCLUSIONS

H&S incentive or reward programmes are poorly understood within construction H&S research, despite being widely used in practice. This research sought to understand what incentivised motivated construction workers; and what were the challenges to designing an effective reward programme on a large construction project in the UK. Although only drawing on one large case study project, the transient nature of the workforce and similarities in operating practices amongst large contractors, means that the findings are able to provide insight beyond the case study boundary, as suggested below.

Monetary awards, such as legal tender or gift vouchers, were found to be strong motivators for construction workers. Prizes of financial worth were also found to be a motivation. However, a lack of consistency in the processes through which such rewards and prizes were awarded had, over time, developed it into de-motivator amongst some of the workforce. Indeed, it could be suggested that inconsistencies with the value of H&S awards, alongside other issues such as awards for supervisors which were seen as unwarranted, or a lack of desire for public recognition, led to the problem of a lack of uniform engagement with the programme as a whole. For the HS team this created difficulties in terms of securing nominations, and led to something of a 'vicious circle', whereby those engaged with the programme kept 'winning', whilst those who were initially disengaged simply became more so over time, becoming more de-motivated towards the process as a whole.

It is therefore suggested that H&S reward programmes should be designed with clarity and transparency in mind. Findings from this case study suggest that only one standard

monetary prize would have enhanced the programme overall, and it was found to be essential that the award criteria are clearly communicated to the workforce, such as whether awards are for supervisors or just workers. Non-financial rewards such as mementos or trophies can be used in combination; as long as they do not also involve public recognition. It is also suggested that awards should not be distributed on a set frequency basis (e.g. each month), as there may be a lack of nominations, which can lead to an unworthy winner that belittles the award programme. Instead, awards are better received if they are distributed whenever acts of H&S excellence are performed. Again, this should be clearly communicated and could reflect for example when an individual has demonstrated an improvement in the way H&S is performed on site, highlighted a significant latent failing within the system, or has reduced H&S risks to others in one way or another. Further research should be carried out to investigate this recommendation and determine how the workforce would perceive this process to be most fair in practice.

Whilst there is the potential for H&S reward programmes to be a useful asset for reducing unsafe acts within a wider H&S management system, this research has shown that the process must be carefully managed in practice. While the rewards did not change the behaviours of all individual on the case-study project, they did motivate some workers, and therefore were also likely to have the potential to also motivate others, should the programme be effective. It is therefore important to understand what motivates construction workers and how H&S rewards programmes can be designed to work well in practice. The insights presented within this paper are a step towards comprehending this poorly understood area within construction H&S management.

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