

INQUIRY INTO THE HEALTH AND SAFETY MANAGEMENT PRACTICES OF CONTRACTORS IN VIETNAM: PRELIMINARY FINDINGS

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Despite the socio-economic significance of the Vietnamese construction industry, the industry continues to have a poor reputation in terms of occupational health and safety (H&S). Whilst it is evident that improvement is needed, there is a dearth of research in this area to drive and guide improvement efforts. Particularly in the area of H&S management, there is little available documented insight into the H&S management practices being implemented by contractors (i.e. construction companies). As the awareness of these practices is an important milestone to gaining understanding into areas that need improvement, this study provides preliminary insight into the H&S management practices of contractors in Vietnam. The study employed a questionnaire survey of contractors and it presents preliminary findings from the responses of 42 contractors. Within three of the key elements of H&S management (i.e. policy, organising for H&S, and risk assessment) the survey findings suggest that whilst some practices are commonplace amongst contractors, there are also practices that are less implemented by contractors. Amongst the less implemented practices are: provision of health and safety guides/manuals, undertaking risk assessments for work packages/operations, reviewing and updating risk assessments, and assessing the competence of workers/subcontractors. Whilst not conclusive given the limited number of responses, the findings presently provide preliminary indication of the aspects of H&S management that are weak amongst contractors and may thus need attention.

Keywords: health and safety, health and safety management, survey, Vietnam.

INTRODUCTION

The construction industry is regarded as a highly hazardous industry and it is usually the greatest contributor to industrial fatalities in many developing countries including Vietnam (Tutesigensi and Phung, 2011). Construction also accounts for a significant number of occupational related ill health and absence from work. The high injury and illness records in construction have been attributed to a host of factors including extended hours of working in ergonomically difficult positions; unsafe worker behaviour, exposure to the harsh weather, dust, noise and fumes; regular working at height; working in confined space, features of construction projects, and prevalent human-machine interactions on site (Griffith and Howard, 2001; Haslam et al., 2005; Manu et al., 2014). The poor state of health and safety (H&S) in construction calls for better H&S management in construction considering the socio-economic benefits that are derived from this industry in many countries. Despite improvement realised in developed countries through health and safety management, developing countries such as Vietnam have not been able to achieve similar improvements (Tutesigensi and

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Phung, 2011). Work related fatalities remain high and is predicted to increase due to the ever increasing spate of industrialisation which has led to increased construction activities (Hämäläinen et al., 2009; MOLISA, 2012).

HEALTH AND SAFETY IN THE VIETNAMESE CONSTRUCTION INDUSTRY

H&S performance in Vietnam has historically been reported as being among the worst in the Asian region with an estimated industrial fatality of up to 26 per 100,000 workers (Hämäläinen et al., 2009). This is significantly poor when compared to developed countries where fatalities rates are much lower (e.g. 0.44 fatalities per 100 000 workers in the UK for 2013/14 (Health and Safety Executive (HSE), 2014)). Vietnam's Ministry of Labour Invalids and Social Affairs (MOLISA) reported as high as 5951 accidents which affected up to 6337 people, 2553 injuries and 621 fatalities based on national safety records in 2007 (MOLISA, 2008). More recent records are still worrying with about 152 fatal accidents recorded within just the first 6 months of 2013 (MOLISA, 2014). The cost of accidents to the Vietnamese economy was estimated at 58,528 billion Vietnamese dong (VND) (GB £1.65 billion, based on average 2014 interbank rate) with a loss of 382,313 working days due to accidents and work-related illness in 2007 (BSW, 2008). More recent data indicates losses of up to 19.23 billion VND (GB £545,315 based on average 2014 interbank rate) as compensation to accident victims and a loss of 19,109 working days due to ill-health in the first half of 2013 (MOLISA, 2014). The construction industry in Vietnam contributes significantly to the poor H&S record and is thus considered as one of the most dangerous industries (Tutesigensi and Phung, 2011). According to BSW (2008) up to 28% of accidents and 44% of industrial fatalities are attributable to construction activity in Vietnam. Consequently, the Vietnamese construction industry has been in the spotlight due to its contribution to ill health and accidents. Forecast for 2010 to 2015, is that 170,000 people will suffer from occupational accidents, of which 1,700 fatalities will occur at the prevailing rate (MOLISA, 2012). This could result in losses of over 2,000 billion VND per year (MOLISA, 2012) (GB £56,715,063 based on average 2014 interbank rate). Given the huge cost associated with the poor H&S performance of the Vietnamese construction industry, efforts towards improvement are much needed.

HEALTH AND SAFETY MANAGEMENT

Effective H&S management gives improvements in the reduction of construction accidents (Lingard and Rowlingson, 2005; Fewings, 2013). The lower accident and fatality rates recorded in developed countries is partly attributable to H&S management practices instituted through the adoption of H&S management systems (Fewings, 2013). Owing to this, adoption of H&S management systems and their associated practices by contractors is increasingly becoming important (Fewings, 2013). According to Griffith and Howarth (2001) an effective H&S management system recognises H&S as a major contributor to organisation performance in general. Gallagher (1997) identified the following practices as important in delivering effective H&S management: high level of senior management commitment; occupational health and safety (OHS) responsibilities known; encouragement of supervisor involvement; active involvement of a H&S representative who has a broad role; effective OHS committees; planned hazard identification, risk assessment and hazard elimination control; and comprehensive approach in inspections. According to Fewings (2013) these practices can be more effectively institutionalised within a management framework with key areas/elements categorised as follows: H&S Policy, organisation for its management, risk assessment, planning and implementation, measuring performance and an effective review system for feedback. This system is after BS OHSAS 18001: 2007 (BSI, 2007), the UK Health and Safety Executive (HSE) guidance for H&S management (HSE, 1997; 2013), and is also similar to other models of H&S management such as the model by the International Labour Organisation (i.e. ILO OSH 2001) (ILO, 2001). According to the Royal Society of Chemistry (2014), the BS OHSAS 18001:2007 remains the most widely used model. The description of the above areas/elements and examples of practices are given in Table 1 below. As BS

OHSAS 18001:2007 is the widely used framework and it also closely related to the models by HSE (1997, 2013), Table 1 is structured around these models of H&S management.

Table 1: Key H&S Management Elements

Management Practice Area/Element	Management Practice sub-area/element *	Description and examples of practices*
Plan	Policy	Written in-house H&S policy statement reflecting management's concern for H&S and detailing principles of actions to achieve H&S objectives e.g. policy document
	Planning	Planning for effective resource allocation e.g. Pre-project H&S plans.
Do	Organising	The structural system to manage health and safety e.g. human, financial and equipment; communication.
	Risk Assessment	Evaluation of risks and establishing necessary H&S measures to avoid accidents e.g. pre-project risk assessments.
	Implementation	Actual implementation of programmes e.g. training.
Check	Measuring Performance	Verification of the extent to which goals are achieved e.g. performance measurements metrics to include H&S targets such as number of accidents.
Act	Management review/Auditing	Reviewing in order to improve entire system e.g. External consultant reviews.

*Sources: (HSE, 1997; Griffith and Howard, 2001; Lingard and Rowlinson, 2005; BSI, 2007, Boyle, 2008; Kheni et al., 2008; Cheng et al., 2012; Fewings 2013; Hinze et al., 2013, HSE, 2013)

The importance of H&S management in construction is also reflected in the extant literature by the extent of research work around the subject. Several studies have examined the use and importance of H&S management practices in both developed and developing countries (e.g. Kheni et al., 2008; Cheng et al., 2012; Manu et al., 2013; Agumba et al., 2013; Hinze et al., 2013). However, in the specific context of Vietnam, there is a paucity of research on H&S management practices. The limited construction H&S research literature on Vietnam has focused on other issues such as worker attitude towards H&S (Tutesigensi and Phung, 2011) and also government reports have mainly highlighted the poor state of H&S affairs and the vision for its management (Pham, 2002; BSW, 2008; MOLISA, 2012). There is therefore the need for research into H&S management by contractors in Vietnam to gain an understanding into the elements/practices that need improvement. To this end, this research provides preliminary findings on the H&S management practices implemented by contractors in Vietnam.

RESEARCH METHOD

A quantitative approach was adopted for this study with the main reason being its suitability for obtaining a generic view or snapshot of a phenomenon (Fellows and Liu, 2008). Again, this approach is suitable for this study which sought to answer a research question relating to "what" (i.e. what H&S management practices are used by contractors in Vietnam?) (Fellows and Lui, 2008). In order to investigate the H&S management practices of Vietnamese contractors, contractors' personnel in

management roles (e.g. H&S managers, project managers, site managers, engineers, and company directors/managers) were targeted as such personnel are most likely to possess the relevant knowledge and experience relating to the management of H&S in their organisations. Drawing on the literature review (particularly the elements and practices of H&S management (Table 1)) a questionnaire survey was designed for the data collection. The questionnaire included closed questions to obtain company information (e.g. size of company), company H&S management practices, and open ended questions requesting for general comments about difficulties/challenges faced in managing H&S. It is estimated that there are circa 50,000 registered contractors in Vietnam (Mai and Van, 2012). According to Denscombe (2007), decisions on sample size may be done on the basis of prior knowledge, familiarity and good judgment. Consequently, due to time and resource constraints a decision was made to progress the study in a pragmatic and systematic way by breaking Vietnam into 2 main regions (Northern and Southern) and then focusing on the Northern region in a first preliminary phase which is the focus of this paper. Contractors operating in the northern part of Vietnam were thus targeted. The developed questionnaire was translated into Vietnamese and administered to 60 contractors. Accompanying the questionnaire was a letter requesting for a personnel in construction management related role (e.g. company director, H&S manager, site manager, project manager, and civil engineer) to complete the questionnaire. The contractors were obtained from information provided by local departments of construction in provinces/cities, and also from the lead researcher's industry connections. As acknowledged in Gibb et al. (2002), obtaining participation in construction H&S research can be very difficult and as such using industry connections/contacts to enhance participation can be useful (Manu, 2012). The survey yielded a total of 47 responses. However, following screening of the responses, 5 were excluded due to excessive missing data. The closed questions were analysed using frequency (%), and thematic analysis was used for the open responses.

FINDINGS & DISCUSSION

The first section of the survey sought to find out the background of respondents and their companies. The majority of respondents were site managers (28.5%) and civil engineers (23.3%). Company directors who responded to the survey also constituted 21%. 2.4% held H&S specific designation. All together the respondents constituted a good number of respondents with management level roles within the companies. 21.4% of the respondents had less than 5 years of experience within the construction industry. The remaining majority possess more than 5 years of experience.

With regards to the background of the companies, the majority are medium size (42.9%) or small size (40.5%) companies. This classification of firm size is based on Vietnamese Regulation of Business Registration. Similar to the construction industry of other countries, in Vietnam a single firm can provide different types of construction services. A majority of the companies are however involved in public works (76.2%) or civil engineering related construction (78.5%). Most of the firms (66.7%) do not have a specific budget for H&S management. The background details of the surveyed firms are presented in Table 2 below.

Table 2: Background of Respondents and Companies

		No.	%
<i>Respondents role</i>	Site Manager	12	28.5
	H&S Manager/Supervisor	1	2.4
	Company Director	9	21.4
	Civil Engineer	10	23.8
	Project Manager	6	14.3
	Other	4	9.5
<i>Respondents experience</i>	Less than 5 years	9	21.4
	5 to 15 years	24	57.1
	Over 15 years	9	21.4
<i>Company size</i>	Small (less than 50 employees)	17	40.5
	Medium (51 to 150 employees)	18	42.9
	Large (more than 150 employees)	7	16.6
<i>Areas/Sectors of companies operations</i>	Public sector works	32	76.2
	Private sector works	20	47.6
	Buildings	23	54.7
	Civil	33	78.5
	New build	23	54.7
	Refurbishment	9	21.4
	Demolition	21	50.0
	Other	14	33.3
<i>Budget for H&S management</i>	No budget	28	66.6
	Less than 300 million VND*	7	16.7
	More than 300 million VND*	7	16.7

*300 million VND = GB £8,507 based on average 2014 interbank rate.

H&S Management Practices by Vietnamese Contractors

The findings and discussion presented here focus on practices within the policy, organisation and risk assessment areas/elements of H&S management. The findings are summarised in Figure 1 below.



Figure 1: Level of Implementation of H&S Management Practices

H&S Policy

The survey revealed that a majority of firms have a formal health and safety policy statement (74%). All the companies also have H&S as part of company director responsibilities.

Organising for H&S

All the firms have site supervisors with H&S responsibilities. 86% alluded to communicating H&S information to their workers through outlets such as newsletters and leaflets, while 60% engage with their workers on various H&S issues (e.g. having H&S meetings). 79% of the companies network with other organisations (e.g. government authorities) on H&S issues. Whilst health and safety posters are displayed by most of the companies (i.e. 71%), only 55% of them openly display their company's health and safety policy on sites, company websites or head office branch. 80.95% of the companies provide health and safety annual reports. 67% of the firms surveyed share their H&S practices with external stakeholders such as clients. 52% of the companies perform assessment for the H&S competence of workers and subcontractors. While 52% have a designated H&S manager role, a lesser proportion of companies (42%) provide training for their H&S managers. On the other hand only 24% of the participating firms have a designated health and safety department and 17% of them provide health and safety guides and manuals for workers.

Risk Management

Most of the firms (88%) alluded to informing their employees about hazards on site and 74% undertake overall project risk assessments before projects starts. However, only 38% of them undertake risk assessment for individual work packages and operations before they begin. 48% review

and update risk assessment during construction while 62% of them design site rules and measures in order to mitigate assessed risks.

Borrowing from the concept/practice of academic degree classification (e.g. UK masters, $\leq 49\%$ = weak; 50-69% = pass to merit; 70% + = very good/ distinction), the level of implementation of the H&S management practices in Figure 1 could be categorised as: low (i.e. 0 - 49%); moderate (i.e. 50 - 69%); and high (70% +). From the results it is clear that some efforts are being made by Vietnamese contractors in relation to practices adopted to manage H&S as 9 practices show a high level of implementation (i.e. 70% +) across the companies. According to Lancaster et al. (2003) smaller companies are more likely to be affected by red tape making them less capable of dealing with the complexities associated with H&S compliance. In spite of this, although a majority of the companies are small and medium size, the results suggest that some efforts are being made by Vietnamese contractors especially in the area of H&S policy. Within the element of organising for H&S, 3 practices and 5 practices have a low level of implementation and a moderate level of implementation respectively. In terms of risk assessment, 2 practices and 1 practice have a low level of implementation and a moderate level of implementation respectively. These lower levels of implementation within these elements could partly be responsible for the poor H&S record of the construction sector in Vietnam (see MOLISA, 2012). A key practice within organising for H&S which is significantly lacking is the provision of health and safety manuals/guides with only 17% of firms practicing this. This could be explained by the following statement from the open ended questions on the questionnaire: "H&S training documents are not officially standardized by government, there is a lack of official framework of H&S training programmes and they have not been deeply evaluated. Documents which are being issued are not effective and helpful" [Company Director]. Similarly only 24% of firms actually have an H&S department/unit. Given that majority of the companies are small and medium size, this is unsurprising as small and medium companies are noted to have limited resources (see Fabiano et al., 2004) and as such may not be able to adequately finance and resource a unit/department designated for H&S.

Safety Attitude and Behaviour and Practices

Workers H&S attitude and behaviour is an indication of how well H&S is managed/H&S performance (Tutesigensi and Phung, 2011). In order therefore to help gauge the effectiveness of the management of H&S by the contractors, their assessment of workers' H&S attitude and behaviour was sought. From the survey, more than a half of the respondents were of the view that site workers have poor attitude and bad behaviour in terms of H&S as indicated in figure 2. According to Duc (2014), site workers in small construction projects (which often tend to be managed by small and medium size contractors) often lack appropriate working contracts and H&S training. This may be reasons for the poor H&S attitude and behaviour among workers of the responding firms which are mainly small or medium size (i.e. 83.4%).

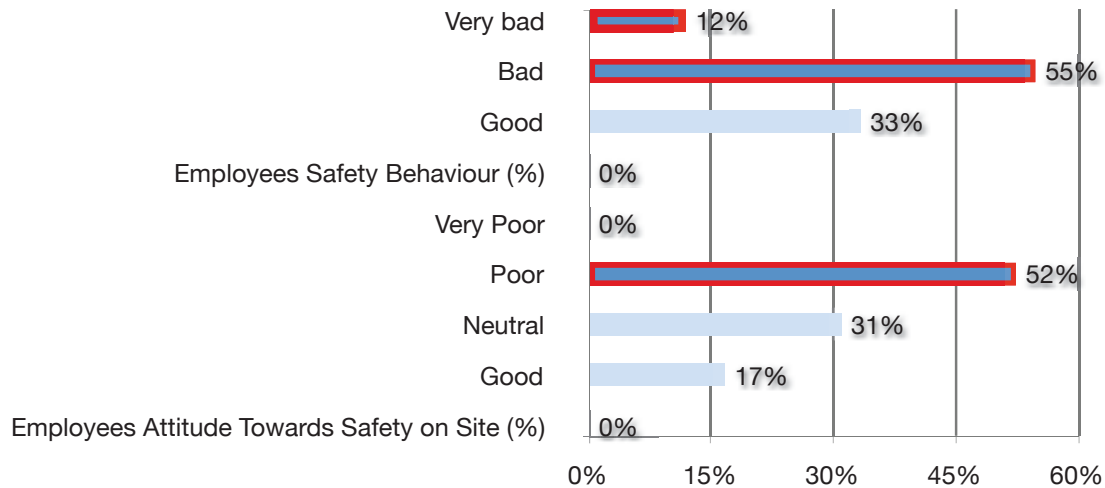


Figure 2: Workers behaviour and attitude towards safety

From the respondents open responses, worker H&S attitude and behaviour were also noted as a challenge for H&S management. A selection of the open ended comments regarding attitudes and behaviour are given below:

"Poor attitude of both employer and site workers; poor cultural behaviour causes poor execution "[Project Manager].

"Site workers do not follow site regulations, do not use personal protective equipment" [Site Manager]

"Need to have methods to improve the attitude towards occupational health and safety in construction for site workers" [Site manager]

"Need to build a culture of occupational health and safety in construction industry, start from employers and expand it to site workers" [Health and safety supervisor].

"Opening mandatory training programmes for site workers, improving the attitude and behaviour towards occupational health and safety practices" [Civil Engineer].

Thus workers' attitude and behaviour continue to be an issue with H&S management. This may be attributable to several factors such as the casualization and the temporary nature of employment of workers. Such a situation often creates a gap between firms and workers which prevents effective extension of internal safety practices to these workers.

CONCLUSIONS

This study has provided insight into the H&S management practices by Vietnamese contractors. Within three of the key elements of H&S management (i.e. policy, organising for H&S, and risk assessment) the findings suggest that there is a lower level of implementation of practices in the areas of organising for H&S and risk assessment especially amongst small and medium size contractors as the vast majority (i.e. 83.4%) of the participating companies are small and medium size contractors. The practices with low levels of implementation therefore need to be carefully considered in order to contribute towards improvement in the poor H&S performance in the Vietnamese construction industry. Also the poor attitude and behaviour of workers towards H&S need attention to promote H&S improvement. By highlighting the practices that have a low and moderate level of implementation and also by flagging H&S attitude and behaviour as being an issue, the results of this study could prompt relevant state authorities to design training and awareness programmes to help

improve these areas of concern. However, as the findings only reflect the situation in Northern Vietnam, further study is required to cover the Southern part to provide a more comprehensive picture of the status of H&S management amongst contractors in Vietnam.

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