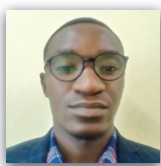


Occupational health and safety practices among contractors in Malawi: a generic overview

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The construction industry accounts for a high percentage of occupational accidents, leading to violation of workers' human dignity and labour rights. The situation is critical in developing countries owing to occupational health and safety (OHS) interventions being in their infancy and inadequacy in systematic implementation of OHS programmes. This study was concerned with obtaining a generic overview of implementation of selected OHS practices by construction companies in Malawi in order to identify underlying motivations for their implementation or non-implementation and determine OHS management techniques for improvement. A questionnaire was used to collect data, which were analysed using a combination of frequency distribution and categorisation of OHS implementation levels. The results revealed inadequacies in the provision of OHS facilitation services and training practices on construction sites and to construction workers, respectively. Further, the findings revealed workers' negativity towards OHS practices and reporting of construction accidents to insurance companies despite a legal mandate to notify the OHS directorate. The study supports the notion that developing countries are poor at establishing and implementing OHS legislation and programmes. If properly utilised, the study may guide interventions for improving OHS management at company and national levels.

1. Introduction

Notwithstanding global efforts to improve the occupational health and safety (OHS) of workers through establishment and implementation of safety legislation and programmes, high numbers of occupational injuries, illnesses and fatalities continue to dominate the international OHS agenda. Worldwide, an estimated 2.74 million occupational fatalities occur annually, in addition to 374 million injuries and illnesses (ISO, 2018). Among the industries with poor OHS performance, the construction industry is one of the most perilous. It accounts for 25–40% of work-related fatalities but employs only around 8% of the labour force in developed countries (CIDB, 2008). In sub-Saharan African (SSA) countries, the statistics for accident rates are estimated to be 16 012 per 100 000 workers (CIDB, 2008). In Malawi, accidents causing three or more spells of absenteeism from work were estimated to be almost a million for the period between 2004 and 2009 (ILO, 2011), an average of 200 000 per year (Simukonda *et al.*, 2018).

Among the reasons directly responsible for poor OHS performance in developing countries, inadequate safety policies, standards and accountability systems are the main causes (Faroqui *et al.*, 2008). Developing countries are reported to be lax at developing and implementing safety laws and practices, a

challenge attributed to the inverse relationship between national competitiveness and OHS performance (Takala *et al.*, 2014). In addition, the natural intricacies of construction sites and peculiar working environments make OHS management a difficult task (Dong *et al.*, 2010; Earl *et al.*, 1996). Besides the complexity of the construction operations, construction firms are organic organisations which rely on decision-making roles and the use of workforce and training facilities for workers to carry out non-standardised operations in rapidly changing worksites (Choudhry and Fang, 2008).

A study conducted by Simukonda *et al.* (2018) showed low implementation of OHS practices, mainly those related to policy, organising, measuring and reviewing and auditing elements of occupational health and safety management systems (OHSMSs), among contractors in Malawi. The authors attributed the finding to lack of resources of microenterprises and small to medium-sized enterprises (SMEs), a finding also supported by a study conducted by Kheni (2008). Regarding specific OHS practices, Ahmed *et al.* (2017) reported poor provision of facilitation services, including sanitation and welfare facilities on worksites, non-reporting and/or defective reporting channels for worksite accidents in the Pakistani construction industry. The authors also

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reported that workers in the informal Pakistani construction industry were vulnerable to accidents due to the lack of protective clothing and a negative safety behaviour towards OHS. Ahmed *et al.* (2017) and Mohamed *et al.* (2009) have attributed the poor safety performance to lack of OHS training for workers and sometimes extreme and unfriendly weather conditions. Moreover, the decision-making regarding OHS policies and programmes is based on inaccurate and unreliable OHS statistics produced by OHS departments in these countries. The findings by Ahmed *et al.* (2017) in Pakistan and the International Labour Organization (ILO, 2011) in Malawi show that there is no defined formal authority for reporting accidents. While some accidents are reported to police and treated at hospitals, mechanisms for reporting the same to OHS authorities are non-existent (Ahmed *et al.*, 2017). Apparently, OHS authorities lack resources to, among other things, monitor construction worksites and collect, consolidate and interpret OHS statistics (ILO, 2011).

Based on a number of factors, practitioners and researchers recommend an improvement of OHS management in developing countries. Apart from the poor OHS situation, the population of SSA countries is expected to reach 1.2 billion and the urban population will grow by 70% by 2025 (Betts and Robinson, 2013). In Malawi, the population is projected to increase to 40 million by 2040 (see the report by Mana (2018)), and, according to UN-Habitat (Sietchiping, 2015), at least 30% of the country's population will be urbanised by 2025. The rapid population growth and urbanisation will necessitate significant improvement in the provision of critical infrastructure required by the modern society, such as transport networks, recreational spaces, housing and other social amenities. The provision will trigger an increase in the volume of construction output, which, worldwide, is already expected to grow by at least 70% to US\$15 trillion by 2025 (Betts and Robinson, 2013). An increase in the volume of construction work implies a reciprocal increase in the workers employed on worksites and OHS risks thereof. Inevitably, interventions aimed at protecting and improving the safety, health and well-being of construction workers are a necessity. Consequently, this study was concerned with obtaining a generic overview in the implementation of selected OHS practices among contractors in Malawi.

2. Methodology

A quantitative research approach using a questionnaire as an instrument for data collection was used in this study. Regarding the target sample, the Malawian construction sector is regulated by the National Construction Industry Council (NCIC), which among others is responsible for the registration of contractors and issuance of work licenses. NCIC provides an up-to-date register of contractors in all categories and classes as contractors are required to register and renew their licenses annually. As such, the NCIC register was the only reliable sampling frame available for the study and was downloaded from the NCIC website. The study sample comprised 350 contractors randomly selected from a population of 1527 contractors registered in the period

2016–2017. The simple random sampling ensured that contractors in all categories and classes of registration had an equal chance to participate in the survey. A confidence level of 95%, a confidence interval of $\pm 10\%$ and 5% as a percentage for picking a choice in order to calculate the sample size (see the thesis of Manu (2012)) were used. Similar designs have been employed in previous OHS studies by Simukonda *et al.* (2018), Manu *et al.* (2017) and Kheni *et al.* (2010).

The management of OHS comes in various systematic models, comprising elements such as policy, planning, risk assessment, organising, implementing, measuring performance and auditing (see the publications by BSI (2007), the Health and Safety Executive (HSE, 1997, 2013), International Labour Office (2001), International Organization for Standardization (ISO, 2018) and McDonald *et al.* (2000)). An exhaustive review of the literature on OHS models shows that each element is associated with a set of OHS practices. This study investigated four critical OHS practices which could be vital in improving safety climate (see the paper by Ahmed *et al.* (2017)), as discussed in the subsequent section.

- Provision of facilitation services: this practice covers provision of sanitation and welfare essential facilities on construction sites, including toilets, bathrooms, hygienic and tidy resting and eating areas and provision of personal protective equipment (PPE) (Ahmed *et al.*, 2017). These services enhance safety performance and enable within themselves implementation of multiple sets of indispensable practices vital to reducing occupational illnesses, which, according to Langford *et al.* (2000), is seen as significant to operatives.
- Provision of OHS training practices: OHS training is vital for safe and effective job execution as it equips workers with knowledge and skills and instils a positive attitude and perceptions towards OHS. Langford *et al.* (2000) stated that trained workers can assess the risks associated with job execution and undertake preventative measures to avoid accidents. Thus, safety training sessions are a prerequisite to safety awareness and enhanced safety performance. Therefore, all workers should be trained prior to the start of construction work. This is in line with competence, training and awareness attributes propagated within the 'do' element of the plan, do, check and act (PDCA) cycle (BSI, 2007; ILO, 2001).
- Accident reporting patterns: accurate and reliable information is important in making decisions (Eslake, 2006), and this study argues that the same influences the crafting of policies associated with OHS, whether at the company or national level. In Malawi, OHS incidences are supposed to be reported to the OHS directorate, but the literature shows that the directorate's statistics are unavailable and/or unreliable (ILO, 2011). The literature shows that other reporting authorities include police departments, local municipalities and health centres (Ahmed *et al.*, 2017). Hence, it is paramount to ascertain where construction site incidences are reported and reasons therefor. Again, within the 'do' element of the PDCA

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cycle, accident reporting is vital for incident investigation, documentation and control (BSI, 2007; ILO, 2001).

- Workers’ attitudes towards safe behaviour: construction workers’ daily work practices and individual behaviours are pivotal to safety performance. A strand of the literature reports negativity towards OHS practices by construction workers (e.g. Ahmed *et al.*, 2017), which in turn thwarts company management efforts for improving safety performance. Contrariwise, a positive attitude towards OHS practices results in improved performance. As such, a better understanding of construction workers’ attitudes and behaviours and their underlying causes, as Langford *et al.* (2000) argued, is crucial in improving behavioural management techniques. Understanding the workers’ behaviours would enable the management to devise means of improving workers’ participation in OHS management (BSI, 2007; ILO, 2001).

The questionnaire therefore comprised a fixed response category – that is, dichotomous yes or no answers, where yes represented the implementation of OHS practice and no the non-implementation of the practice (see also the papers by Simukonda *et al.* (2018) and Manu *et al.* (2017)). Senior personnel in the company were asked to tick or leave blank a cell for the practices that their companies implemented or did not implement, respectively. The soft copies of the questionnaire were sent to participants using their official company email address registered with NCIC.

The collected data were analysed using a combination of frequency distribution and categorisation of the OHS implementation levels – that is, low implementation (where 0–49% of contractors implement a practice), moderate implementation (where 50–69% of contractors implement a practice) and high implementation (where 70%+ of contractors implement a practice). The methods have been used on similar studies in Malawi, Pakistan, Cambodia, Vietnam and Malaysia by Ahmed *et al.* (2017), Manu *et al.* (2017) and Simukonda *et al.* (2018).

3. Results

3.1 Response rate

The response rate was 23%, and slightly more than three-quarters of the respondents were managing directors (i.e. 42.7%) and quantity surveyors (i.e. 32.0%). Other senior-management-level respondents, representing 18.0%, were site managers, OHS managers, project

managers and site engineers. Over 77.3% of the respondents had an accumulated construction work experience of up to 10 years. Regarding company profile, the majority of contractors belonged to micro-sized contractors (i.e. 50.7%) and SMEs (i.e. 40.0%).

3.2 OHS training practices

The results for provision of OHS training practices to construction workers are presented in Table 1. The provision of OHS training practices to safety managers, safety supervisors and artisans and labourers registered 24.0, 44.0 and 41.3%, respectively. Identifying individual or specialised training needs allows the employer to provide additional training needs to workers and subcontractors and avoid preventable accidents. Sadly, the study revealed that only 25.3% of the contractors assessed the competence of workers and tier 2 and 3 subcontractors/suppliers in executing their jobs safely. Also, it is important to ensure that workers are aware of the specific site procedures and rules to minimise accidents as construction progresses and site conditions change. The results showed minimal provision of site induction to workers – that is, 50.7%. Thus, on average, only 37.0% of the contractors provided OHS training practices to construction workers.

However, neither the proportions nor the average shows unequivocally the extent to which companies implement OHS practices. For example, it is not statistically clear whether 44.0% provision of OHS training to site supervisors by the respondents shows high, moderate or low implementation of the practices among contractors. In order to determine the extent of implementation of OHS practices, implementation levels were categorised. Again, proportions for the provision of almost all OHS training practices were low.

3.3 Provision of OHS facilitation services

Along with OHS training practices, the questionnaire elicited responses on the provision of various OHS facilitation services on construction sites. The findings revealed that only a small percentage of contractors had a designated OHS department (i.e. 16.0%) and an OHS budget (i.e. 34.7%). Similarly, only 28.0 and 44.0% of the contractors assigned OHS managers and supervisors on construction sites, respectively. Additionally, a handful of contractors displayed their OHS policy statement (i.e. 22.7%) and regulatory posters (i.e. 56.0%) on construction sites; 32.0% communicated OHS information to workers, and 37.3% conducted health checks on the employees (Table 2). Except for display of regulatory posters, the rest

Table 1. Implementation of OHS training practices

OHS training management practice	No		Yes		Extent of implementation
	Count	%	Count	%	
Providing H&S training for site safety supervisors	42	56.0	33	44.0	Low
Providing training programmes for safety manager(s)	57	76.0	18	24.0	Low
Site inductions for workers	37	49.3	38	50.7	Low
Training programmes for site workers	44	58.7	31	41.3	Low
Assessing the competence of workers	56	74.7	19	25.3	Low

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Table 2. Provision of OHS facilitation services

OHS facilitation practices and services	No		Yes		Extent of implementation
	Count	%	Count	%	
A company-designated H&S department	63	84.0	12	16.0	Low
A company-designated H&S budget	49	65.3	26	34.7	Low
A designated H&S manager(s)	54	72.0	21	28.0	Low
Assigning H&S supervisors on sites	41	55.4	33	44.6	Low
Display of OHS policy on construction site	58	77.3	17	22.7	Low
Display of regulatory H&S posters on construction sites	33	44.0	42	56.0	Moderate
Provision of sanitation and welfare facilities on sites (e.g. privies and toilets, canteens, drinking water)	15	20.0	60	80.0	High
Provision of first-aid boxes	7	9.5	67	90.5	High
Provision of PPE	6	8.0	69	92.0	High
Communicating OHS information to workers	51	68.0	24	32.0	Low
Conducting regular health checks on workers	47	62.7	28	37.3	Low

H&S, health and safety

of the practices fell within low implementation category. Contrariwise, provision of sanitation and welfare facilities recorded high implementation; 80.0% of the contractors provide privies and toilets, prophylactic wrappers and resting and eating areas. Provision of first-aid boxes and PPEs registered 89.3 and 92.0%, respectively.

3.4 Workers’ behaviour towards OHS

The study also investigated the perceived behaviour of construction workers towards OHS practices by senior construction management personnel. The respondents were asked to rate the behaviour of their workers on a five-point quality Likert scale (i.e. poor, fair, good, very good, excellent). The majority of the respondents (i.e. 60.9%) indicated that the behaviour of their workers towards OHS practices was very good (Figure 1). Nonetheless, when asked about the challenges that their companies encounter in OHS management, the respondents attributed the negative behaviour of workers towards OHS as the biggest challenge. Some of the negative behaviours reported were workers’ ignorance about OHS practices, vandalism of safety posters and signposts, theft and incorrect use of PPE and refusal to undergo medical examinations.

3.5 OHS incident reporting patterns

Lastly, the study investigated the reporting patterns in the case of accidents occurring on construction sites. The findings showed that accidents were mainly reported to insurance companies (i.e. 62.30%) and client consultants (i.e. 53.6%) in order to claim damages; 39.1 and 20.3% reported construction site accidents to

the local police and OHS directorate, respectively. A few more companies – that is, 7.2% – did not report construction site incidences anywhere (Figure 2).

4. Discussion

In view of the demographic profile of the respondents, the results could be considered a true reflection of their company’s OHS practices. Over 74.7% of the respondents hold senior management positions at their companies and have a reasonable working experience – that is, over 10 years. This finding is in consonance with respondents’ profiles in similar studies (e.g. Ahmed *et al.*, 2017; Kheni *et al.*, 2010; Manu *et al.*, 2017). Regarding business characteristics, the majority of the contractors are microenterprises and SMEs, which is again consistent with extant business characteristics of contractors in other developing countries (Kheni, 2008).

The findings on OHS training practices suggest that OHS practices are not part of the contractors’ OHS management systems. This is substantiated by low implementation levels of such practices by a majority of the contractors. The ramifications of this low implementation level could be a conspicuous knowledge and skills gap in OHS practices, which exposes construction workers to even higher OHS risks. In the extant literature, the findings corroborate the study results of Mohamed *et al.* (2009), which showed that 80% of construction workers had not received proper safety training in Malaysia. Recently, non-

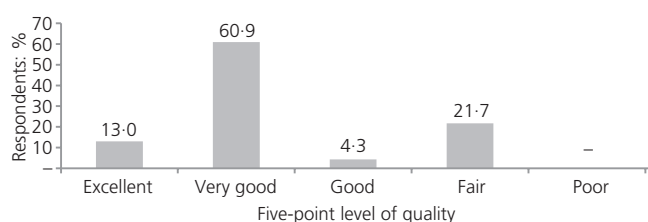


Figure 1. The behaviour of workers towards OHS practices

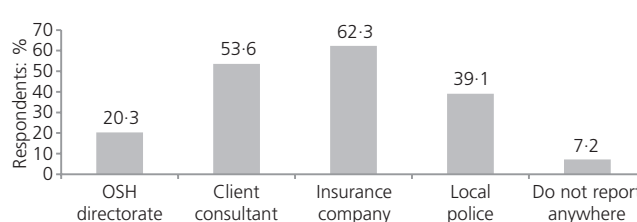


Figure 2. Respondents’ accident reporting patterns

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provision of prior training to construction workers was observed by Ahmed *et al.* (2017) in Pakistan. The authors discovered that the majority of the construction workers receive training concurrently with working and earning. Kheni (2008) disapproves of such proclivities, arguing in-service training apprentices rarely complete the training. In addition, this study contends that, due to intricacies of construction work, direct drilling of apprentices may be perilous due to supervisory staff unqualified in OHS. Moreover, oftentimes, these personnel are preoccupied with other on- or off-site duties to issue clear instructions and monitor execution of very complex manual construction trade works, which are associated with ergonomic hazards. This is common with small contractors which have inadequate safety strategies and qualified personnel (Wilson and Koehn, 2000). Since the majority of contractors in developing countries are SMEs, the problem might be severe in these countries. Furthermore, issues of low wages, low levels of literacy and the transient nature of construction workers make provision of OHS training a difficult task.

In the ambit of OHS legislation, the finding is a sign of non-compliance with the Occupational Safety, Health and Welfare Act of 1997. The act is based on a premise of proactive accident prevention rather than on traditional role of tort law, which is largely reactive and compensational (Nkowani, 2008). For instance, the act mandates employers to provide OHS training in the measures available for prevention and control of accidents at the workplace. In light of this study's findings, the situation on the ground suggests otherwise. This realisation may assist OHS agencies in assessing the OHS awareness levels of construction industry professionals and also contractors' compliance with the Occupational Safety, Health and Welfare Act of 1997. Also, the findings invite the OHS directorate to intensify enforcement and implementation monitoring of OHS requirements.

Equally important is the lack of human and financial resources on the part of the companies and enforcement agencies, a serious factor limiting provision of OHS training practices to construction workers. The resource poverty to which SMEs are recurrently subjected is a severe drawback to OHS management in the construction industry (Kheni *et al.*, 2010). SMEs lack financial resources to invest in OHS management in terms of providing OHS training to construction workers. Although SMEs employ few workers and execute less complex construction work, non-provision of OHS training could result in the safety, health and welfare of such workers being in general mediocre. Similarly, the Malawi OHS directorate suffers from insufficient resources. The directorate's budget ranged from 2.4 to 8.3% of the ministry of labour allocation between 2005 and 2009 (ILO, 2011) and there are just 11 inspectors tasked with inspecting all registered workplaces across the country (ILO, 2011). Taken together, the resources are inadequate to carry out the operations of the OHS directorate. In developing countries, the lack of governments' commitment in providing resources for OHS management is commonplace (Kheni *et al.*, 2010). Unless activities of enforcement agencies are adequately funded, improvements in OHS management through OHS training and regulations still remain a dream.

Regarding provision of OHS facilitation services, the results showed low implementation except for provision of sanitation and welfare facilities. OHS facilitation services should be understood as OHS management activities which provide an enabling environment for safe job execution, thereby promoting the safety, health and welfare of workers. Among the practices with highest non-implementation levels are establishment of a company-designated OHS department (i.e. 84.0%), display of company OHS policy on construction sites (i.e. 77.3%) and provision of designated OHS managers on construction sites (i.e. 72.0%). Since most of these practices demand resource investment, one plausible reason for the low implementation may be attributed to the lack of resources of SMEs (Kheni, 2008; Simukonda *et al.*, 2018). On the other hand, the majority of the contractors provide sanitation and welfare facilities, first-aid boxes and PPE on construction sites. The findings further revealed that contracts often make provision for these items in the preliminary section of bills of quantities. The items are priced at a profit by the contractor, and the cost is entirely borne by the client. An economic incentive associated with this arrangement goads the contractors to implementing the practices on construction sites. This finding is consistent with observation made by Kheni *et al.* (2010) in their study of OHS practices of SMEs in Ghana. Based on these findings, it could be prudent to encourage adoption of contracts which are fair on OHS risks and incorporate OHS items.

Serendipitously, the study discovered that, for some clients, OHS requirements are considered a bureaucratic add-on, embedded in the contract and resulting in additional costs but less additional value. Consultants align with clients' demands, provide for scanty OHS items in the bills of quantities and give less attention to evaluation of their pricing methodology. Subsequently, construction projects are awarded to bidders who give less than adequate attention and budget to implementation of OHS practices. This proclivity discourages contractors who intend to comply with OHS legislation by pricing OHS items for their effective implementation on construction sites.

Regrettably, the price for flouting OHS standards is borne by contractors, clients and employees alike. Poor OHS performance disrupts the production process, tarnishes the image of the contractors and renders their construction businesses uncompetitive (see the papers by Santos *et al.* (2013) and Abad *et al.* (2013)). Contractors could also be liable for damages as compensation for injuries or fatalities. On the other hand, poor OHS performance has negative commercial implications for clients, particularly those developing for production purposes. It may result in loss of revenue due to delays in project lead time. In addition, poor OHS performance may increase the project cost and compromise the quality of the final product. Nevertheless, on the receiving end, ordinary workers, who work to earn bread and butter for their families, bear the brunt. They have to endure physical and psychological pain due to disabling injuries and illnesses or, in the worst case, die, which leaves their families socially fragmented and destitute.

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The results on workers' behaviour towards OHS practices show that poor OHS performance is attributed to workers' negative behaviour towards OHS. The researcher was, however, not amused with this finding. The theory of mere exposure effect, also called familiarity principle, states that people tend to develop a positive attitude towards a target stimulus as a result of repeated, unreinforced exposure (Lee, 2001). This study suggests that, for some reason, OHS issues are deficient in the sociocultural milieu of impoverished countries like Malawi to guarantee positive OHS behaviour in the workplace. On the other hand, extreme weather conditions influence negative behaviour towards OHS in as far as wearing PPE is concerned. According to Ahmed *et al.* (2017), the use of PPE becomes unpopular because it causes sweat and irritation in dry seasons. As such, the negative behaviour reported for construction workers in Malawi may be a reflection of a subtropical climate, which is relatively dry between September and April (DCCMS, 2018). Furthermore, this study conveys that the use of PPE needs some time for habituation, particularly from the ergonomics point of view of inexperienced workers. Usually, beginners are more likely to get injured by, for example, failing to use working tools correctly or taking preventive measures. Proper OHS training and induction could be used in readying beginners to execute their tasks safely.

The findings on accident reporting patterns indicate that the majority of contractors report accidents to insurance companies (i.e. 62.3%) and client consultants (53.6%). This is driven by the need to claim damages and/or compensations. However, in Malawi, contractors are supposed to comply with the Occupational Safety, Health and Welfare Act of 1997, which provides for notification of all accidents to the OHS directorate. The unpopularity of the OHS directorate may therefore suggest a number of interrelated issues as follows: (a) sluggish enforcement of OHS legislation by OHS agencies, (b) lack of knowledge on the formal accident reporting system by contractors and (c) ill-defined OHS roles among various OHS-related institutions. The finding therefore invites the OHS directorate to re-evaluate its effectiveness in enforcing and monitoring compliance with OHS legislation to make itself a pertinent organisation in OHS management.

5. Conclusion

This paper presents a generic overview of the implementation of OHS practices by contractors in Malawi. The study has revealed that construction workers lack formal training in OHS issues, and formal work-related accident reporting mechanisms are defective. Besides workers' negative behaviour towards OHS practices, OHS challenges are attributed to poor provision of facilitation services. Poor implementation of OHS practices is commonplace among construction companies in Malawi, as evidenced in this study, despite the existence of the Occupational Safety, Health and Welfare Act of 1997, which stipulates minimum OHS standards for workplaces. Against this backdrop, the study recommends strengthening of legal and institutional frameworks to ensure compliance with OHS provisions. Also, Malawi needs

to ratify ILO conventions on which the act is founded. Intuitively, ratification of such conventions advances promotion of OHS management by placing legal obligations on the member states to comply with OHS requirements. Furthermore, the OHS directorate needs to collaborate with industry-specific regulatory bodies in offering OHS training sessions, sensitisation campaigns and monitoring of OHS implementation on construction sites. On the other hand, employers should commit to improving OHS by allocating adequate resources and promoting safety culture within their companies in order to benefit from the commercial longevity and reputation that comes with good OHS performance.

The study contributes significantly to OHS management by suggesting that high implementation of selected OHS practices belonging to a particular element of OHSMSs such as planning and implementing may not necessarily result in improved OHS performance. In order to improve organisations' OHS performance, OHS practices within all elements of OHSMSs such as policy, organising, planning and implementing, measuring, auditing and reviewing need to be given attention. The systematic approach to implementing OHS practices within all elements of OHSMSs and achieving continuous improvement is by adopting an effective operating principle for OHS management such as the PDCA cycle. Within the context of developing countries, the study reaffirms the notion that these countries are poor at implementing OHS legislation and programmes aimed at generating positive OHS outcomes. OHS actors would therefore need to realise that implementation of OHS interventions is crucial and requires credible commitment, support coordination and co-operation. Equally important is an understanding that OHS management is a multifaceted discipline requiring careful consideration of, among other things, cultural and social settings as well as climate conditions. Further studies are recommended to assess critically the influence of sociocultural milieu on the behaviour of construction workers towards OHS. Such a line of research is crucial in understanding the influence of cultural and social background and dynamics on the behaviour of construction workers towards OHS and developing interceptive procedures intended to protect and improve the safety, health and well-being of construction workers.

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