

The Influence of Health and Safety Training on Steel Industry Employee's Adherence to Regulations

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ABSTRACT

Health and safety in the workplace have become an integral component in the viability of business. This article investigates the influence of health and safety training on employee's adherence to health and safety in the steel industries. Purposive sampling was used within a quantitative research design to select 165 respondents from 748 employees. The response rate to 165 questionnaires administered within a demarcated location was 98.5%. Response indicate that the majority of employees receive sufficient health and safety training, which is reflected by their adherence to the occupational health and safety regulations.

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INTRODUCTION

Globally, occupational accidents bring with them a serious threat to both the economy, the organisation and employees. With over two million work-related accidents annually (Somavia, 2003 and RSA, 2007), the steel manufacturing industry is therefore no exception. South Africa has established and developed a diversified steel manufacturing sector that has shown resilience and potential to compete in the global economy. Despite the fact this platform of manufacturing presents an opportunity to accelerate the country's growth and development significantly, it has been confirmed as being among the country's high risk industries as regards occupational health and safety (RSA, 2007). More than 22 percent of accidents in South Africa have been reported as taking place in the steel manufacturing industries (RSA, 2007). The International Labour Organisation (ILO) estimates that about \$ 1.25 trillion is lost annually, this cost include compensation, unnecessary work stoppages and extremely high medical expenditures (Pillay, 2014).

Against this background, South African companies are bound by the prerequisites of the Occupational Health and Safety Act (OHSA) of 1993 (Lexis et. al., 2008). The primary goal of the Act is to safeguard the health and safety of employees within the working environment or any individual that is in direct contact with plant and machinery (Kopel, 2009). While workers enjoy protection as entrenched by the common law to a healthy and safe working environment, serious and even life-altering injuries occur because of on-the-job exposure to dangerous conditions (Furter, 2003; Masia and Pienaar, 2011).

The ILO approach towards the promotion of preventative measures in occupational health and safety calls for legal and compliance requirements through intensive health and safety training (Muchiri, 2005), which ultimately impacts on employee's levels of adherence to health and safety regulations (Basson, et al., 2005). Due to the risks and the significance of health and safety in the steel production context, the focus of this study is to examine the influence of the training of workers on matters of health and safety adherence to regulations and their perception of health and safety in the steel manufacturing industries.

PROBLEM STATEMENT

As employees in the production of Steel industry face many hazards as a result to the nature of their job, safe working procedures are important, the number of employees injured and or killed in accidents, however, refutes the level of importance accorded to safety. The South African

steel manufacturing industry sector has been confirmed to be among the country's high-risk industries with regard to occupational health and safety, and responsible for accidents, injuries and even deaths (RSA, 2007).and this gives some indication of the magnitude of the problem

Maintaining the required level of health and safety adherence is therefore not seen as paramount as over the years this sector has been consistently identified as having a high rate of serious claims within the broader manufacturing industry (Omogoroye and Oke, 2007). Despite the desire of workers to work in healthy and safe environments (Van Jaarsveld and Van Eck, 2005; Govender, 2011), accidents lead to exorbitant costs for both employers and employees as they affect and damage property, and lead to work stoppages, increases in medical costs, loss of income and hardships for employees' dependents (Yakovlev and Sobel, 2010).

Although health and safety issues lie at the root of most common workplace grievances (Omar et al., 2008), organisations seem not to comply with health and safety requirements particularly the training of employees (Annandale, 2006). Therefore, work-related accidents are the consequence of dysfunction in existing health and safety training programmes (Saldana et al., 2003).

THE OBJECTIVE OF THE STUDY

This article aims to determine the influence of worker's perceptions of their training in the adherence to the health and safety regulations within the steel industry.

LITERATURE REVIEW

The notion of health and safety in the steel manufacturing industry

Steel manufacturing is an industry where safety processes are observed, as employees experience hazards accidents and injuries due to the demands of the occupation. The environment in this industry is often categorized by extreme high temperature and unbearable noise levels, with tasks being heavy and demanding on the body, and there is an ever present risk of diseases, injury and even deaths (Nordlof et al., 2015). Organisations operate in an environment of risks, and hazards, and health and safety realities represent one of the many risks to which employees are exposed. A safe and healthy work environment is one where everyone sees health and safety as worthwhile.

Within the steel production sector safety and a healthy working environment concern itself with the protection of employees and keeping others from being affected by the activities of

the organisation. The safety regulations seeks to make workplaces safe and free from injuries, while emphasis on health prevents the occurrence of illnesses among employees because as a result of exposures to hazardous substances at their workplaces. This implies keeping those employed in an organisation, and those that can be affected by the activities of the organisation, safe and free from ill-health (Perry, 2003; and Yusof, 2008).

Because of the risky workplace nature that steel manufacturing plants generate, a bleak picture is portrayed when it comes to levels of accidents due to poor levels of employee's adherence to health and safety regulations in the workplace. The companies need to ensure safe working conditions through systematic and regular health and safety training. Prevention strategies to guarantee healthful and safe workplace conditions for every employee regard training as an axiomatic part of all such efforts. To reinforce this point, requirements for employee health and safety training are found in more than 100 occupational health and safety standards promulgated by OSHA.

GENERAL PERSPECTIVES OF OCCUPATIONAL HEALTH AND SAFETY TRAINING

Training plays a critical role in promoting health and safety adherence among employees. Since employees should adhere to all health and safety requirements, the acquisition of the relevant skills, and a positive attitude is considered vital in developing the abilities essential for operative performance in the working environment (Bahn and Barrat-Pugh, 2012).

Occupational health and safety training comprises the instruction of employees in recognising hazards and using effective methods for protection. It prepares employees to deal with potential hazards or unforeseen problems and guidance is given in ways to become better informed and to implement actions aimed at eliminating the hazards (Bahn and Barratt-Pugh, 2012).

Improving the level of health and safety is a complex exercise that necessitates buy-in from all strategic players in the employment relationship. The OHSA 85 of 1993 call for employers to offer coaching and training to ensure the safety of their employees. In trying to reduce accidents, organisations need to design an effective, comprehensive health and safety training programme that enables employees to adhere to health and safety regulations (Zwesloots et al., 2013). The implication of this is that working environment can be made safe and healthy by simply changing the way employees behave. It would therefore be important for an

organisation to mitigate the occurrence of accidents by inculcating and introducing health and safety adherence training programme (Feng et al., 2014).

Training and safety

One way of effectively dealing with and moderating occupational accidents is to intensify health and safety training as a preventative strategy. Health and safety training is an important aspect that can be used to achieve the outcome of organisational goals, one of the goals would be to achieve zero fatalities and accidents (Mbakaya et al., 1999). It is imperative for employees to undergo proper safety training, and be trained in matters such as appropriate use of PPEs, hazards identification and risk assessment (Rim and Lim, 2014).

How well health and safety processes and rules are adhered to within an organisation is considered to be influenced by the respective training received (Guldenmund, 2010). The more cautiously employees adhere to the rules, the better their perceptions of occupational health and safety. Organisational accidents have been associated with poor health and safety adherence and perceptions of employees are regularly mentioned as a significant concept in understanding the current position of health and safety in organisations, and are therefore thought to be a relevant phenomenon.

Employee adherence to safety regulations

In focusing on employees' adherence to regulations in a steel production context, quality employee's training stands out as a crucial factor associated with positive employee adherence can be formed as a basis for unsafe attitudes and behaviour (Brown, Willis & Prussia, 2003).

For the purpose of this article adherence is defined as "the minimum amount of legal obligation and requirement that should be met to ensure the absence of accidents in the workplace" (Masia and Sendagala, 2010). One school of thought has stated that nearly every accident in the workplace could be traced back to employee adherence (Brown *et al.*, (2003) explain that one type of behaviour that has significant impact on employee safety performance is adherence to safety regulations.

Employee engagement

To adhere to health and safety regulations in the workplace, employees require some form of engagement such as individual involvement (Sambrook et al., 2014). Employee engagement is now starting to receive a lot of attention in the field of health and safety management. Information sharing and trust between employees and senior management is crucial and has

been shown to intensify organisational effectiveness (Malinen et al., 2013). This is significant as workers will feel appreciated and will believe that, as part of the organisation, they are adding value because the employer engages and consults them on matters that concern their safety in the workplace (Nhammer, 2013).

Psychological contract in health and safety

It is believed that focusing on and directing all efforts to employee safety behaviour could lead to a decline in risk behaviour, and eventually reduce accidents and injuries in the workplace (Niza et al., 2007). Employees believe that an employer is supposed to provide safe working conditions in terms of the Act. The implication is that through proper and comprehensive health and safety training, this psychological contract between employers and employees, indicates the perceptions of the reciprocal obligation that exist within the organisation (Munchinsky, 2003).

In this sense, if one of the parties fails to live up to the commitment of the contract this can lead to either party rescinding the contract, which can prompt non-adherence by employees. Moreover, if an employer fails to honour this agreement, the psychological contract will be compromised and hence will be deemed non-existent (Osland et al., 2001). This will eventually lead to rising costs for employers. However, in order for an employee to adhere to safety regulations, management must show greater commitment to and invest sufficient resources in safety training (Maiti and Paul, 2007).

RESEARCH DESIGN

This study is quantitative in nature. It employed a sampling method where a purposive sampling technique was employed. A structured questionnaire which consisted of closed ended questions was disseminated to a sample of 165 employees in a steel manufacturing industry.

DATA ANALYSIS

A total of 163 questionnaires were returned, of which two were incomplete, thus generating a response rate of 98.5%. The explanation of the empirical data collected reveals the findings, which formed the basis of this work. Of the participants 70.9% (n=116) were males and 23.9% (n=49) were females. This gender balance is due to the fact that this industry requires a great deal of physical strength and hence is dominated by males.

FINDINGS

Table 1: Health and safety training

Code	Variables	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
		%	%	%	%	%
B1	I was provided with health and safety training			0.6	46.3	53.1
B2	We were trained in health and safety procedures			1.3	46.9	51.9
B3	The training ensured that I received effective knowledge about health and safety			0.6	49.4	50.0
B4	Safety policies have been explained to me during the induction training			1.3	55	43.8
B5	Safety practitioners are known in my department			1.9	53.1	45
B6	An awareness is ensured about the occupational health service			1.3	51.3	47.5
B7	I am aware of the first aid box			3.8	46.3	50.0
B8	Incident/accident reporting procedure was explained during health and safety induction training			0.6	47.5	51.9
B9	General workplace safety issues were discussed during the health and safety induction training			0.6	51.3	48.1
B10	Work with hazardous substances was explained during the induction training			0.6	50.0	49.4
B11	Safe use of machinery was discussed during the training			0.6	46.9	52.5

Effective health and safety training and provision of adequate information are dominant tools that employees can apply in order to enable workers to adhere to safety regulations in the workplace. How employees obtain the quality of training in the workplace has a significant influence on their successful adherence and observing of the safety regulations (Scheeres et al., 2010).

Table 2: Influence of training

<i>Items</i>	<i>Description of items</i>	<i>Min</i>	<i>Max</i>	<i>Mean</i>	<i>Std. deviation</i>
C3	My employer usually provides new employees with health and safety training.	1	5	4.40	.755
C4	My employer trained me in the correct use of Personal Protective Equipment (PPE).	1	5	4.42	.755
C5	My employer regularly informs me about Standard Operating Procedure (SOP) when it comes to performing my task.	1	5	4.21	.825
C6	My employer provides regular refresher training on health and safety.	1	5	4.23	.888
C7	My employer has trained me to recognise hazards at work.	1	5	4.32	.864
C8	Training has changed my behaviour with regard to health and safety.	1	5	4.27	.842
<i>Scale denotation: Likert scale: 1= Strongly disagree to 5= Strongly agree.</i>					

The means score on the training and the information on employee’s safety ranged from $\bar{x}=4.04$, to $\bar{x}=4.40$. On a Likert scale of 1 to 5, this suggests that employees from the steel company are sufficiently provided with information and training. Issues of employee training ($\bar{x}=4.42$), and provision of induction and instructions ($\bar{x}=4.40$), training on the proper usage of personal protective equipment ($\bar{x}=4.42$), and behavioral change regarding safety were sufficiently addressed by the employer.

Table 3: Mean analysis on employee safety adherence

<i>Items</i>	<i>Description of items</i>	<i>Min</i>	<i>Max</i>	<i>Mean</i>	<i>Std deviation</i>
D1	Safety procedures and instructions are adhered to.	1	5	4.17	.816
D2	I usually wear my Personal Protective Equipment (safety goggles, safety boots, helmets, and gloves) that are provided by the employer.	1	5	4.36	.788
D3	Information regarding to the proper use of PPE is provided by employer.	1	5	4.34	.676
D4	Safety adherence leads to good business performance.	1	5	4.32	.771
D5	Safety culture is promoted by managers to employees.	1	5	4.21	.832
<i>Likert scale: 1= Strongly disagree to 5= Strongly agree.</i>					

The table reports on the most fundamental factor in health and safety which is employee safety adherence. It serves no purpose to simply use legislations that people do not adhere to. In this section the means score regarding adherence ranged from $\bar{x} = 4.17$ to $\bar{x} = 4.36$.

The score indicated that employees were fully aware of and adhered to the requirements of the OSHA. The means score for items such as safety procedure and instructions was estimated at $\bar{x} = 4.14$ correct use of PPE at $\bar{x} = 4.36$ safety adherence and good business performance at $\bar{x} = 4.32$ and promotion of safety culture by managers at $\bar{x} = 4.21$. The overall mean score showed that the majority of employees in the steel company understood and adhered to the requirements of the legislation.

LIMITATIONS OF THE STUDY

The research results were acquired within the context of a major steel manufacturing company. Therefore, these findings may not be generalised to other geographical areas. The study is constrained to a sample size of 165 employees. The inadequate sample of respondents also indicates that the findings may not be generalised to the wider population within the company. The limited sample size further leads to a weak relationship between intervention-induced process improvements and organisational outcomes.

RECOMMENDATIONS

The limitations of this study suggest that future studies be conducted over a wider spectrum to ascertain whether the results of this study are significant. A longitudinal study is proposed. Such a study will enable valuable insights to be gained on the employee's adherence to health and safety regulations overtime. It is also recommended that further research be directed towards efforts to develop intensive health and safety training in order to improve employee's adherence to occupational health and safety regulations.

CONCLUSION

The main objective of this research was to determine the influence that training of employees in health and safety has on their adherence to regulations within a steel industry. The findings of the investigation indicate that, most employees received sufficient training, which is reflected by their adherence to the occupational health and safety regulations.

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