

THE EFFECTIVENESS OF THE OCCUPATIONAL HEALTH AND SAFETY (OH&S) INSPECTORATE IN SOUTH AFRICAN CONSTRUCTION

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Irrespective of all the efforts made by the Department of Labour (DoL) and other relevant stakeholders to improve construction occupational health and safety (OH&S) performance, there is still a very high level of accidents and fatalities in South Africa. Injuries and accidents to workers help no community in any nation. A doctoral study was recently conducted with the aim of investigating the effectiveness and performance of the DoL OH&S Inspectorate in the Republic of South Africa. Information was sought and obtained from various respondents including civil and building contractors, OH&S consultants, project managers, DoL inspectors, and designers by means of questionnaires. The research significantly identifies interventions which contribute to a reduction in the number of accidents, which in turn is likely to result in: a reduction in the cost of accidents (CoA); a reduction in the cost of workers' compensation insurance; alleviation of fatalities, injuries, pain and suffering, and a reduction in the indirect CoA to society and the national health care system. The salient findings of the study are presented and elucidate that the DoL OH&S Inspectorate is not effective in terms of OH&S relative to the construction industry in South Africa. Conclusions and recommendations included reinforce the need for a reviewed OH&S Inspectorate model framework. The findings of the study with recommendations are included.

Keywords: construction, health and safety, inspectorate.

INTRODUCTION

The construction industry in South Africa is generally known to be one of the most hazardous with an unacceptably high level of injuries and fatalities resulting in considerable human suffering. According to Strydom (2002) the South African construction industry in 2001 was regarded by the South African DoL as one of the worst performers in OH&S in terms of injuries and fatalities and was placed sixth in comparison with industries such as fishing, transport, forestry, textiles, and mining ahead of it. Over the years the construction industry has consistently been among those industries with high injury and fatality rates (DoL, 2000).

This study follows on the recommendations of a completed Master's study evaluating OH&S programmes in selected contractors against a normative OH&S model. One of the findings drawn from the Master's study was that the DoL was not carrying out their duties effectively (Geminiani, 1998). The objectives of the subsequent doctoral study reported on in the paper are:

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- To determine the effectiveness of the DoL inspectorate in terms of: executing their duties; adequacy of the number of inspections conducted; identification of the root cause for fatalities, and issues addressed during inspections.
- To determine the role that the OH&S inspectorate can fulfil in reducing the consistently high fatality and injury rates in construction.
- To determine the effectiveness of the OH&S inspectorate as a means of assuring OH&S.
- To determine the significance of the OH&S inspectorate relative to accident prevention in construction.
- To assess legislation relative to best practice in construction.
- To investigate the need for an accreditation system by the OH&S inspectorate in construction.
- To investigate the need for an OH&S inspectorate incentive scheme in construction.

REVIEW OF RELATED LITERATURE

OH&S Management

In their review various authors (Hinze, 1997; Rowlinson, 1997; Levitt & Samelson, 1993) argue that OH&S is a corporate responsibility, which demands the skills of OH&S managers and that those responsible for OH&S within the workplace must provide input to all operations. According to Makhonge (2005) the OH&S challenges faced by the labour inspection system is that the Factories and Other Places of Work (FOPW) Act, which makes employers responsible for ensuring that the work environment is safe and without risks to employees' OH&S. In the traditional approach which has been practised for a long time, the occupier of the factory / site primarily waits for the government inspector to inspect and point out the contraventions of the law, occasionally requiring that the occupier is taken to court before any tangible improvements are made. If an inspector does not conduct an inspection, the workplace OH&S improvements implemented by the employer are usually very basic.

Behavioural issues

Hinze (1997) states that the time for OH&S awareness has arrived and that OH&S is no luxury, it is a necessity. According to Smallwood (1995), OH&S education is important for both management and workers as incidents and accidents occur downstream of culture, management system, and exposure. However, culture and management system in turn, are both influenced by OH&S education and that a lack of education can in turn have an effect on behaviour. Hinze (1997) maintains that "Working on a project without establishing a strong safety culture, is like holding a dead man's hand", and that support for OH&S must begin at top management level. An OH&S culture should be based on the conviction that no worker should ever be placed in a situation in which an injury has a high probability of occurring. This however would be the reward, but is this being implemented and is the DoL Inspectorate executing its duties effectively to assure that workers are not being placed in unhealthy and unsafe situations? Behavioural manifestations, sometimes referred to as human factors, which affect human performance are: perceptual, mental and physical capabilities of people; interaction of people with their organisation, jobs and working environment; influence of equipment and systems design on human

performance; organisational characteristics which influence OH&S related behaviour, and social and inherited characteristics of people.

The importance of culture

Krause (1993) states that in terms of statistical process control (SPC), the processes or activities such as practices, study, and research, are upstream and that the results thereof namely skill, good grades, new products, and better pay, are downstream. (Smallwood, 2001) defines culture as: “the learned behaviours as well as the beliefs, attitudes, values and ideals that are characteristic of a part of society or population. This analogy best postulates the relationship between management commitment, education and training and their influence on the occurrence of incidents. Culture is collectively comprised of values, purpose, vision, goals, mission, and assumptions.

Table 1 illustrates the upstream → downstream sequence postulated by Krause (1993) - culture at the upstream end influences management system, which influences exposure, which may or may not result in incidents at the end point. In the case of statistically based quality improvement, management does not look at product defects i.e. downstream factors but at upstream factors of production which are predictive of defects. In terms of behaviour based accident prevention process, accident frequency rates represent downstream indicators. It is also notable that ‘inspections’, an important function of the DoL Inspectorate is positioned as a management system and is categorised as downstream.

Table 1: Incidents are downstream (Krause, 1993: 40)

Culture	Management System	Exposure	End Point
Purpose	Education/Training	Behaviour	Incidents
Mission	Practices	Conditions	
Values	Programme	Plant & equipment	
Vision	Site layout	Facilities	
Goals	Behavioural consequences		
Assumptions	Accountability		
	Inspections		
	Priorities		
	Attitude		
	Measurement system		
	Improvement model		
	Resources		
	Investigations		

Legislation

Changes in South African legislation have been inspired by an approach to OH&S policy and regulation which first emerged in the 1970s and which broke the traditions established over more than a century ago. Post-apartheid South Africa is a society in transition and far reaching legal and policy reform is in progress and that many changes in the country’s political, social and economic life are taking place simultaneously. In South Africa, the OH&S Act No. 85 of 1993 constitutes the basis of OH&S legislation, with which all organisations have to abide. In addition the new Construction Regulations were promulgated on the 18 July 2003 under Section 43 of the OH&S Act, after consultation with the Advisory Council for OH&S.

The Role of the DoL Inspectorate

According to a media statement released on the 8 April 2002, the DoL has established a fifteen-point programme of action and is committed to addressing the respective interrelated challenges within a period of five years. Point eight of this programme

specifically aims to adequately deal with the negative consequences of occupational accidents and ill health of individuals, enterprises of the state and to accelerate measures aimed at reducing accidents and improving the OH&S of workers (DoL, 2000).

The report further states that during 2000, the DoL currently employed 82 inspectors with OH&S qualifications. However, mention is also made that the DoL inspectorate operated with a shortage of inspectors with OH&S competencies and that the vacancy rate was 47.8%. Reasons for the vacancy rate include a lack of experience in the engineering disciplines, affirmative action and the poor remuneration being offered by the DoL. According to a statement (Chick, 1999) the Minister of Labour had undertaken a preventative strategy aimed at preventing occupational diseases and accidents.

METHODOLOGY AND SAMPLE STRATA

The methodology adopted in this study is the descriptive method which entails the technique of observation (Leedy, 1993). Observation in turn includes the use of questionnaires, which was the sole form of data collection used during the study.

The research project was conducted in six phases. The pilot survey conducted among general contractors (GCs) in the Eastern Cape, South Africa, constituted phase 1, followed by phase 2 conducted among GC members of the Master Builders South Africa (MBSA), and the South African Federation of Civil Engineering Contractors (SAFCEC). Phases 3 to 6 entailed the surveying of OH&S officers, practitioners, and consultants, members of the Association of Construction Project Managers (ACPM), DoL Inspectors, both currently employed and retired, and designers South African Institute of Architects (SAIA), South African Association of Civil Engineers (SAACE), and the South African Federation of Civil Engineers Contractors (SAFCEC).

THE FINDINGS

In order to facilitate the interpretation of the findings, Table 2 provides a summary of the performance of the OH&S Inspectorate in terms of mean scores ranging between 1.00 and 5.00, based upon percentage responses to a scale of 1 to 5.

Mean Scores as a measure of central tendency

In order to facilitate the interpretation of the findings, Table 2 provides a summary of the performance of the OH&S Inspectorate in terms of mean scores ranging between 1.00 and 5.00, based upon percentage responses to a scale of 1 to 5.

Table 2: Rating of the DoL Inspectorate relative to various aspects

Aspect		Rating of the DoL Inspectorate relative to various aspects (MS)								Mean score
		Pilot study (Phase 1)		Contractors (Phase 2)		Consultants (Phase 3)	Project Managers (Phase 4)	Inspectors (Phase 5)	Designers (Phase 6)	
		Bldg	Cons	Bldg	Civil	Cons.	Pm.	Insp.	Design	
1	Effectiveness of DoL Inspectorate in terms of conducting their Duties	2.63	2.76	2.74	3	2.35	2.92	3.22	2.3	2.74
2	Competence of DoL in terms of construction knowledge and Skills	2.78	2.76	2.74	3	2.51	3.07	3.04	*	2.46
3	Frequency of DoL Inspectors visiting sites	1.94	*	2.42	2.43	*	*	*	*	2.26
4	Effectiveness of DoL Inspectors conducting 'blitz' inspections	*	3.12	*	2.63	*	*	3.45	*	3.06
5	Appropriateness of the checklists used by the DoL Inspectorate during inspections	2.83	3.12	3.16	2.95	3.11	*	3.63	*	3.13
6	Performance of DoL Inspectorate in terms of liaison and promotion	2.5	2.68	2.75	2.66	2.21	*	2.9	*	2.61
7	Prevailing culture of DoL Inspectorate in terms of morale, motivation and satisfaction	2.5	2.81	2.95	2.6	2.4	*	2.36	*	2.6
8	Support for the current framework of the DoL Inspectorate	3.1	2.68	3.32	3.5	2.72	3.5	3.4	3.33	3.19
9	Effectiveness of the DoL Inspectorate in terms of enforcing Legislation	2.73	2.35	3.02	2.61	2.47	2.78	3.09	*	2.72
10	Support for DoL accreditation system based on contractors OH&S performance	3.73	3.82	3.77	3.72	3.53	4.07	3.45	3.6	3.71
11	Support for the implementation of an incentive scheme which recognises a reduction in OH&S injuries and fatalities	3.94	4.23	4.17	4.21	4.24	4.46	4	3.9	4.14
12	DoL Inspectorate contribution to improvement in organisations' OH&S performance'	2.22	3	2.35	2.13	2.29	3	3.54	*	2.64
13	Rating of South African OH&S legislation relative to 'best practice'	3	2.76	3.01	2.9	2.94	2.78	2.68	*	2.86
14	Effectiveness of DoL Inspectorate in terms of assuring OH&S	*	*	2.66	2.56	*	2.84	3.22	2.5	2.75
15	Significance of DoL Inspectorate relative to accident prevention in construction	*	*	2.93	2.6	2.64	2.76	3.68	2.8	2.9

Rating of the DoL Inspectorate relative to various aspects

15 Aspects forming the nucleus of the study are presented. The mean scores which are discussed and compared originate from the stakeholders surveyed in the 6 phases.

Aspect 1: Effectiveness of DoL Inspectorate in terms of conducting their Duties

Given that the mean score (2.74) for all phases is < 3.00 , in general the DoL can be deemed to be ineffective in terms of conducting their duties. It is notable that the Inspectors (Phase 5) perceive the DoL Inspectorate to be effective.

Aspect 2: Competence of DoL in terms of construction knowledge and Skills

Given that the mean score (2.46) for all phases is < 3.00 , in general the DoL Inspectorate can be deemed to be not competent in terms of construction knowledge and skills. The marginal extent by which the mean scores of both the project managers (3.07) and the inspectors (3.04) exceeds the midpoint of the range, namely 3.00, is possibly attributable to the respondents not being aware of the status quo with respect to the competency of the inspectors.

Aspect 3: Frequency of DoL Inspectors visiting sites

Relative to aspect 3 the respondent sample stratum consisted of only the building and civil engineering contractors. The consultants, project managers and inspectors generally do not have contact or a record of visits to sites, and could therefore not respond to the questionnaire. The majority of the mean score are ≤ 3.00 , which indicates that construction sites can be deemed not to have been subjected to visits by DoL Inspectors.

Aspect 4: Effectiveness of DoL Inspectors conducting 'blitz' inspections

Given that the majority of the mean scores are ≤ 3.00 , in general the effectiveness of the DoL Inspectorate in conducting 'blitz' inspections can be deemed to be more ineffective than effective. The respondents namely, the building and civil contractors agree that the DoL Inspectors were not effective in conducting 'blitz' inspections. However, it is notable that the consultants surveyed during the pilot study, and the inspectors disagree with the contractors, which is reflected in a mean score > 3.00 . In general 60.0% of the building and civil engineering GCs agree that sites were subjected to 'blitz' inspections ranging between 0% and 10%.

Aspect 5: Appropriateness of the checklists used by the DoL Inspectorate during inspections

The majority of the respondents indicate that the checklists used during inspections can be deemed to be appropriate rather than inappropriate. In the analysis of the data it is notable that the building contractors surveyed during the pilot study conducted in the Eastern Cape and the civil engineering contractors surveyed nationally, disagree, which is reflected in a mean score ≤ 3.00 .

Aspect 6: Performance of DoL Inspectorate in terms of liaison and promotion

The sample stratum consisted of building and civil engineering contractors, and inspectors. The project manager's non-response indicates that they do not have personal contact with the DoL Inspectorate and are not aware of the status quo with respect to the liaison and promotion of the DoL Inspectorate. The low mean scores ≤ 3.00 attributable to all sectors, including the Inspectors, appears to indicate that the DoL Inspectorate can be rated poor rather than good.

Aspect 7: Prevailing culture of DoL Inspectorate in terms of morale, motivation and satisfaction

Given that the overall mean score is ≤ 3.00 , in general, the culture of the DoL Inspectorate in terms of morale, motivation, and satisfaction can be rated poor rather than good. The level of 'unsure' responses indicate that respondents do not have, or seldom have personal contact with the DoL Inspectorate, and are not aware of the present situation with respect to morale, motivation, and satisfaction. It is notable that the Inspectors who are employed by the DoL Inspectorate also agreed that the culture is poor.

Aspect 8: Support for the current framework of the DoL Inspectorate

With the exception of the consultants, there is support for the current framework of the DoL Inspectorate. An above average overall mean of 3.19 indicates that the stakeholders view the current framework to be effectual and supported rather than opposed. From the responses received it can be argued that not all the stakeholders are aware of the components of the current framework.

Aspect 9: Effectiveness of the DoL Inspectorate in terms of enforcing Legislation

With the exception of the building contractors and inspectors (3.02 and 3.09) respectively who are marginally higher than the mean of 3.00, the majority of the stakeholder responses indicate that the DoL Inspectorate is not effective in enforcing legislation. The overall mean of 2.72 as shown in the rating indicates that the consultants, civil engineering contractors and project managers affirm that prescribed legislation is not being enforced.

Aspect 10: Support for DoL accreditation system based on contractors OH&S performance

From the findings there is overwhelming support for an accreditation system based on OH&S performance. It appears that such a system is welcomed by all respondents / stakeholders / contractors and the impact could have a positive effect in reducing fatalities and injuries. An above average mean of 3.71 substantiates this statement. Furthermore, it is notable that the inspectors are in agreement and also support the establishment of an accreditation system.

Aspect 11: Support for the implementation of an incentive scheme which recognises a reduction in OH&S injuries and fatalities

The research findings clearly indicate the need for the implementation of an incentive scheme which recognises a reduction in fatalities and injuries. All stakeholders surveyed collectively agree and support such an initiative. Barring the lowest score of the building contractors < 3.94 , the majority of the stakeholders are > 4.17 .

Aspect 12: DoL Inspectorate contribution to improvement in organisations OH&S performance

Given that the majority of the mean scores are ≤ 3.00 in general the DoL Inspectorate can be deemed not to have contributed to an improvement in organisations' OH&S performance. With the exception of the consultants, project managers, and DoL Inspectors, the majority of the stakeholders indicated a low contribution relative to OH&S.

Aspect 13: Rating of South African OH&S legislation relative to 'best practice'

The majority of the respondents indicate that South African OH&S legislation is perceived to be equal to 'best practice.' In the analysis of the data it is notable that that

there was a minimal difference between the respondents surveyed. The mean ranged from ≥ 2.68 to ≤ 3.01 .

Aspect 14: Effectiveness of DoL Inspectorate in terms of assuring OH&S

The respondent sample stratum consisted of only the building and civil engineering contractors, project managers, and inspectors. The overall mean score of 2.75 indicates that in general the DoL Inspectorate can be deemed to be ineffective, as opposed to effective, in assuring OH&S. However, the inspectors perceive that the DoL Inspectorate is effective – the related mean score of 3.22 being > 3.00 .

Aspect 15: Significance of DoL Inspectorate relative to accident prevention in construction

With the exception of the 3.68 mean score relative to Inspectors, the majority of respondents recorded mean scores < 3.00 , which indicates that in general the DoL Inspectorate can be deemed to be more insignificant than significant in terms of accident prevention in construction.

SUMMARY OF THE SALIENT FINDINGS

Based on the survey of the literature and the empirical findings, it generally appears that the South African DoL Inspectorate is not effective in conducting their duties. The following conclusions are presented: the DoL Inspectorate is not effective in terms of executing their duties; the number of inspections / ‘blitz’ inspections conducted by the DoL Inspectorate is inadequate; the number of inspections / ‘blitz’ inspections conducted by the DoL Inspectorate is infrequent; the DoL Inspectorate is not effective in terms of identifying the root cause of fatalities; the DoL Inspectorate is not effective in terms of addressing issues during inspections; the DoL Inspectorate is not fulfilling its role of reducing the consistently high fatality and injury rate; the DoL Inspectorate is not effective as a means of assuring OH&S; the DoL Inspectorate is not effective relative to accident prevention in construction; the DoL Inspectorate does not assess legislation relative to best practice in construction; there is a need for an OH&S accreditation system, and there is a need for an OH&S Inspectorate incentive scheme.

RECOMMENDATIONS

Arising from the findings, the following recommendations are presented: the DoL Inspectorate needs to be more effective in terms of executing their duties; the DoL Inspectorate needs to increase the number of focused / ‘blitz’ inspections to construction sites on a more regular basis; the DoL Inspectors need to be knowledgeable and competent in terms of addressing issues during inspections; the DoL Inspectorate needs to establish the formation of an accreditation system relative to construction OH&S; the DoL Inspectorate needs to establish the formation of an incentive scheme relative to construction OH&S; there needs to be an OH&S policy review by the DoL Inspectorate; there needs to be equitable practical and consistent enforcement conducted by the DoL Inspectorate in South Africa; the DoL Inspectorate needs to adopt a better policy of liaison and promotion with stakeholders and intermediaries; the DoL Inspectorate needs to address the severe staff shortage problem by appointing additional competent inspectors nationwide; the DoL inspectors need to be competent in construction related matters, by possessing adequate knowledge, skills, experience, appropriate qualifications, and adequate assessment capabilities, and the DoL Inspectorate needs to address its image.

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