

Legal Framework as a Determinant of Implementation of Occupational Health and Safety Programmes in the Manufacturing Sector in Kenya.

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Abstract

Recent trends in the organization of work have increased the risk of occupational safety and health (OSH) in Kenyan industries through exposure to hazardous substances, work related accidents and increased stress-related illnesses. According to International lab our organization (ILO) everyone is entitled to the right to safe and healthy working conditions and therefore the corpus of law in Kenya dealing with occupational safety and health should be embedded in the international OSH legal instruments. Specifically the occupational health and safety Act (2007) is expected to provide for safety, health and welfare of workers and all persons lawfully present at workplaces. The purpose of this study therefore was to investigate legal framework as a determinant of implementation of occupational health and safety programmes in the manufacturing sector in Kenya. It focused on six legal areas predicted as affecting implementation of OSH. These factors were national OSH policy, OSHA (occupational safety and health Act) familiarity with OSHA, government OSH inspections and audits, ease of implementation of OSHA, Government support in the implementation of

OSH and OSHA implement ability. The study adopted descriptive cross-sectional survey design but however intended to gather both qualitative and quantitative data. A self administered questionnaire was used to collect data from 257 OSH officers drawn randomly from 735 manufacturing industries registered by Kenya manufacturers association. 252 questionnaires were received back and analyzed with the help of SSPS window version 21. Both correlation and regression analysis were conducted and the results showed that there was a positive significant relationship between legal framework and implementation of OSH programmes.

Keywords: Legal Framework, Occupational Health and Safety Government Support

1. Introduction

The enactment of the Factories Act Cap 514 in 1951 saw the emergence of occupational health and safety programmes in Kenya. The crafting of this legislation was prompted by the enactment of the Workers' Compensation Act Cap 236 in 1948. However, it was not until 1974 that the then Minister for Labour requested the International Labour Organization during the 62nd International Labour Conference for assistance to strengthen factory inspection and in the establishment of specialized inspections units. This was the first time that coherent occupational health services (OHS) were offered in Kenya (Nyakang'o, 2005).

OHS has dramatically developed a lot of interest in Kenya following the enactment of the Occupational Health and Safety Act (OSHA) No. 15 which came into force on 26th October 2007, and saw many workplaces which had hitherto operated without institutional and individual capacity for health and safety management having to develop the requisite mechanisms in order to improve the safety of the working environment and escape liabilities. The enactment of OSH Act sets out specific standards on government's policies regarding practices in all work places and determines the extent of punishments meted out against offenders. The Act applies to all work places where any person is at work whether permanently or temporarily. The purpose of the Act is therefore to secure the safety, health and welfare of persons at work, protect persons other than persons at work against risks to safety and health arising out of or in connection with the activities of persons at work.

Kenya's Directorate of Occupational Health and Safety Services (DOHSS) which is under the Ministry of Labour and Human Resource Development is mandated with the responsibility for ensuring employers provide prevention measures for accidents and diseases; it undertakes systematic inspections and audits of work-places with the view to identify the hazards and make recommendations for improvement; creating awareness to citizens and other people on matters of occupational health and safety, mainly through training, approving architectural plans of buildings intended for use in workplaces and processing compensation claims for employees injured in accidents or who have contracted diseases in the course of employment in line with the work injury benefits Act 2007. Despite the legal framework in place it is almost impossible to characterize the conditions under which employees work due to the scarcity of data. In the year 2003 data indicates that mining, construction and transport accounts for 41% of accidents in Kenya, machine operators and

assemblers 28% while other occupations share 31% of workplace accidents. This shows that these occupations are injury prone while matters of safety are treated casually by both the employer and employees.

2.1 General Objective of the Study

To investigate the influence of legal framework on implementation of occupational health and safety programmes in the manufacturing sector in Kenya.

2.2 Specific Objectives of the Study.

1. To establish how national OSH policy affects implementation of occupational health and safety programmes in manufacturing sector in Kenya.
2. To find out how occupational health and safety Act affect implementation of occupational health and safety programmes in manufacturing sector in Kenya.
3. To investigate how familiarity with health and safety Act affect implementation of occupational health and safety programmes in manufacturing sector in Kenya.
4. To find out how OSH inspections and audits by the government affect implementation of occupational health and safety programmes in manufacturing sector in Kenya.
5. To investigate how implement ability OSH Act affects implementation of occupational health and safety programmes in manufacturing sector in Kenya
6. To explore how Government support in the implementation of OSH Act affects implementation of occupational health and safety programmes in manufacturing sector in Kenya
7. To find out how implement preparedness of OSH affects implementation of occupational health and safety programmes in manufacturing sector in Kenya

3.1 Literature review

ILO (2006) requires each ratifying member country to formulate, implement and periodically review a coherent national policy to prevent accidents and injury to the workers' health by minimizing workplace hazards. Similarly, it requires governments to take some actions at the national level and others at enterprise level. At the national level, states have to take necessary measures to provide guidance to workers and employer and maintain an adequate and appropriate system of inspection to make sure that different labor regulations, especially those related to workplace safety, are complied with. Hence the most effective interventions for improving occupational safety and health appear to be implementation of top-down governmental regulations.

As Heinrich, et al. (1980) point out, legislation is one process by which government affects safety. For example Singapore, which has one of the lowest workplace accident rates is subjected to strict enforcement of safety standard, training of workers and safe work practice through its employment and the factories Acts that aim to protect the safety and health of employees. According to Bernardin, John and Russel (1993); Wayne (1995) OSH authorities should conduct work place inspections through DOHSS officers who are chosen for their knowledge and experience in the OSH field and are trained in recognition of safety and health hazards. One of the many factors behind workplace accidents is that labour inspection

systems in developing countries are not fully equipped with required manpower and not allowed to perform their task objectively and independently (McGarity & Shapiro, 1996). For example Federation of Kenyan Employers, annual report (2008) indicates that in the year 2007/2008 occupational safety and health officers visited, inspected and examined only 2,694 work places.

According to Cliff (2012); Viscusi (1986); Gray and Scholz (1993) OHS regulation could be characterized as being uniformly prescriptive, with an emphasis on detailed and highly technical specifications and standards, and with compliance to rules enforced by government-funded independent inspectorates with broad inspection powers. Cliff sees such rigid approaches as having a number of weaknesses such as abstract and challenging rules, reduction in organizational innovativeness as the compliance approach focused on minimum standards rather than excellence and little involvement of other stakeholders such as workers and unions. Mendeloff (1988) further opinion that administrative regulation does not increase workplace safety because the cause of most accidents is a complex interaction of labor, equipment and workplace environment. In light of this mismatch, Barcow (1980) predicts that OSHA may be incapable of preventing more than 25 percent of all workplace accidents. Moreover, Rea (1981) hypothesizes that moral hazard may reduce the level of safety because workers will attempt to substitute wages for safer jobs.

Bartel and Thomas (1985) ask why the government has failed to reform, or even eliminate, OSHA in light of its apparent inefficacy. Mendeloff (1988), warned against the tendency to rely too much on government regulations and not enough on voluntary efforts and individual responsibility. The first step taken to improve this situation according to Robens committee on Safety and Health at Work-London is to reduce the burden of legislation which should not preoccupy itself too much with circumstantial details but rather aim to shape attitudes and create the infrastructure for a better organization of occupational safety and health by industries own efforts.

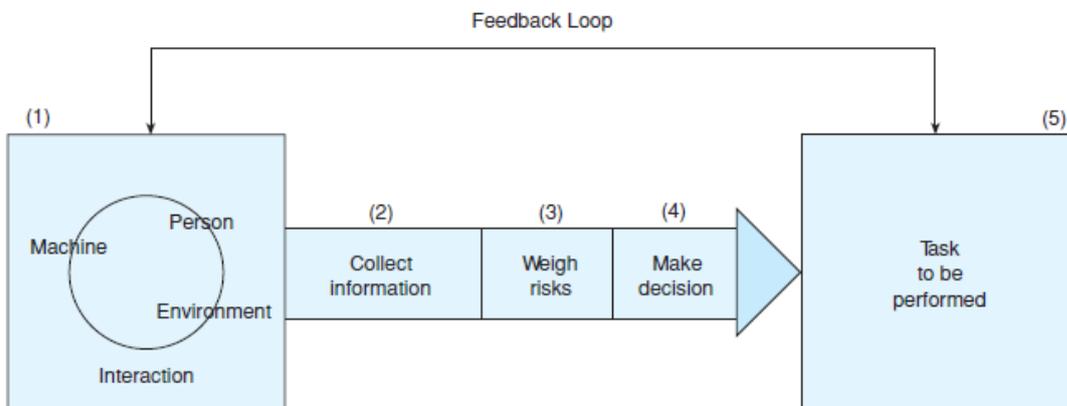
Mendeloff (1988) attempts to explain OSHA's limited impact on OSH. He identifies OSHA's mandate as the cause because it requires the strict regulation of H&S rules. Mendeloff argues that strict regulation of OSHA causes less protection of workers because employers vigorously resist overregulation. As a result, OSHA spends inordinate time and resources defending strict standard (Bartel & Thomas, 1985). Mendeloff proposes that OSHA could successfully promulgate more standards if it balanced costs and benefits. OSHA would be more successful because industry would be less likely to challenge more lenient regulations in court and if such regulations were challenged, OSHA would be more likely to prevail (Miller, 1984). In this manner, workers ultimately would receive more protection from a more lenient approach because the sum total of protection for workers would be greater (Shapiro & McGarity, 1991, 1993).

According to Maina (1996) there have been complaints that the undertakings introduced by the Occupational Safety and Health Act have been loaded upon employers and as such there

is need for collaboration between the employers and the government to come to a favorable compromise. The argument is that the compulsory annual safety and health audits, risk assessments and the requirement for a health and safety statement by all employers will drive out the small investors who will not be able to comply for lack of capacity as the Act requires.

3.2 Theoretical Frame Work

The study was underpinned in the system theory of accident causation. A system is a group of regularly interacting and interrelated components that together form a unified whole. This definition is the basis for the systems theory of accident causation. This theory views a situation in which an accident may occur as a system comprised of the following components: person (host), machine (agency), and environment (Ladd, 1987; Perrow, 1994). The likelihood of an accident occurring is determined by how these components interact; each of the components has a bearing on the probability that an accident will occur. Changes in the patterns of interaction can increase or reduce the probability of an accident. Legal framework is one of the systems in the environment that contributes to improvement in occupational health and safety. For example if safety procedures such as measurement, inspection, correction and investigation are ignored or given insufficient attention unsafe work environment will result. The systems model is illustrated in Figure 1



Source: Rasmussen (1997)

Figure 1: Systems Theory Model

3.3 Conceptual Framework

The study conceptualized that legal framework through OSH policy, existence of occupational health and safety Act, familiarity of the Act, OSH inspections and audits, implement ability of the Act, government support, Implement preparedness of OSH determines implementation of OSH programmes in the manufacturing sector in Kenya. This relationship is shown in figure 2.

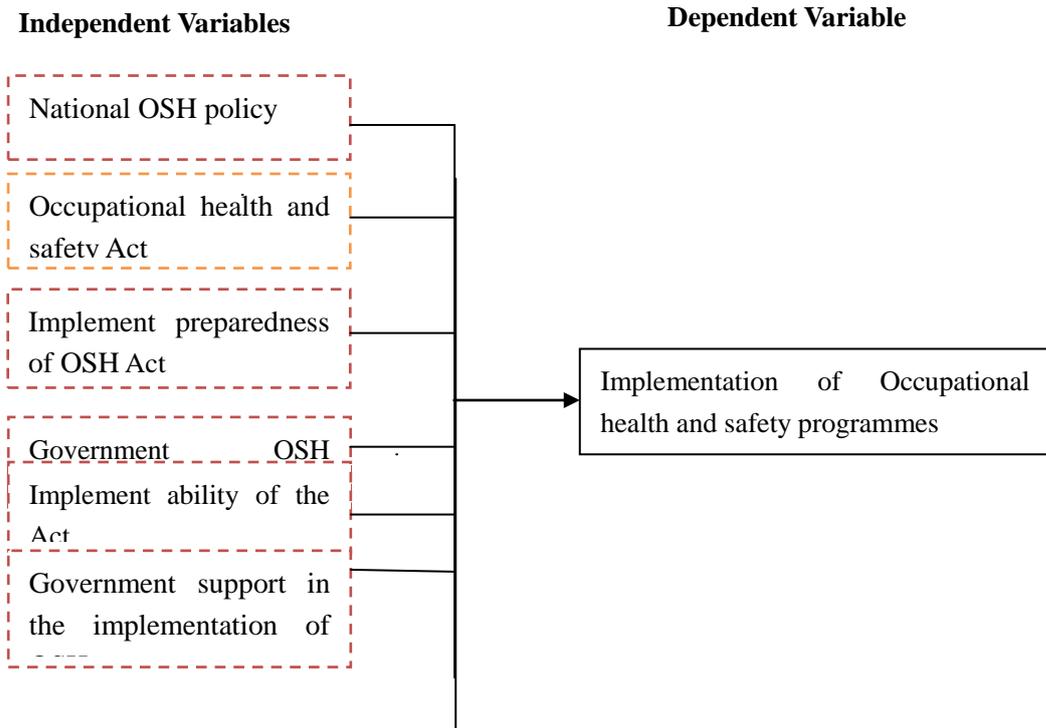


Figure 2 Conceptual Framework

4.1 Research Methodology

The current research used descriptive research design to describe the characteristics of the variables and at the same time investigate the cause effect relationship between variables (Saunders, Lewis and Thornhill, 2007). This research design offered the researcher the opportunity to establish the relationship between independent variables and dependent variable. According to Mugenda and Mugenda (2003) this design is economical and allows collection of quantitative data from a sizeable population.

4.2 The population

A population refers to all items or people under consideration in any field of inquiry (Orotho, 2004). According to Kenya Association of manufacturers (2013) there were 735 registered industries in Kenya. Since it was difficult to study the total population due to its large size, limitation of time and resources, the study population consisted of 257 industries selected through random sampling procedure as explained below in the sample size determination. The unit of observation was the occupational health and safety officers in the sampled industries.

4.3 Sample Size Determination

Sekaran (2003) defines a sample as subgroup or subject of the population. The assumption in studying samples is that the characteristics of the sample will adequately reflect the characteristics of the population in question and the researcher should be able to draw conclusions that would be generalized to the population of interest (Gary, 2009; Mugenda, 2008); Sekaran, 2003). It is therefore possible to obtain sufficiently accurate results by

studying only part of the total population (Kothari, 2004).

Yamane (1967) formula for calculating sample size and sample size determination tables by Saunders, Lewis and Thornhill (2007) were used for the determination of the sample size. Yamane formula yielded a sample of 259 as follows:

$$n = N / (1 + N(e)^2)$$

Where n = sample size, N = population size e = error term

N = 735, $\epsilon = .05$ hence,

$$\begin{aligned} n &= 735 / (1 + 735(.05)^2) \\ &= 259 \end{aligned}$$

At 95% confidence level, 254 respondents were selected from the table. An average sample of 257 was then taken from the two methods that is $(254 + 259) / 2 = 257$.

4.4 Data Collection Method

Data was collected by use of a self administered structure questionnaire. The questionnaire was developed based on review of studies related to occupational health and safety. The questionnaire contained open ended, closed ended questions and likert scales. Open ended questions allowed the respondent to answer the questions in any way they chose while closed ended questions asked the respondents to make choices among a set of alternatives given by the researcher (Senkaran, 2003; Kothari, 1990). The likerts were used to measure the employees' opinions, perception, feelings and attitudes (Kothari, 1990; Mugenda & Mugenda 2003; Pigors and Myers (1981)).

5.1 Background of the Respondents

The researcher established the characteristics of the respondents who participated in the study and the results are given in table 1

Table 1 Characteristics of the Respondents

Gender	Frequency	Percent
Male	169	67.1
Female	83	32.9
Total	252	100.0
Age		
Below 25 years	19	7.5
26-35	108	42.9
36-45	85	33.7
46-55	37	14.7
56 and above	3	1.2
Total	252	100.0
Education Level		
Degree	111	44.0
Diploma	114	45.2
Certificate	7	2.8
Secondary	20	7.9
Total	252	100.0

Table 1 shows the gender, age and education level of the respondents who participated in the study. Out of the 252 actual respondents, 169 (67.1%) were males while 83 (32.9%) were females, a disparity that could primarily be a reflection of the normal gender disparity in the country coupled with the fact that manufacturing industries are male dominated due to the nature of work involved. The age of the respondents ranged between 25-56 years with the majority respondents falling between the age of 26-35 (42.9%) and 36-45 (33.7%) years. This was expected as it is at this point of career life that most workers start entering into supervisory and management positions; again in some of the organizations the persons who were in charge of occupational health and safety were either chairpersons of OSH committees or other employees deployed into the position at a supervisory level. In addition majority of the respondents were of diploma and degree level of education rated as 45.2% (114) and 44% (111) respectively. The minority 2.8% and 7.9% held certificate and secondary qualifications respectively. Those with degree qualification were majorly in human resource management and occupational health and safety positions in large organizations. However there were diploma holders who still held those senior positions with a staggering number of certificates and secondary level education holders deployed into health and safety positions as supervisors. The level of education was significant in this study because it was an indicator of the management commitment to health and safety going by the intellect of the person it had charged with the responsibility of health and safety.

5.2 Descriptive Analysis

The study sought to find out whether legal framework determined implementation of OSH programmes. This section provides an explanation of the descriptive statistics on the study variables.

5.2.1 Descriptive Analysis for Independent Variables

Opinions were sought on the influences of legal framework on implementation of OSH programmes. Legal framework refers to specific standards on government's laws and policies regarding OSH practices in all work places. The effect of seven legislative factors on implementation of OSH programmes was measured. These factors were; OSH national policy, OSH Act (OSHA), familiarity with OSHA, government inspections and audits, ease of implementation of OSHA, government support and Implement preparedness of OSH. The results showed that 72.3%, 65.5%, 68.6% and 69.1% of the respondents felt that OSH Act, OSH policy, familiarity with OSHA, government OSH inspections and audits respectively determined implementation of OSH programmes to a large and very large extent. However 59.1% of the respondents indicated that government support affect implementation of OSH programmes to a large and very large extent with the rest saying either it did not at all or it did to a small and moderate extent. On the contrary only minority 28.2% thought the Act was largely implementable with 4% stating it was not at all implementable and no one felt it's implementable even to a small extent. In fact majority 67.9% of the respondents felt it was implementable only to a moderate extent. Finally majority 67.9% felt that implement preparedness of OSH was only to a moderate extent.

Government laws and regulations have a strong influence on the extent to which firms implement OSH programmes. Sometimes employers are not willing to provide comprehensive OSH programmes and an external force is necessary to exert pressure on them. In countries where government is firm in following up implementation, OSH has been found to be successful. Some of the respondents in this study felt that the government was not doing enough and thus the reason for laxity in the implementation of OSH programmes. The role of the government in ensuring embracement of OSH in industries has been emphasized by many scholars. For example Nyakang'o (2005) contend that employers have a responsibility under the occupational safety and health Act to furnish a work place free from recognized hazards; also in an empirical study by Chen and Zorigt (2013) on influential factors on the implementation of OHSM in the mining industry the Act was identified to be the most influential factor.

ILO (2006) also requires each ratifying member country to formulate, implement and periodically review a coherent national policy and to take necessary measures to maintain an adequate and appropriate system of inspection and make sure that different labor regulations, especially those related to workplace safety are complied with. However according McGarity and Shapir (1996) and Federation of Kenyan Employers, annual report (2008) labour inspection systems in developing countries are not fully equipped with required manpower and not allowed to perform their task objectively and independently. Familiarity with the

OSH act is another important influence to implementation of the Act but unfortunately sometimes workers and even management are not familiar with it. This collaborates with a baseline survey conducted in 2005 from 65 participants on management perspectives of occupational health and safety structures and practices in Kenya which indicated that most workplace managers and workers were not familiar with the Kenyan work safety legislation which was affecting OSH practices.

Government support in facilitating implementation of the OSH programmes collaborated with empirical study by Chen and Zorigt (2013) who found that lack of adequate investment support from the government affect implementation of OSH programmes. The respondents opinion that the Act was not largely implementable could be explained through Mendeloff (1988) who indicates OSHA impact on OSH implementation is limited due to its strict regulation of H&S rules which causes less protection of workers because employers vigorously resist overregulation. Details of respondents' responses can be viewed from Table 2

Table: 2 Descriptive Statistics on Legal Framework

Legislative Areas	Not At All	Small Extent	Moderate Extent	Large Extent	Very Large Extent
Extent to which national OSH policy affects implementation of occupational health and safety programmes	11.1%	9.5%	13.9%	35.7%	29.8%
Extent to which occupational health and safety Act affects implementation of OSH programmes	5.2%	13.1%	9.5%	31.0%	41.3%
Extent to which Workers familiarity with OSHA affects implementation of OSH programmes	7.5%	8.7%	15.1%	32.5%	36.1%
Extent to which OSH inspections and audits by the government affect implementation of OSH programmes	3.6%	9.5%	17.9%	30.6%	38.5%
Extent to which implement ability of OSH Act affects implementation of OSH programmes	1.6%	10.3%	26.6%	33.3%	28.2%
Extent to which Government support in the implementation of OSH act affect implementation of OSH programmes	3.2%	12.7%	25.0%	25.0%	34.1%
Extent to which Implement preparedness of OSH affects implementation of OSH programmes	4.0%	0.0%	67.9%	15.5%	12.7%

5.2.2 Correlation and Regression on Legal frame work and Implementation of OSH Programmes

By looking at the scatter plot on Figure 3 one could easily suggest that there is some positive correlation between implementation of OSH programmes with legal framework. Further analysis also showed that legal framework affects implementation of OSH programmes.

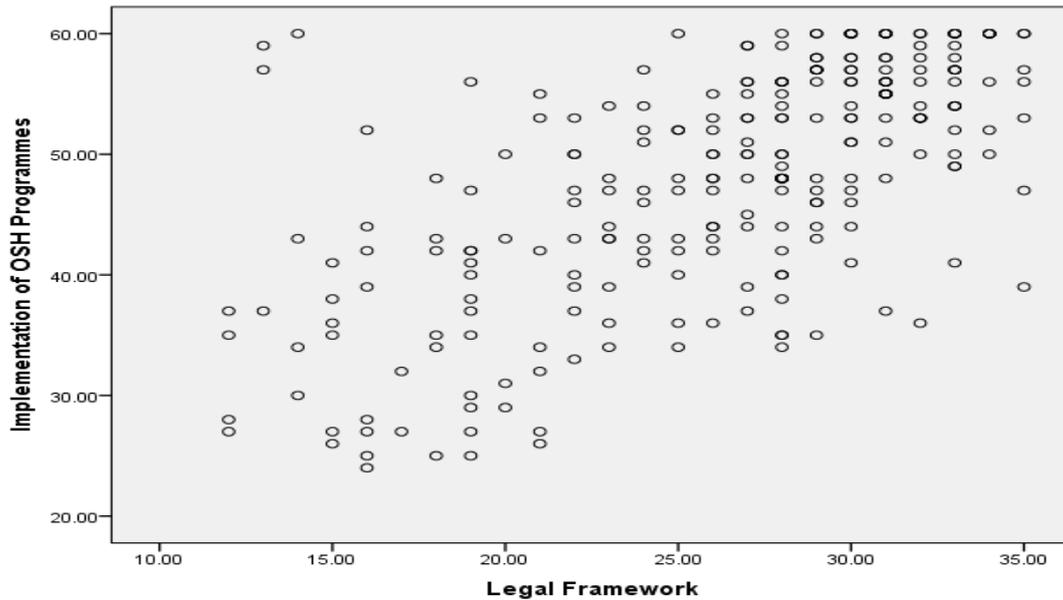


Figure 3: Scatter plot for Implementation of OSH programmes /Legal frame work

Pearson correlation Table 3 also reveals that there was a positive correlation between implementation of OSH programmes with legal framework at $r=0.649$. This implied that increased government rules and regulations for example by conducting regular inspections and audits led to improved implementation of OSH programmes. The model was also considered to be statistically significant because $p\text{ value}=0.000$ is also less than 0.01 .

Table 3: Correlation between Implementation of OSH Programmes / Legal Frame work

		Implementation of OSH	Legal framework
Implementation of OSH	Pearson Correlation	1	.649**
	Sig. (2-tailed)		.000
	N	252	251
Legal framework	Pearson Correlation	.649**	1
	Sig. (2-tailed)	.000	
	N	252	252

** . Correlation is significant at the 0.01 level (2-tailed).

A regression line fitted for implementation of OSH programmes and legal framework also

showed that there was a positive correlation between implementation of OSH programmes and legal framework, which means that better legal frame work led to increase in implementation of OSH programmes.

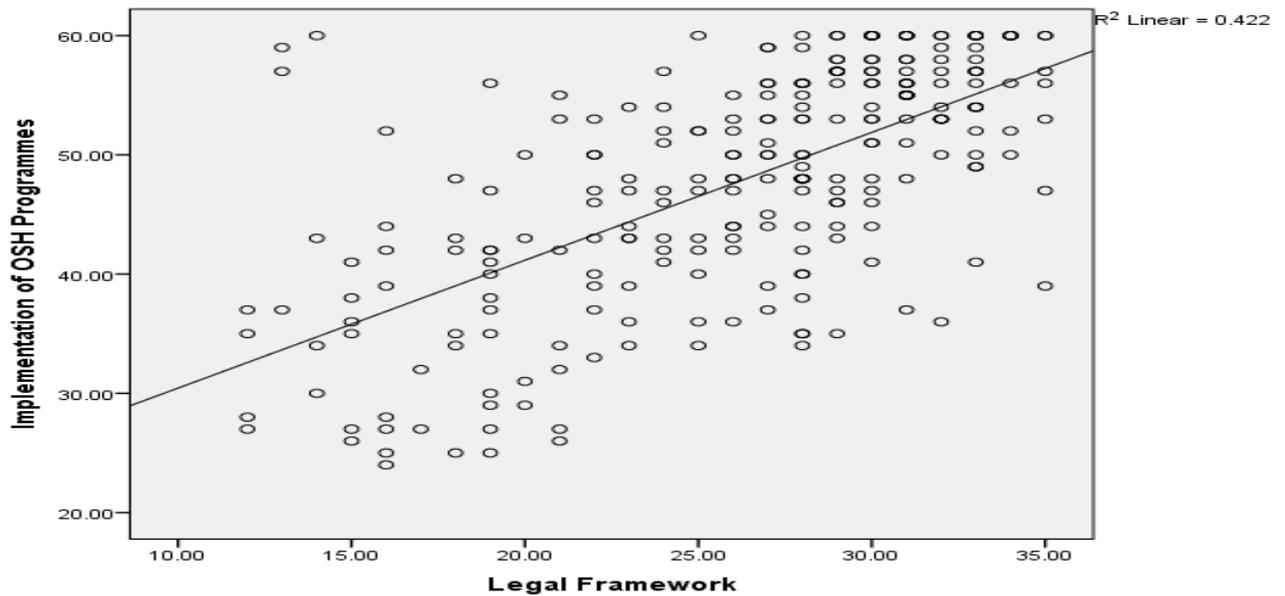


Figure 4: Line of best fit between Implementation of OSH programmes / Legal framework

Regression Model for Legal Framework

Regression analysis between implementation of OSH programmes and legal frame work depicted a relationship in which $R^2 = 0.422$ which implies that 42.2% of implementation of OSH programmes was explained by legal framework as can be seen in the model summary Table 4

Table 4 :Model Summary For Legal Framework

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.649 ^a	.422	.419	7.37764

a. Predictors: (Constant), Legal framework

Further analyses based on analysis of variance shown in the ANOVA Table 5 gave F-statistics value 182.299 with p-value =0.000 which was less than 0.05. Again this means the model was statistically significant.

Table 5: ANOVA Test for Legal Framework and Implementation of OSH Programmes

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9922.464	1	9922.464	182.299	.000 ^b
	Residual	13607.393	250	54.430		
	Total	23529.857	251			

a. Dependent Variable: Implementation of OSH programmes

b. Predictors: (Constant), Legal framework

Lastly, the Beta coefficient Table 5 also revealed that p-values were 0.000 which is less than 0.05 with t-values being 9.289 and 13.502 respectively. This implied that the model was statistically significant and it was defined by $Y = 19.721 + 1.072X_3 + e$ indicating that for every unit of legal framework there was an increase of implementation of OSH programmes by 1.072.

Table 6: Test of Beta Coefficient on Implementation of OSH Programmes and Legal Framework

Model	Coefficients ^a				
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	19.721	2.123		9.289	.000
Legal framework	1.072	.079	.649	13.502	.000

a. Dependent Variable: Implementation of OSH programmes

6. Discussion

From the findings above legal framework was found to have a positive effect on implementation of OSH programmes. This is in line with what Heinrich et al. (1980) pointed that legislation is one process by which government affects safety. Specifically Bernardin, John and Russell (1993); Wayne (1995) emphasize that OSH authorities should conduct work place inspections through DOHSS officers who have knowledge and experience in the OSH field and are trained in recognition of safety and health hazards.

The study concluded that improved legal framework in form of legal issues such as OSH Act, government inspections and audits, government support increased the implementation of OSH programs which eventually led to reduction in work accidents, injuries and sicknesses, low insurance premiums and compensations and overall organizational productivity.

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