Assessing the Culture of Construction Health and Safety of Selected Firms in Abuja, Nigeria

A. C. Haruna and N. A. Keftin

Department of Building,
Modibbo Adama University of Technology, Yola, Nigeria

Abstract

The paper assessed the health and safety culture perceptions of management and field personnel of eight (8) construction firms located in Asokoro district of Abuja. Data on the perceptions of management and field personnel on construction health and safety culture were collated to test the hypothesis which states that there is no difference between management perceptions and field personnel perceptions on construction health and safety culture of the firms, using statistical t- test at 5% significant level. For all the construction firms, results show that management's perceptions were inconsistent with that of their field personnel, when the calculated t-value is compared with standard table value. This shows that there is lack of construction health and safety culture among the firms. Also, medical fitness and health reports were not requested by six out of the eight firms; and newly engaged workers are not given orientation or training on construction Health and Safety. Therefore, it is recommended that construction firms carry out periodic assessment of its construction health and safety culture so as to reinvigorate its performance in this area. Management needs to show active commitment to orientation and training of its new and existing employees on construction Health and Safety.

Keywords: Construction Accidents, Construction firms, Corporate Culture, Construction Industry, Health Safety and Environment

Introduction

Bamisile (2004), opined that accidents on construction sites is a major concern to everybody in the construction industry, but the issue of health and safety is not properly addressed in most developing countries. Analysis of the causes of accidents has shown that they do not just happen; they are caused, usually by the coincidence of human faults with unsafe actions or conditions Calvert et al, (1995). It is the moral obligations and responsibilities of management according to Calvert et al, (1995) to see to the physical well-being of all its employees and the active promotion of Health and Safety. The first step to ensuring construction safety is by reducing accidents on both construction sites and offices. The construction Health and Safety culture of firms contributes to the provision of safe workplace environment for employees, which is vital to improving their performance and reduces the incidence of accidents on construction sites and workplaces (Keith, et al. 2002). Hai (1986) explained that 'company culture influences the external relations of the corporation, as well as the internal relations of the employees'. Alves and Coble (1996) pointed out that 'management creates and control the environment in which construction accidents occur', and further stated that 'the level to which management acknowledge the significance of Health and Safety programme and becomes involved in the safety process is effective in establishing construction Health and Safety culture for the organisation'.

Allan (2005) identified accident as the direct result of unsafe activities and conditions, both of which can be controlled by management, which is responsible for the creation and maintenance of working environment and tasks into which workers must fit and inter-react. The circumstances surrounding Nigeria construction companies are such that there's hardly any visible safety culture which gives the companies an identity or define its unique character of construction safety. Montana and Charnov (2008) defined corporate culture as the total sum of the values, customs, traditions, and beliefs that make a company or an organization unique. It is often called “the character of an organization” since it embodies the vision of the company's founders. As construction companies become aware of themselves as factors on the social scene, its construction safety culture and image become yet another aspect of the business to watch and to evaluate alongside the “hard” measures of assets, revenues, profits and shareholders' return. Written safety plans can be effective but Construction Companies must go beyond the letter of the plan and create a true “safety culture”. Safety plan is an integral part of a company's safety philosophy and practice. The company can clearly delineate its safety goals through the preparation of an effective safety policy. This is significant as it will assist the company in the preparation of its safety plan, changing or updating its safety plan, as well as providing safety training feedback on the effectiveness of the company's safety procedures. Construction sector is considered to be a basic industry in which the development of the country depends to a great extent; the growth of a country and its development status is generally determined by the quality of its

construction companies and their capabilities (Areola, 1997). The corporate image (public perception) of most construction firms is less commendable if the safety and health of companies' employees is considered. Its corporate ethics is another area of concern. Construction firms need to value the safety of its employees, clients and the environment of the host community by providing health and safety training.

Therefore, the need for firms in the Nigerian construction industry to create a culture of construction safety and evolve a system of construction safety values and ethics in its daily operations is necessary. A consistent construction safety culture is a key factor in achieving construction safety performance. The aim of the paper is to assess the construction health and safety culture perception in selected construction firms in Abuja, with a view to creating awareness on culture of Health and Safety. The objectives of the study includes:-

1. To determine whether there is an established construction safety culture practices in the construction firms in Abuja, Nigeria.
2. To verify if construction safety sensitization is given to new employees in Abuja.
3. To identify if medical fitness reports are requested by the firms before engaging new employees in Abuja.

Research Hypothesis

H_o: There is no difference between the management perceptions and field personnel perceptions with regard to construction health and safety culture of the firm.

Literature Review

Health and Safety Climate on Construction Sites

Choughry, Fang and Lingard (2009) stated that 'safety climate can benefit contractors, specialty contractors and owners of firms by providing them with the knowledge of attitudes and perceptions that can help to consistently achieve better safety performance'. In analysing comparative safety culture perception among managers and workers in residential construction, Gilcey *et al*, (2011) are of the opinion that construction workers continue to experience high rates of injuries and illness compared with many other industries and safety culture has a direct effect on safety performance.

Management of Health and Safety on Sites

Health and Safety management on sites is becoming increasingly important in the construction industry. It is everyone responsibility; however, at the construction job site, the frontline manager is responsible for ensuring that construction firm's Health and Safety programme is set in motion. Mohammed (2013) stressed that 'efforts in encouraging Health and Safety practices should come from the management who should conduct Health and Safety promotion, reward system, distribution of Health and Safety information and communication'. Effective safety management not only reduces contractor's incident rates and compensation

costs, it also enhances productivity and efficiency in project execution (Chen and Jin, 2011). Health and Safety management system established and implemented on site is important to achieving better safety performance. Zhang and Chen (2015) observed that Health and Safety management system established and implemented on site increases contractor's competitive advantage in the market by providing better values to their clients. Contractors who only use instinct and experiences cannot manage safety issues well on site, because construction market and project environment also change.

Mohammed (2013) highlighted the following holistic approach that is required to change health and safety culture of construction firms to include: sustained management commitment; sound safety policy; visible management support; allocation of sufficient resources; use of appropriate safety management techniques; continues motivation of all staff; safety training provision. The commitment from management can appear from financial budget, scheduling, practices and construction quality.

Methodology

Formation of Questionnaire

Twenty five (25) questions were designed as characteristics of potential indicators of construction health and safety culture performance of firms. The twenty five (25) construction Health and Safety culture characteristics provided the basis for the data collection questionnaire for a firm's Health and Safety culture. Each question in the questionnaire has three answer options from which respondents answered only one out of the three options. The respondents in each construction firm were divided into management and field personnel in order to achieve the aim of the research. The management constitutes those in charge of policy formulation and decision making both at the company and the project level, which include directors, operation managers, project managers, project engineers, and estimators. The field personnel on the other hand, are those who spend much of their time on construction sites, constitute the craftsmen, foremen, site managers and safety officers. The perception of management and perception of field personnel with regard to the construction firms' health and safety culture were collected and sample means computed for each of two sample respondents to test the formulated hypothesis in a construction firm.

Distribution of Questionnaire

Eight (8) construction firms in Asokoro district of Abuja were selected at random. The firms share many common characteristics: they are involved in building projects construction; the firms subcontracts some of their work (e.g. carpentry, concrete placement, masonry, etc.); and primarily concentrate on large projects. The study area was purposely chosen because the firms have on- going building projects and operational offices located at the same area. Data were obtained through the application of structured questionnaire. As indicated in Figure 1, forty five (45) questionnaires (comprising 15 for

management and, 30 for field personnel) were administered to eight large construction firms making the total questionnaires distributed to be three hundred and sixty (360).

Data Scoring Procedure

The sample sizes for the management and field personnel used for each of the eight construction firms labelled A, B, C, D, E, F, G and H, are (n_1) and (n_2) respectively.

The answer options given in the questionnaire are scaled 2, 1 and 0 for the first, second and third answer options respectively as shown in Table 1. The first answer options are believed to possess greater degree of instilling a culture of construction health and safety in construction firms. In calculating a respondent's score, the first answer option chosen by a respondent was multiplied by its scale '2', the second option was multiplied by '1' and the third option was multiplied by '0' for each of the 25 questions in the questionnaire. Scores from the twenty five (25) questions were added for each respondent to obtain the total score (x_1) for management personnel, and the total score (x_2) for the field personnel (see Table 2 and Table 3)

Table 1: Questionnaire Scoring Procedure

S /n	Measurements (first answer options)	Scale	Measurements (second answer options)	Scale	Measurements (third answer options)	Scale
1	Important (IM)	2	Not Important (NI)	1	Undecided(UN)	0
2	Often (OF)	2	Not often (NOF)	1	Undecided(UN)	0
3	I agree (IA)	2	I disagree (ID)	1	Undecided(UN)	0
4	Yes (YES)	2	No (NO)	1	Undecided(UN)	0
5	Involved (IV)	2	Not involved (NIV)	1	Undecided(UN)	0
6	Conducive(CD)	2	Not conducive (NCD)	1	Undecided(UN)	0
7	Consistent (CS)	2	Not consistent (NCS)	1	Undecided(UN)	0
8	Flexible (FL)	2	Rigid (RI)	1	Undecided(UN)	0
9	Strong (ST)	2	Loosed (LO)	1	Undecided(UN)	0
10	Democratic (DE)	2	Autocratic (AU)	1	Undecided(UN)	0

Statistical Tools Used

Statistical t- test was used to test the hypothesis. The t-test performs a comparison of samples by determining whether they fall within a specified range or confidence interval. If samples are within this interval, they can be considered similar populations; if they are not within the interval, they can be considered different populations (Sachs, 1992). Lucey (2002) also explicitly stated that, "a hypothesis is some testable belief or opinion and hypothesis testing is the process by which the belief is tested by statistical means". In this research the test performed a comparison of the management perceptions and field personnel perceptions of its construction Health and Safety culture by considering the sample mean value of the management responses and sample mean value of field personnel responses of firms and determining whether they fall within a specified range or confidence interval of 95% at 5% significant level. Samples within this interval were considered similar populations; hence the presence of construction Health and Safety culture in the firms. Samples not within the interval were considered different populations, indicating the absence of construction Health and Safety culture. The analysis utilized a two-tailed test because the null hypothesis states that the population sample means are equal to and not greater than or less than each other. In analysing the data obtained from the questionnaire, the means and variances for the management perceptions and field personnel perceptions for each firm were computed. The means for the management perceptions (μ_1) was compared with the means for field personnel perceptions (μ_2). Sample pooled variance was calculated from the sample mean values (μ_1) and (μ_2). Hypothesis testing for population means was used to prove the null research hypothesis (H_o) which states that 'There is no difference between the management perceptions and field personnel perceptions with regard to construction Health and Safety culture of the firm'. The null hypothesis (H_o) is rejected if the calculated t- value (t_{cal}) is higher than standard table value, and in the critical region. Otherwise, H_o is accepted. The value of the t-distribution varies with the degrees of freedom. For the two samples being compared, the degree of freedom, denoted v, is equal to $n_1 + n_2 - 2$.

The procedure for testing the hypothesis is as follows:

1. Formulate the null and alternative hypotheses:
   $H_o: \mu_1 - \mu_2 = \Delta_0$ versus $H_a: \mu_1 - \mu_2 ? \Delta_0$
2. Decide on a - level and look up $t_{\alpha/2}(n_1 + n_2 - 2)$ from the students t- table.

Since the alpha value (a) is 0.05. Hence, $t_{\alpha/2}(n_1 + n_2 - 2)$ becomes $t_{0.025}(n_1 + n_2 - 2)$. The critical region (rejected region) consists of all t-values greater than or equal to $t_{0.05/2}(n_1 + n_2 - 2)$ and of all t-values less than or equal to $-t_{0.05/2}(n_1 + n_2 - 2)$.

3. Obtain the two random samples.
   a. Calculate the sample means x_1 and x_2 for the two samples
   b. Calculate pooled sample variance, S_p^2 which is given by Sachs (1992) as follows:

$$S_p^2 = \frac{\sum(x_1 - x_1)^2 + \sum(x_2 - x_2)^2}{n_1 + n_2 - 2} \quad \text{or}$$

$$S_p^2 = \frac{(n_1 - 1)S_1^2 + (n_2 - 1)S_2^2}{n_1 + n_2 - 2} \quad \text{..... equation 1}$$

Where $\sum(x_1 - x_1)^2 = \sum x_1^2 - \frac{(\sum x_1)^2}{n_1}$

and $\sum(x_2 - x_2)^2 = \sum x_2^2 - \frac{(\sum x_2)^2}{n_2}$

..... equation 2

4. Calculate $t = \frac{(x_1 - x_2) - \Delta_0}{\sqrt{S_p^2 (1/n + 1/n)}}$

..... equation 3

Where,

n_1 = sample size of management in a firm.
n_2 = sample size of field personnel in a firm
x_1= total score of management in a firm.
x_2= total score of field personnel in a firm
x_1= mean score of management in a firm.
x_2= mean score of field personnel in a firm
S_1^2 = sample variance of management in a firm.
S_2^2 = sample variance of field personnel in a firm
S_p^2 = sample pooled variance

Analysis of Results

Response from Questionnaire

Figure 1 shows 212 responses were obtained and used for analysis. Firm A had 28 responses: made up of management (8) and field personnel (20). The same was obtainable from firm B. Firms C and D had 25 responses each, made up of management (5) and field personnel (20). Firm E had 28 responses: made up of management (8) and field personnel (20). The same was obtainable from Firm F. Firms G and H had 25 responses each, made up of management (5) and field personnel (20). Overall response rate of 58.9 was achieved. Response rate by levels within companies showed that construction firms 'A', 'B', 'E', and 'F' had management response rate of 53.3 per cent, while field personnel was 66.7 per cent. For construction firms 'C', 'D', 'G', and 'H' the management response rate was 33.3 per cent, and the field personnel was 66.7 per cent. In all, the number and response rate of field personnel is higher than that of the management for each firm. This indicates that the management are fewer than field operatives, and represents the characteristics of construction firms where at the top management personnel level, their number is less than the number at the lower, field operatives or personnel.

Construction Health and Safety Culture of Firms

Table 4 and Table 5 shows that the calculated t – values, (t_{cal}) for construction Health and Safety culture for firms A, B, C, D, E, F, G and H are greater than the standard table t- values, ($t_{0.025}$) at 5% significant level. The null hypothesis stating that there is no difference between the management perception and field personnel perception with regard to construction Health and Safety culture of construction firms is thus rejected in all the firms. The alternative hypothesis was accepted. Therefore, the views of management of the firms on the construction safety culture are inconsistent from the views of its field personnel. It means that there is no culture of construction Health and Safety in all the firms.

Gilcey, et al. (2011) discovered that a different perception on safety culture among managers and workers in residential construction makes it difficult to achieve construction safety on sites. This represents a signal to construction danger in the firms and poses a threat to the potential achievement of construction Health and Safety performance. The firms would need to create the culture of construction safety through the education and training of their employees, provision of motivating incentives, and adherence to safety practices both on their construction sites and in offices.

Construction Safety Orientation and Training to New Employees

New employees seem not to be sensitized on Health and Safety issues. This is evident in the views of management and field personnel as shown in Table 6 obtained from question number 16 from the questionnaire. For Construction firms 'A', 'C', 'E', and 'G', all the management (i.e. 100%) and the field personnel (i.e. 100%) that responded admitted that new employees were not given safety orientation and training. While in construction firms 'B', 'D', 'F', and 'H', all the management (i.e. 100%) that responded believed employees are not given safety orientation and training, 90% of their field personnel confirmed new employees are not given safety orientation and training. 10% of the field personnel were undecided (i.e. do not know) whether orientation and training is given to workers upon joining the company.

Training on construction safety is not an end in itself but a means to an end. Mohammed (2013) has emphasised the need of developing safety culture in the construction industry through the orientation of site operatives. Workers need to be told what to do for their own health and safety and that of others, as well as what is required by statute. Knowledge of what constitutes safe behaviour in occupational situations must be acquired. Keith, Heyman, Shreve, and Rogers, (2002) stressed that the support of management demonstrates the presence of the condition in which the trained person can return and exercise newly acquired skills and knowledge. Training given to old workers can be in the form of craft and skill training: it involves the acquisition of skill needed to do the particular work, and training in environment, health and safety.

Workers' Medical Fitness Request by the Firms

The management and field personnel responses in Table 7 indicates that only construction firms 'A' and 'E' require medical fitness and health reports from workers before they are employed. The performance and productivity of workers will therefore be in jeopardy if medical health and fitness status of workers are not given utmost priority before engaging them in construction project execution, as Alves and Coble (1996) reveals that the state of health of workers has a direct bearing on their labour output.

Summary of Findings

1. Hypothesis tested on the construction firms in the research shows that there is no culture of construction safety. This means that

there is a potential danger or threat of accident happening in the firms.

2. Field personnel and new employees are not given safety training and orientation by their employers. The management need to show interest, active commitment and support to the training of their employees.

3. The research also found out that medical fitness and report for new workers are not considered a priority by construction firms, as the state of health of workers has a direct bearing on their labour output.

Conclusion

Based on the findings, the following conclusions were made:

1. The management's perceptions of the construction firms' Health and safety culture are inconsistent with the perceptions of the field personnel. The firms need to effectively communicate and educate its employees, on the standard and acceptable rules of behaviour in the company through its actions by having and implementing its safety policy which outlines standard rules of behaviour or ethics, which influence how employees behave and carry out their works with respect to construction safety on and off construction sites.
2. Newly engaged workers are not given construction Health and safety orientation or training. The management need to show interest, active commitment and support to the training of their employees. The support of management demonstrates the presence of the condition in which the trained workers can return and exercise newly acquired skills and knowledge. Training provided to new employees involve training given upon joining the company to provide formal construction safety and health training among other training in the form of orientation or the employer's induction programme for the new workers.

Recommendation

The following recommendations were made:

1. Management of construction firms should do more in communicating its programs and policies, especially Health and safety policy to its employees and create the awareness of its construction safety culture among the employees. Also, provide safety orientation training to its new employees so as to create the culture of safety in their early career. Safety training should also be given to existing employees.
2. Construction firms should periodically assess its construction safety culture so as to reinvigorate the aspect of its culture that promotes or improves safety performance and then change those aspects of the culture that hinders safety performances.

References

Allan, S. H. (2005). Principles of Construction Safety. UK: Blackwell Publishers.

Alves, D. L. M. and Coble, R. J. (1996). Implementation of Safety and Health on Construction Sites. Rotterdam, Netherlands: A. A. Balkema.

Areola, M. K. (1997). Construction Industry: A Key Sector Suffering from Funding Constraints and Irregularities. Oct. 27 – Nov. 2, 1997.

Bamisile, A. (2004). Building Production Management. 1st edition. Lagos: Foresight Press Limited.

Calvert, R. E., Bailey, G. and Coles, D. (1995).Introduction to Building Management. 6th Edition. New York: Butterworth –Heinemann.

Chen, O. and Jin, R. (2011). Site Safety Commitment to Enhance Jobsite Safety Management and Performance. *Journal of Construction Engineering and Management.10 (1). p8*

Choudhry, R., Fang, D., and Lingard, H. (2009). Measuring Safety Climate of a Construction Firm. *Journal of Construction Engineering and Management.10 (1). p15*

Gilcey, D., Del Puerto, C., Keefe, T., Bigelow, T., Rosecrance, J. and Chen, P. (2011). Comparative Analysis of Safety Culture Perceptions among Site Managers and Workers in Residential Construction. *Journal of Construction Engineering and Management.10 (1). p18*

Hai, D. M. (1986). Organizational Behaviour: Experiences and Cases. St. Paul, Minnesota: West Publishing Company.

Keith, M., Heyman, R., Shreve, C. and Rogers, S. (2002). Corporate Culture: A Study of Firms with Outstanding Construction Safety. *Professional Safety*. ASSE Foundation Research July, 2002: 18-27.

Lucey, T. (2002). Quantitative Techniques. 6th edition. London: Continuum.

Mohammed, S. M. (2013). Developing Safety Culture in Construction Industry. Universiti Teknologi Malaysia.

Montana, P. & Channov, B. (2008). Management. 4th edition. New York: Educational Series Hauppauge. Sachs, L. (1992). Applied Statistics. New York: Springer-Verlag

Zhang, W. and Chen, X. (2015). A Construction Safety Management System from Contractors' Perspective. International Conference on Construction and Real Estate Management. Lulea, Sweden. August, 11-12, 2015

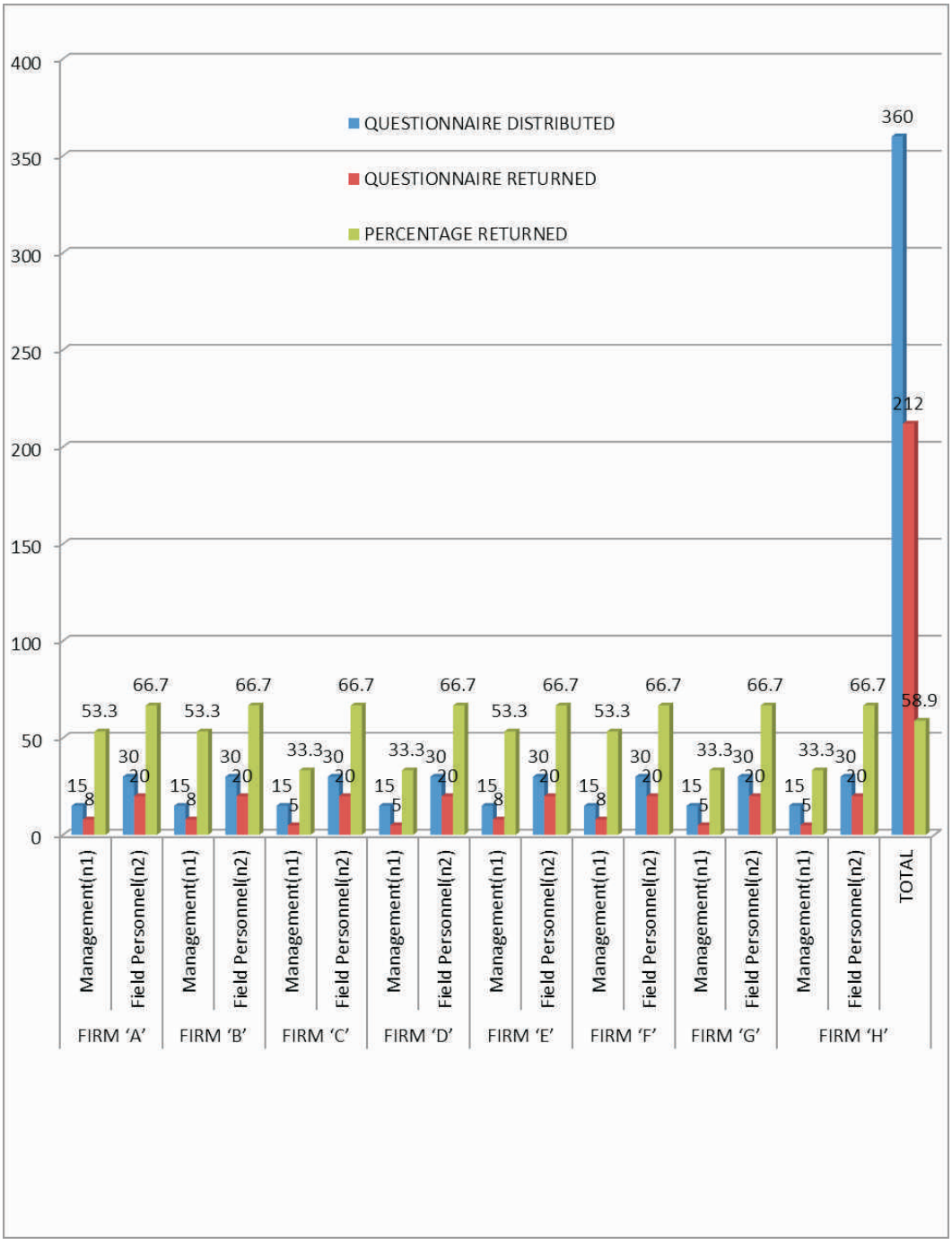

Figure 1: Response Rate

Table 2: Total Raw Scores Data Health and Safety Culture of Construction Firms

CONSTRUCTION FIRM 'A'		CONSTRUCTION FIRM 'B'		CONSTRUCTION FIRM 'C'		CONSTRUCTION FIRM 'D'	
MANAGEMENT (x_1)	FIELD PERSONNEL (x_2)	MANAGEMENT (x_1)	FIELD PERSONNEL (x_2)	MANAGEMENT (x_1)	FIELD PERSONNEL (x_2)	MANAGEMENT (x_1)	FIELD PERSONNEL (x_2)
22	16	23	12	23	14	21	16
22	12	22	13	21	10	23	13
23	15	22	13	23	15	23	13
23	10	23	14	22	16	21	13
23	8	23	15	23	13	22	10
22	15	23	13		13		8
22	12	22	13		12		15
21	8	22	16		11		12
	9		16		15		14
	13		14		16		11
	14		13		16		16
	17		16		16		20
	18		13		15		20
	19		14		14		17
	19		13		20		11
	15		11		20		13
	15		14		18		15
	13		12		16		12
	13		13		13		10
	16		16		12		13

Table 3: Total Raw Scores Data Health and Safety Culture of Construction Firms

CONSTRUCTION FIRM 'E'		CONSTRUCTION FIRM 'F'		CONSTRUCTION FIRM 'G'		CONSTRUCTION FIRM 'H'	
MANAGEMENT (x_1)	FIELD PERSONNEL (x_2)	MANAGEMENT (x_1)	FIELD PERSONNEL (x_2)	MANAGEMENT (x_1)	FIELD PERSONNEL (x_2)	MANAGEMENT (x_1)	FIELD PERSONNEL (x_2)
21	10	22	14	23	14	21	20
22	12	22	16	21	10	23	13
23	15	22	13	23	15	22	13
23	16	23	12	22	16	21	13
23	8	23	15	23	13	23	10
22	15	23	13		13		8
22	12	22	13		12		15
22	8	23	13		11		12
	9		16		15		14
	13		14		16		11
	16		13		16		16
	17		16		16		20
	18		13		15		16
	19		14		14		13
	19		13		20		11
	15		11		20		13
	15		14		18		15
	13		12		16		12
	13		13		13		10
	14		16		12		17

Table 4: Statistical t-values for Construction Firms' Health and Safety Culture

	Construction Firm A	Construction Firm B	Construction Firm C	Construction Firm D
Pooled sample mean (S^2p)	8.079	1.623	6.041	8.296
Management sample mean ($\bar{\mu}_1$)	22.250	22.500	22.400	22.000
Field personnel sample mean (μ_2)	13.850	13.700	14.750	13.600
Calculated t-value (t cal)	7.065	16.513	6.225	5.833
Standard table t-value ($t_{0.025}$)	2.056	2.056	2.069	2.069
Degree of freedom (v)	26	26	23	23

Table 5: Statistical t-values for Construction Firms' Health and Safety Culture

	Construction Firm E	Construction Firm F	Construction Firm G	Construction Firm H
Pooled sample mean (S^2p)	8.079	1.623	6.041	8.296
Management sample mean ($\bar{\mu}_1$)	22.250	22.500	22.400	22.000
Field personnel sample mean (μ_2)	13.850	13.700	14.750	13.600
Calculated t-value (t cal)	7.065	16.513	6.225	5.833
Standard table t-value ($t_{0.025}$)	2.056	2.056	2.069	2.069
Degree of freedom (v)	26	26	23	23

Table 6: Response on Construction Safety Orientation and Training to New Employees

	Management						Field Personnel					
	Yes		No		Undecided		Yes		No		Undecided	
	Nr	%	Nr	%	Nr	%	Nr	%	Nr	%	Nr	%
Construction Firm 'A'	0	0	8	100	0	0	0	0	20	100	0	0
Construction Firm 'B'	0	0	8	100	0	0	0	0	18	90	2	10
Construction Firm 'C'	0	0	5	100	0	0	0	0	20	100	0	0
Construction Firm 'D'	0	0	5	100	0	0	0	0	18	90	2	10
Construction Firm 'E'	0	0	8	100	0	0	0	0	20	100	0	0
Construction Firm 'F'	0	0	8	100	0	0	0	0	18	90	2	10
Construction Firm 'G'	0	0	5	100	0	0	0	0	20	100	0	0
Construction Firm 'H'	0	0	5	100	0	0	0	0	18	90	2	10

Table 7: Response on Workers' Medical Fitness Request by the Firms

	Management						Field Personnel					
	Yes		No		Undecided		Yes		No		Undecided	
	Nr	%	Nr	%	Nr	%	Nr	%	Nr	%	Nr	%
Construction Firm 'A'	8	100	0	0	0	0	20	100	0	0	0	0
Construction Firm 'B'	0	0	8	100	0	0	0	0	20	100	0	0
Construction Firm 'C'	0	0	5	100	0	0	0	0	20	100	0	0
Construction Firm 'D'	0	0	5	100	0	0	0	0	20	100	0	0
Construction Firm 'E'	8	100	0	0	0	0	20	100	0	0	0	0
Construction Firm 'F'	0	0	8	100	0	0	0	0	20	100	0	0
Construction Firm 'G'	0	0	5	100	0	0	0	0	20	100	0	0
Construction Firm 'H'	0	0	5	100	0	0	0	0	20	100	0	0