

Analyzing the Strength and Weakness of Safety in an Industry

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Abstract: The issue of safety is very paramount in an organisation, especially for an organisation in the production sector. Therefore to aid the safety of the organisation some modern safety science viewpoint need to be incorporated. Questionnaire was prepared for a survey based analysis. The survey was conducted in 10 departments in Ashok Leyland Chennai Materials Department, Engine Development centre(EDC), Component Testing lab(CTL), Metallurgy Engineering Department(MED), Vehicle Evaluation testing department(vet), six posters, protoshop department, prototype department, vehicle dynamics, Noise vehicle harness(NVH) Department. Based on the survey and the analysis some suggestions that could improve the safety aspects of the company were presented.

Keywords: Department, Questionnaire, Safety, SPSS and Survey.

I. INTRODUCTION

Safety is one of the major aspects which is to be carried out in the industry or organization. Without having the safety in the organization the company cannot be affordable to run successfully. If the safety measures are not taken in the correct manner it may lead to serious hazards in all departments in an industry. The cause of safety in the organization can lead to the death of a person. It mainly occurs due to the lack of knowledge about the safety in the industry. So here the industrial safety measures are needed to be carried out. Safety measures can be safety training in which safety videos can be viewed about the causes of the accidents and human behaviors that can lead to accidents. To improve safety, the company can have safety boards, safety signs, safety postures, Safety auditing can also be conducted. In safety auditing it can have safety questionnaire in which point scale can be made. Inside that questionnaire it can have efficiency, effectiveness and reliability of the total health and safety policies of the company. Safety auditing helps to identify the failures in the system, process, program and the information's can be gathered to understand the best cores of the corrective actions, so by following these measures of the safety in the organization the employees or workers can have knowledge about safety.

II. DATA METHODOLOGY

Analyzing the strength and weakness of the safety in an organization which helps to understand about the safety management in an organization. This Paper aims to assess the safety and to analyze the strength and weakness of the safety system in the ASHOK LEYLAND TECHNICAL CENTRE VELLIVYOALCHAVADI, CHENNAI. Ashok Leyland is the second largest manufacturer of commercial vehicles in India, the fourth largest manufacturer of buses in the world and the sixteen largest manufacturer of trucks.

2.1 Questionnaire

This Questionnaire provides the company with information's about the assessing the industrial safety and highlights areas of strength and weakness of the safety in the company. This contains some numerical safety related questions which is required to be answered on a five point Likert type scale.

Questionnaire should be designed and it should have effective thoughts, requirements and efforts, it is well planned and developed in various stages to collect the useful and wanted information. They are

1. Starting Consideration.
2. Content of question, Phrasing and response format.
3. Sequence of question and outline.
4. Elaborative questionnaire should not be needed.

Steps followed in the questionnaire

1. First Part is about the personal information.
2. Second part is about the safety assessment of the firm.
3. Questionnaire was spread to different departments in the company.

4. Department which tooled survey were shown below in the table.
5. From each department two employees gave me their feedback based on the questionnaire.
6. Sixty Employees survey were taken.

III. ANALYSIS

The collected 60 questionnaire from the industry and analyzed using IBM SPSS STATISTICS VERSION 23 and found the following results. The dependent variable OHS Management systems are selected. All other criteria are independent. A test for hypothesis framed for 11 criteria and found that four of them are significant at 95% level.

3.1 A sample of Hypothesis

Ha: OHS Management System is positively related to the policies developed by the company. Since the significant level of four criteria is at 95% and they are accepted. Hence the hypothesis Framed are found true.

3.2 Test For Reliability

Using SPSS Software their reliability of the questionnaire was checked and the cronbach alpha value Value. The details is given below in the table no. Cronbach alpha was greater than 75% and hence the questionnaire found reliable.

IV. FIGURES AND TABLES



Fig 4.1 Safety Board

Table 4.1 Scale Rating

SCALE RATING	
Excellent	1
Very Good	2
Good	3
Average	4
Poor	5

Table 4.2 Department of Industry

SLNO	DEPARTMENT
1	Materials
2	Engine Development Centre
3	Component testing Lab
4	Metallurgy Engineering Department
5	Vehicle Evaluation Testing
6	Six Poster
7	Prototype
8	Protoshop
9	Vehicle Dynamics
10	Noise Vehicle Harshness

Table 4.3 Questionnaire with 5 point scale

	Excellent (1)	Very Good (2)	Good (3)	Average (4)	Poor (5)
OHS Management System					
Following safe operating procedures Level					
Conduction of OHS Training					
Cleanliness of Worksite					
Safety of pits and Floor openings					
Usage of Protective goggle's					
Safety Regarding Wet surfaces					
Cleanliness of Aisles and Pathways					
Quality of Stair rails					
Maintenance of tools					
Level of Safety inspection every year					

Table 4.4 Testing Of Hypothesis

Criteria	T value	Sig Level
Constant(Ohms)	5.205	0.000
Cleanliness of worksite	3.626	0.001
Safety Regarding Wet surfaces	-2.197	0.033
Quality of stair rails	2.027	0.048

Table 4.5 Reliability Analysis

Cronbach alpha	No of items
.785	11

Table 4.6 Observation

Safety Board
Safety Picture
Motto of Company
Health and safety policy
OHS Management Systems
Safe Work Postures
Safe Work Picture
Safe Work Board
OHS Training
Cleaning Board
Personal Protective Equipment
Road Safety Signs and Posture's
Aisles and Pathways
Safety Regarding Wet surfaces

Table 4.7 Suggestion

Access	Assess
Meaning of access is the way or approaching.eg Through with the help of id card any person can enter.	Meaning of asses is understanding,E.g.Analyze the hazard in that section or department

V. CONCLUSION

Using the SPSS Software the hypothesis and reliability for the questionnaire is been analyzed and tested. From the results of SPSS the following hypothesis found at to significant level and they are as follows.

Ha: OHS Management system is positively related to the policies developed by the company.

Hb: Cleanliness of worksite is positively related to the frequency of cleaning by the labors.

Hc: Safety Regarding Wet surfaces is positively related to the employees looking after each Department.

Hd: Quality of stair rails is positively related to the stair rails standard developed by the company.

A part from this the company has to concentrate in aisles and path ways, Maintenance of tools in each Departments.

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