

Safety Assessment in Construction Projects

S. Lavanyadevi¹, Dr. K. Vidhya²

¹PG Student, ²Head of the Department,

^{1,2}Mahendra Engineering College, Namakkal, Tamil Nadu, India

ABSTRACT

The Building area is growing very fast and indispensable to Development involving of Building. Workers Operate in dangerous Environmental and accidents are a common incidence at Building sites. The fundamental Objective of the learn about has been investigate the Safety of worker at constructing sites, and arose out of the need to have a safer working environment. Safety and what have an effect on it have been examined and the most effective preventive and mitigation measure, which can be adopted, that are like minded with the practices and applied sciences handy regarded at. The Methodology adopted involves, an big Literature review, Collection of records by use of Questionnaires, on-spot web site test plus oral interviews at Building site. The finding of study are, that the stakeholders are not nicely educated in security planning and administration but they have a main function in providing and keeping a protection at constructing sites, the protective gear and first aid furnished is now not sufficient, and attention plus attitude closer to safety at all level in poor. A protection Assessment tool for building sites has been developed, Conclusion and Recommendation made, which include integrating safety into standard expert coaching and site management, plus introduction of a fine safety.

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1. INTRODUCTION

In India, building enterprise is the second largest employer when in contrast to agriculture. Throughout the world, the building vicinity of civil engineering is one of the most hazardous industries. The range of deadly accidents taking location at the building websites is quite alarming and the important cause used to be observed to be fall of men and women from top and via openings. In the present scenario, the Indian building enterprise is pretty giant and complicated involving modern science as nicely as man power. On a par with the improvement of development industry, drawbacks in phrases of security and fitness components are also witnessed. In the construction enterprise the opportunity of a fatality is five instances extra in all likelihood than in a manufacturing industry, whereas the chance of a major damage is two and a half instances higher. The Indian development labour force is 7.5% of the whole world labour pressure and it contributes to 16.4% of fatal international occupational accidents. India has the world's perfect accident price amongst development workers, in accordance to a latest learn about with the aid of the International Labour Organization (ILO) that mentioned one survey by way of a local aid team showing that 165 out of each and every 1,000 employees are injured on the job. Construction workers are no longer the only sufferers of accidents but also the public including youngsters are affected.

2. SAFETY ASPECTS

2.1. Planning For Safety

Every construction organization should develop a performance oriented safety program. A safety management

procedure is including information about personnel protection equipments (PPE), hazardous substances in site, use of power equipments, safety practices, safety policies, emergency procedures in site, responsibilities of workers etc should be made. This safety document should be made available to all the workers in the construction site.

2.2. Training For Safety

In Sites Proper training about safety should be provided for workers. It is a major component of safety management. Workers should be made aware about different hazards that can occur in sites and control of those hazards. By this training the workers should be able to handle any emergency situation of safety in sites without panic and also they should understand the relevance of safety practices in sites.

2.3. Medical Services And First Aids

First aid and medical facilities should be made readily available in sites according to the size of site and number of workers in the site. The employer must be responsible for this and should ensure the availability of medicines and first aids in the sites.

2.4. Safety Policy by Management

The safety policy of the management is very relevant in maintaining workplace safety. Apart from the safety plans and training program, the management must ensure that the workers are following the safety standards in the site. Regular safety inspections must be conducted by the management in the sites.

2.5. THE BASIC ACCIDENT PREVENTION MEASURE

- Safety helmets for head protection.
- Hearing aids for ear protection.
- Safety shoes with steel toe for foot protection.
- Safety glasses or goggles for eye protection especially for welding works and in sunlight.
- Clothes should be worn according to the climatic conditions.
- Use of high visibility clothing should be ensured especially for works during night shifts.
- Safety training program should be conducted occasionally by the safety department.
- Medical services and first aids should be ensured in site always.

3. COLLECTION OF QUESTIONNAIRES

3.1. Questionnaires Design

The design of questionnaire was done based on the analysis made in various literatures reviews. The design of questionnaire was done based on the factors to be considered irrespective to labors. People are more truthful while responding to the questionnaires regarding controversial issues in particular due to the fact that their responses are anonymous. The questionnaire survey will be distributed to the construction project teams and it will be conducted online.

3.2. Questionnaires Survey

The prepared Questionnaire on human resource management in Construction industry is distributed to 75 labors and their response have been extracted Responses from all three levels (large scale, medium scale and small scale) of companies are equally distributed. The answered questionnaires were collected and the answers were ranked in order to obtain statistical data from the theoretical options. Ranking should be based on scale type.

4. SPSS SOFTWARE

4.1. About Spss Software

4.1.1. Introduction

SPSS Statistics is a software package used for statistical analysis. The software name originally stood for Statistical Package for the Social Sciences (SPSS), reflecting the original market, although the software is now popular in other fields as well, including the health sciences and marketing. All the responses obtained from the questionnaires are entered in to the software. First, the variables or the questions are entered in the data view, Then, the responses are entered into the software from the various data entered into the software, frequency can be found which is used to determine the importance factor.

Figure 4.1 SPSS SOFTWARE PAGE

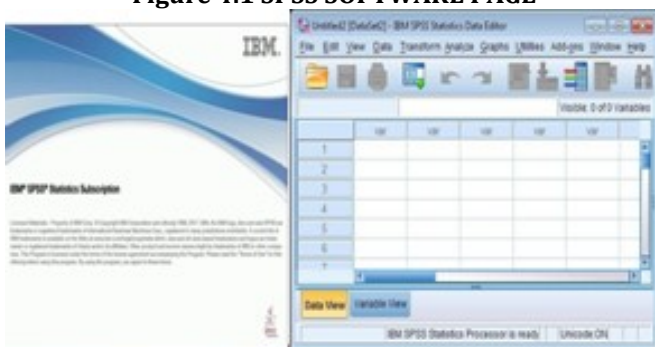


Figure 4.2 SPSS SOFTWARE



Figure 4.3 SPSS WORKING WINDOWS

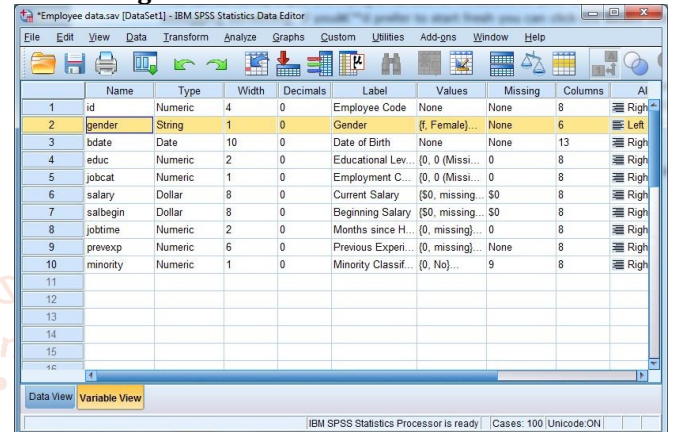


Figure 4.4: SPSS EXCEL

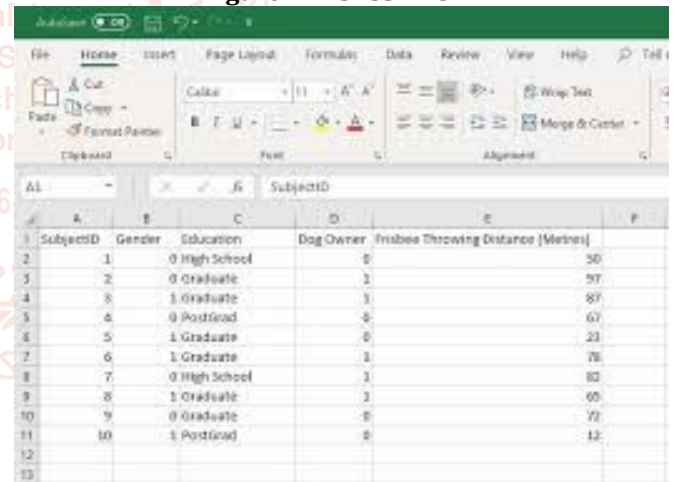


Figure 4.5 SPSS ANALYSIS



Figure 4.6 SPSS DATA ANALYSIS

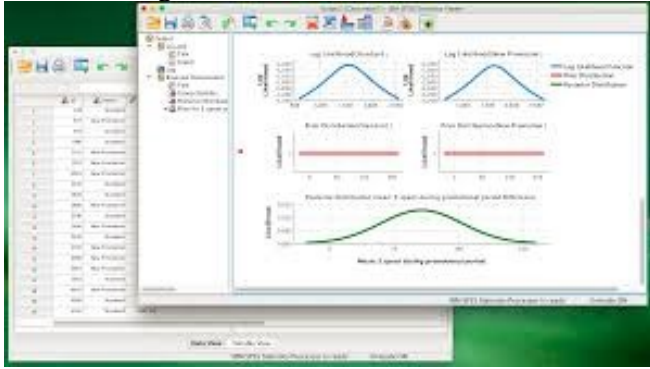
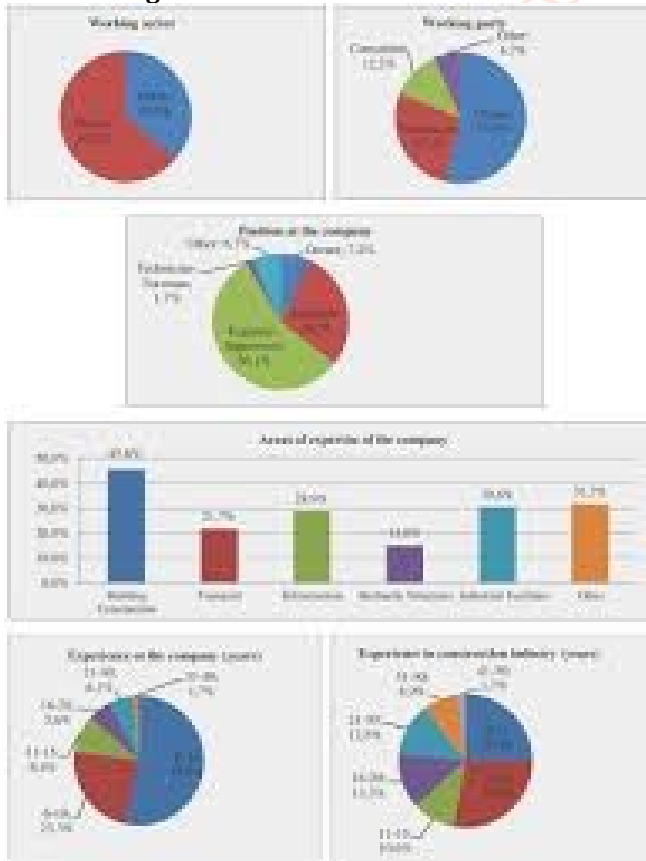


Table 4.1 Result of SPSS

DESCRIPTIVE FACTOR	MEAN	RANKING
Equipments	0.697	VII
Handling	0.756	IV
Supervision	0.773	III
Labor's	0.792	II
Planning	0.724	V
Safety measures	0.826	I
Environmental & social factor	0.734	VI

Figure 4.7: SPSS ANALYSIS CHART



5. RESULTS AND DISCUSSIONS

From the results obtained, we can say that considering the importance factor labour safety problems., communication problems, late deliveries of materials, site management problems, changes during construction payment, weather etc.. are the reasons behind safety. Thus, they should be considered with while Planning a project.

So the recommendations that can be given are,

- A. There should be a clear understanding of the planning of the project as well as economic ability of the client. They should also have an idea about the safety measures for

supervisors.

- B. Payment should be made on time, without affecting the flow of materials and ongoing work.
- C. There should be good communication between the various participants of the project. Any changes in the plan or drawing should be communicated to all.
- D. There should be communication from top-tier to bottom and vice versa.
- E. Not only an understanding of the causes of safety is needed, but an awareness of its effects is also important.
- F. Time and cost overrun are to implicit effects of safety. Other effects are also present such as claims, disputes, and arbitration etc..
- G. There should a trained and experienced team to handle these.

5.1. TYPES OF THE ACCIDENTS AND ITS CASES

The accidents are classified as 2 types

- major and
- minor

Major: Major cases death, fatal, permanent body part injury etc.

Minor: Minor cases, first aid cases, temporary body part injury etc. are recorded.

Based on the number of accidents, causes are classified into three categories with percentage as follows.

Unsafe act (67%) - the following activities are considered as an unsafe act

- A. Operating without permission
- B. Avoiding instruction procedure
- C. Using unsafe tools/equipment

Unsafe condition (26%) - the following activities are considered as an unsafe condition.

- A. Poor housekeeping.
- B. Improper barricading
- C. Improper electric connection.

5.2. REMEDIAL MEASURES

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So the recommendations that can be given are,

- There should be a clear understanding of the planning of the project as well as economic ability of the client. They should also have an idea about the safety measures for supervisors.
- Payment should be made on time, without affecting the flow of materials and ongoing work.
- There should be good communication between the various participants of the project. Any changes in the plan or drawing should be communicated to all.
- There should be communication from top-tier to bottom and vice versa.
- Not only an understanding of the causes of safety is needed, but an awareness of its effects is also important.
- Time and cost overrun are to implicit effects of safety.

Other effects are also present such as claims, disputes, and arbitration etc..

- There should a trained and experienced team to handle these.

6. CONCLUSION

Thus all the imperative aspect which affects job website online safety management in Construction initiatives and issue affecting the security circumstance of labours are formulated and Questionnaire And have been designed in this Phase-I. The questionnaire will be dispensed to the corresponding humans who had been working as website in charge and labours in construction companies and via making use of SPSS software program the response accumulated from the distributed questionnaire will be analyzed, and gorgeous suggestions, recommendation.

The a number conclusions of the venture study are:

- While a few of the safety issues can't be avoided, most of them can be managed thru proper planning and scheduling.
- Reasons that can also lead to safety issues in building ought to be understood earlier than planning and perfect planning alongside with go with the flow have to be provided whilst scheduling. Thus, a appropriate design can avoid accident to a certain limit.
- From this study, The most necessary factors that need to be attended whilst planning are: economy, verbal exchange and work order.
- This findings are restricted to a sure prolong due to the areas of the sites. So, they can also fluctuate for a different location.
- From the study, it is concluded that time overrun is the most common effect of a safety, which leads to many other problems.
- This learn about do no longer consider the interrelationships of a variety of elements or the lengthen of their effects. This can be made concern to address in any other study.

ANNEXURE I

Sir/Madam,

As a part of my project, I am studying on safety assessment and implementation in construction projects, I request you to spare your valuable time to provide a detailed feedback on the questionnaire.

Name of the concern :
 Address :
 Contractor name :
 Name of the person contacted :

Designation of person contacted :
 Contact number :
 Project type :
 Total site area :
 Estimated project cost :
 Estimated project duration :

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