

A Integrated Management System In Construction Industry

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Abstract- The integrated management system is the effective way of handling the multitude of management functions and procedures that are conducted throughout construction projects. To create awareness for environmental protection involving construction industry. The idea of integration is taken to the civil engineers in profession through questionnaires and the answers received are analysed by using the software SPSS(STATISTICAL PACKAGE FOR THE SOCIAL SCIENCES). Recommendations are made based on the results

Keywords- SPSS SOFTWARE, ENVIRONMENTAL, SAFETY AND QUALITY MANAGEMENT SYSTEM

I. INTRODUCTION

Integrated management system should result in more comprehensive and stronger management system. An integrated environment, safety and quality management system is a project built on the background of integrated management system. Integrated management system is the recent development in the field of business administration and management. Quality, Environmental & safety (EQS) Management systems are generally considered to be an integration of (International Standards Organization) ISO 9000, ISO 14000, and ISO 18000 regulations. Lower cost of production and decreased pollution are also important attributes of an EQS system.

II. LITERATURE REVIEW

First of all various books and journals were collected for reference and study before starting the project work for having ideas about how the project should be.

Some of the literature reviews are

1. GILBERTO SANTOS, SIRIA BARROS AND FATIMA MENDES in JUNE 2012,

“The main benefits associated with health and safety management system certification in portuguese small and medium enterprises post quality management system certification”The purpose of this study is to characterize how

Portuguese Small and Medium Enterprises (SMEs) view the Occupational Health and Safety Management Systems (OHSMSs) certification process, after receiving the Quality Management System (QMS) certification. References were based on the ISO 9001 standard for a QMS and OHSAS 18001 for OHSMS. The method used to evaluate the implemented systems, was by form of questionnaire.

2. SX ZENG, CM TAM AND VIVIAN WY TAM, In 2010.

“integrating safety, environmental and quality risks for project management using a fmea method” in recent years, many construction firms have implemented various management systems, including ohsas 18001 for occupational health and safety (ohs) management, iso 14001 for environmental management and iso 9001 for quality management. With increasing interests from construction firms in implementing an integrated management system (ims) which combines ohsas 18001, iso 14001 and iso 9001, it is timely to assess, manage and control the risks resulted from ohs, environment and quality issues under this new integrated scheme.

3. N.HAMIDI, M.OMIDVARI, IN JAN 2012 “THE effect of integrated management system on safety”

Nowadays, with implementation of management systems and environment management and due to the influence of safety and health issues on working processes, organizations have also sought to acquire health and safety management systems. This study which aims to examine the influence of integrated management system on safety and productivity indices has retrospective experimental nature.

4. LOW SUI PHENG AND GOH KIMKWANG, IN JUNE 2011

”ISO 9001, ISO 14001 and OHSAS 18001 Management Systems: Integration, Costs and Benefits for Construction Companies” Integrated Management Systems (IMS) that combined ISO 9001, ISO 14001 and OHSAS 18001 into a single management system were introduced in the construction industry in recent years. These strived to improve an

organization's quality, environmental and occupational health and safety aspects. The common platform and differences between ISO 9001 Quality Management Systems, ISO 14001 Environmental Management Systems and OHSAS 18001 Occupational Health and Safety Assessment Systems were discussed.

III. DATA COLLECTION

It is a process of collecting information using a data collection instrument which in our case happens to be questionnaire. In general there are two types of data that can be collected primary data & secondary data

In our research we have to collect primary data hence we will discuss in detail the types of primary data collected:

- Demographic and socio-economic characteristics
- Attitudes
- Opinions
- Awareness
- Knowledge
- Intentions
- Motivation
- Behaviour

DATA ANALYSIS

It is a process of placing data in an ordered form combining them with the existing information & extracting meaning from them. Interpretation is relating various new information to existing information. Analysis of data gives inferences of association or differences between various variables that is present in the research. Based on this analysis only we get conclusion, summary & recommendations the data were analyzed by using the computer software; Statistical Package for Social Science (SPSS 11.0) Spss–Statistical Package for Social Studies is software that is being widely used by social scientists for evaluating various surveys.

Using the SPSS Data Editor

You can manually enter data directly into SPSS by using the SPSS Data Editor. In the example below, we enter four pieces of information (name, birthday, height, gender) for each of four subjects. To open the Data Editor window, start up the SPSS program and Cancel the opening screen, which asks you what file to open.

Printing Output

File/Print prints only what is visible in the output window. If you've turned off some part of the output (by clicking - in the Viewer), that part will not be printed. You can select a portion of the output to print by clicking on its icon; use ctrl-click to select several non-contiguous parts of the output. In the Print pop-up box, click Selection.

The approaches used under SPSS are as follows:

- Descriptive Analysis
- Frequency Analysis

IV. RESULTS ANALYSIS

GENERAL

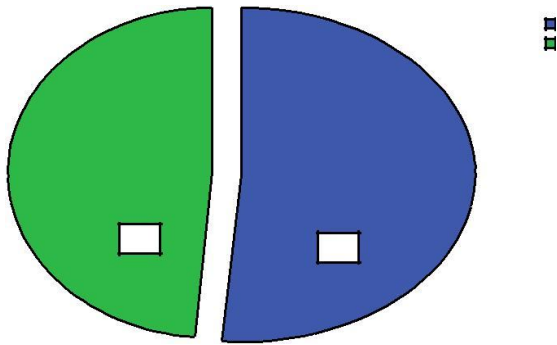
A detailed study was conducted among engineers and managers from 39 companies with a sample size of 74. Data analysis have been carried out with the help of professionals in the department of analysis and a short briefing of the software used and detailed results are furnished. Following are detailed results of various statistical tests done using SPSS. Each and every result has been punctuated with tables, Figs, and graphs and other representations.

AGE GROUP

Various age groups at random have participated in our project. A systematic segregation has been done and results are given as people participated are up to an age of 25yrs, between 25-35yrs & more than 35yrs are given as 48.6%, 33.8%, 17.6%, respectively and Fig 4.1 shows the participation of various age groups.

EDUCATIONAL QUALIFICATION

A basic degree or diploma in civil engineering was kept as the basic qualification to participate in our project but still variety of people with varied qualification participated. Results have been presented as ug/diploma & pg/pg diploma as 51.4% & 48.6% respectively. Fig 4.2 shows grouping of different educational qualification of our respondents.



WORK EXPERIENCE

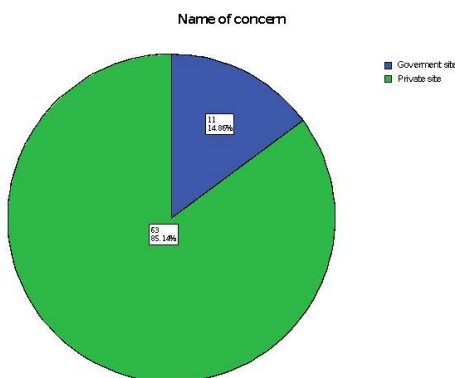
Many professionals at a range from fresh engineers to vastly experienced ones have participated in our project. To be specific we have presented our results as people having an experience of 2yrs, 2-5yrs, & greater than 5yrs. Corresponding results are 27%, 32.4% & 40.5% respectively. Fig 4.3 shows the work experience being grouped.

DESIGNATION

As we have specified in our sampling plan our sampling unit are engineers and managers, we have broadly compiled all the participants under the headings engineers and managers. The results are given as percentage of participation as 64.9% for engineers and 35.1% for managers. Fig 4.4 shows the grouping of designation of respondents.

GOVERNMENT VS PRIVATE PROJECTS

A distinction was made between the projects that have participated as government and private and the results are given as 14.9% & 85.1% respectively. Fig 4.5 shows the difference between government and private projects based on the name of concern.



QUESTIONS FRAMED

S.NO	QUESTIONS	YES	NO
1	Will this integrated system congest your way of working in your working environment		
2	Will this integrated system provide any help to improve your career		
3	Will this integrated system increase the growth of your company		
4	Will this IMS helps to monitoring auditing and improving implementation of plans and procedures		
5	Will this integrated system helps to improvement of products & service		

V. CONCLUSION

- Based on the survey results, the following conclusions were drawn
- It was found that 91.9% participant are aware of integrated management system and 97.3% aware of quality management systems. Another interesting observation was that 68.1% of participant was aware of our ESQ management system
- We can conclude that the companies Participated in our survey are 46.6% certified and 53.4% are non-certified.
- Poor logistics planning was found to be the highest rated cause for incidents in site due to poor management.
- The most beneficial factor was found to be providing encouragement to technological innovations
- Customer focus was found to be most possible factor among all others that can be implemented without problems.
- Emergency preparedness and response was found to be the most difficult element to be implemented.
- Among the responses we found decision making as the key area in which our participants wanted the participation of their employees the most.
- Most of the companies feel the system we have introduced is impressive in future.
- Cost is found to be the major factor that all the participants have indicated as the factor that may present restrain the user from adopting our system.
- Centralized/united/integrated system was preferred over other systems. As 94.6% of people believe in it.
- Managerial concepts are preferred as the background of our system. With 98.6% of people suggesting the same.

- Increasing insecurity was the reason chosen by 98.6% of the people as the factor responsible for evolution of our system.
- Around 98.6% of people believe there is no need for any new system such as ours.
- We conclude strongly that existing parallel management system will not be adequate to handle upcoming large and complex projects.

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