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Impact Study Of ISO Certification On Construction Industries

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Abstract:- Recently all the industries, irrespective of their nature are trying to get the quality management certification such as ISO. For to compete globally ISO certification or quality tag from any other governmental authorities become necessary these days. Industries believe that the ISO quality management tag going to attract the many national and internatonal opportunities and , leads to profit and success. But according to the industries implicability and nature of eh work is concern, the ISO certification has a positive and negative impacts. It also depends on the type of the industries. According to the review, the primary conclusion is that, the ISO implication benefits the large scale industries rather than the small scale industries. Hence it is needed to substantiate the conclusions of review through the questionnaire survey. The questionairs are prepared based on the literature review and the objectives . The validation of questionairs were done and it is distribute to the construction industry employers, which includes engineers, contractors, managers of the construction industries. The reliability test is conducted for the first 10 responses. Suitable tests and case studies are done to conclude, and to substantiate the review findings. The suggestions from the findings and conclusions are provided to improve the efficiency, effectiveness, quality and quantity.

Introduction

Gross domestic profit of any country depends largely on the construction industries.Construction industry directly affects the economy and development of an country.From few years it is observed that the contruction projets are increasing every year. The public and private sectors investing their funds for the construction projects.Because of the high investment in the construction sector , the quality expectation and quality awareness increased.The quality management system plays an vital role in the construction.For the implications of these QMS , the regulations were setout , ISO 9001 Standards gives the frame for to imply the QMS effectively and efficiently in all the stages of the construction which includes both human and material resource management. Many construction industries are facing the problems of cost overrun, delay and less quality.The quality of construction is one of the critical factors which influences the construction projets. The age or durability of a building directly influences the construction quality.Quality can also be expressed in terms of the customers satisfaction , which involves both internal and external customers.The needs or expectations of the internal and external customers should match in terms of cost, materials, machinaries etc.

Quality Management System(ISO)

An international organization for standardization is the standards setting organization which is having a many representatives from the various countries.It is formed on 23rd Febraury, 1947 at Geneva, Switzerland.It promotes the industries and commercial development

With quality aspects. Quality and cutomers satisfaction are the prime priority of ISO, it is also a certification of the quality process and quality product.The qualiy management associated with the quality control , quality assurance , improvement of quality and quality plan.

The study deals mainly with the quality of construction in the construction industries which are certified and non certified by the ISO standards. The main objective of the paper is to identify the degree of increase of quality and customers satisfaction.

Study Objectives

1. To measure the degree of construction quality of the industries which are certified and non certified by ISO .
2. Comparison study of the industries which are certified and not certified by ISO.

Need for Study

1. To check the quality performance of the industries which are ertified and non certified by the ISO.
2. To identify the needs of customers, interest and their future and present expectations.
3. To identify the requirement of the customers in terms of the quality and for luxury.
4. To attain the required quality for durability and strength of the structure.

Methodology

1. The literature survey was carried out to identify the problem statement with respect to the selected research topic.
2. Quetionaires were prepared based on the literature survey and on identifiation of problem statement.It is framed in such a way that , to meet the necessary requirements of the customers and for quality.
3. Selection of the construction industries based on the size of industries and methodology adopted.
4. Questionair survey was onducted in the predefined industries.
5. Based on the survey, identifying the main factors affecting quality and customers satisfaction.
6. Comparing the quality of the construction industries.
7. Results, findings and conclusions.
8. Suggestions for further improvement of quality.

Following steps are adopted , they are ,

1. Selection of research topic.
2. Literature survey for identifying the problem statement.
3. Factors identification which affects the quality of the construction.
4. Framing of quetionaries.
5. Identification of industries.
6. Questionair survey .
7. Data analysis.
8. Results and findings.
9. Conclusions and future suggestions.

Framing Of Questionairs And Questionair Survey

The questionairs are said to be reliable when the answers are repeatedly same. The questionairs are prepared keeping in mind that to satify the customers requirements and to meet the required quality.It is also prepared on the view point of minimizing the delay,and cost overrun.The questionairs are distributed among the construction professionals , which includes engineers,contractors, managers etc.The responses were collected from the respondents.The analysis were carried out by SPSS (Statistical pakage for social sciences) software.The graphical representation were framed to evaluate the difference of quality among the industries which are certified and non certified by ISO.The tests that are performed for the study are reliability test,independent sample t- test , frequency test and factor analysis.

Results and Discussions

To know the internal consistency , the reliability test was conduted using the SPSS tool.This test was done after collecting the responses from the respondents.Collected datas are considered reliable only when the value from the reliability test is above 0.5. If the value goes below the 0.5, then that dates are not used for the analysis.

Reliability Statistics

Cronbach's Alpha test	N of Items
0.926	28

Table 1: Reliability Statistics

The obtained cronbach's value is 0.926, which indicates the high internal consistency level and the questionairs are found to be more reliable for the tests.

Sample t-test

This test was carried out for the various aspects such are resources, satisfaction of customers , workability, training, commitment of top management. The table 2 gives the group material statistics.

	Certifiation	N	Mean	SD	Std Mean error
Availability of material resoures	ISO Certified	8 10	3.67	0.962	0.095
	Non ISO Certified	8 10	3.75	0.561	0.64
Materials are checked for their specifications	ISO Certified	8 10	3.36	1.023	0.105
	Non ISO Certified	8 10	3.75	1.005	1.11
Materials are tested in the laboratories before using for the construction	ISO Certified	8 10	3.65	1.035	1.13
	Non ISO Certified	8 10	3.25	0.513	0.059
Site test laboratories are used	ISO Certified	8 10	3.48	0.909	1.09
	Non ISO Certified	8 10	3.09	0.515	0.048
Materials are effectively used	ISO Certified Non ISO Certified	8 10 8 10	3.36 3.64	1.069 0.969	0.107 0.076

Table 2: Group material statistics

According to the test, it is concluded that there is a significant difference between the industries that are certified and non certified by the ISO.The mean value for both differ.

Factor Analysis

Factor analysis is useful in identifying the most contributing and effective factor in terms of the quality in an ISO certified and non certified industries.The factor analysis was done in an SPSS software.The workmanship is the main factor influencing the construction industries, whih also relates to the quality of the materials used for the construction.According to the analysis it is observed that the first priority is given to the quality of the contruction materials used plays a vital role in the strength and durability of the building , and directly influence the construction quality.Cutomer satisfaction is the second important factor affects the quality of the construction.A good communication among all the levels of the industry plays an third important role in maintaining the quality. Apart from these the other factors such are top management commitment ,training, human resources also affects the quality of the construction.

Conclusions

Accoring to the study , it is concluded that there is a significant level difference between the construction industries that are ertified and non certified by an ISO . The value of quality factor varies from 0 to 0.04, which indicates 1% and 4% of significant level difference between the industries that are certified and non certified by the ISO.It is also concluded that the quality of the materials and workmanship directly influences the onstruction industries.ISO certified industries are having little more quality awareness and they effectively implement the quality frames for all the construction activities.It is observed that the quality of materials and workmanship Is considerably good in ISO certified construction industries.

Suggestions

Quality training ,quality objective and documentation (paper work) has to be maintained correctly for maintaining the ISO certification for the ISO certified industries, whereas the training for the employers and workerers are provided for to improve the workmanship , and the materials are tested before using for the construction , in the industries that are not certified by the ISO.

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