Importance of Construction Management Documentation in Planning and Construction Project Works

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ABSTRACT:- Documents form the core of any construction projects it includes plans, drawing, specifications etc. Documents also form the part of evidence to support or disputes any claims. Construction project consists of various stages and in each stage there are some or more changes which are expected to come**.**

The objective of this paper is interviewing different field expertise and finding out what are the various factors which leads to change in drawing documents and how it affect the cost, duration and quality of the project. Data Analysis Software is used for the determining the most common factors for the change in drawing document. To determine how the use of proper design software can help to complete the project within stipulated time and budget. And to provide construction document manual which will help the customer to be aware of documents before buying a house from builders.

KEYWORDS: Design Documents, Time, Budget.

1. INTRODUCTION

In a Construction project to achieve set goals within given contraints informations are usually described in project documentation, which is created at the beginning of the project. It includes Plans, Drawings, Specifications etc. The purpose of construction drawing is to carefully show the quantity and location of individual element of each design. Drawing are the crucial part of documentation during construction. They are important as they are used to communicate the technical details of a project and it also form the foundatation for future projects and cost savings for customers. For the drawings to be useful, they need to be complete and precise. Drawings are created based on project specifications. The specifications detail the project objectives, functionality and how the requirement will be met. A complete drawing saves the time spent on construction site. This paper focuses on drawing documents and the factors leading to change in drawing and how this change affect the completion of a project in a given time period and budget.

2. LITERATURE REVIEW

Iliyas J. Suleiman, Valentine G.M Luvara : This paper focuses on the varions factors causing change in design of building project during construction. They have collected data by questionnaire survey and analyses were done using SPSS 2.0. Based on the analysis they found that client's factor and design consultant factors have more influence in design change during construction. The measures taken by them is to ensure feasibility study before design, effective involvement of everyone during design stage, provision of proper time for designing and provision of clear brief by the client.

M. Gokulkarthi, K.S Gowrishankar : This paper focuses on the impact of order change in construction project. They have collected data by questionnaire survey and after the analysis they concluded that owner's requirements are the main source of change in plans followed by consultants.

Qihao, Weiming Shen, Joseph Neelamkavil, Russ Thomas: This paper focuses on the various factors leading to delay in project schedule and how this delay leads to increase in cost and duration of work. Here they have concluded that more effective, innovative and practical solution has to be developed in order to overcome such delays.

Sepani Senarate and Jeevana Mayuran : In this paper author has done questionnaire survey in order to determine the reason for poor documentation in Sri Lankan Construction Industry. Based on which they concluded that there were gaps between the requirements and the document usage. For overcoming this, suggestions related to procedures, staff awareness sessions were conducted. [4]

Kolawale, A.R. (RQS) and Olaoti A.S : The objective of this paper is to determine the importance of record keeping and management in construction. They found that by proper maintaining record it help to resolve any disputes through legislatively or by arbitration.

Mamoon Mousa Atout: The objective of this paper is to determine the main causes of delays in construction project by project consultants and designers in gulf region. Here they have collected data through questionnaire survey and interviews conducted with many consultants and designers. And preventive actions taken by designers and consultants are studied to avoid the impacts on the progress of the project. [6]

3. METHODOLOGY AND DATA COLLECTION

A detailed literature review was done based on which problems which occur due to change of drawing in construction were found out and through unstructured interview with engineers data were collected and data analysis were carried out using Minitab software. After analysis mean and standard deviation were found for each factor and then ranking were done based on the highest value of mean. Finally from ranking acquired conclusion were made.

4. RESULT AND ANALYSIS

Analysis of the data obtained were done using Minitab Software and the table 1 shows the various factors leading to change in drawing and then their mean and standard deviation is given -and based on its mean value rankng is given.

Based on the analysis it can seen that client's factors is the major factor leading to change in drawing followed by Inadequate information and lack of supervision.

Table1. Summary of various factors causing change of drawing during construction

Sr. No	Factors causing change of Drawing	Mean	Standard Deviation	Rank
1	Structural Reason	0.5	0.7071	3
2	Owner's Requirements	2	1.581	1
3	Geological condition	0.5	0.7071	3
4	Inadequate Information	1	1	2
5	Incorrect Survey	0.5	0.7071	3
6	Financial Reason	0.5	0.7071	3
7	Lack of Supervision	1	1	2
8	Change of Builder Scheme	0.5	0.7071	3
9	Change in Plot Area	0.5	0.7071	3
10	Political Reason	0.5	0.7071	3

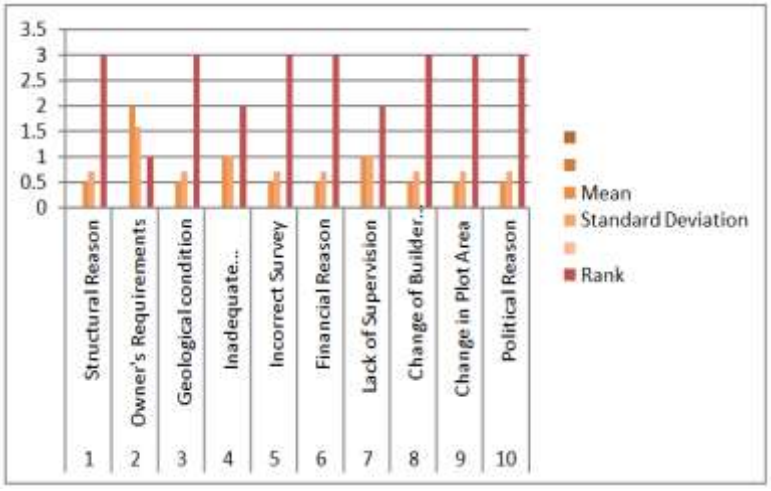

Fig 1 : Summary of various factors causing change of drawing during construction

5. CONCLUSION

Based on the above result it can be concluded that there is always some or the other factors leading to change in drawing and will lead to increase in cost and duration of the project. In order to minimize this cost and duration, drawings can be made in Building information modelling software so, if there is any change immediately it can be made and simultaneously calculation can be done which will result in save in time, duration and cost.

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