

Quantity Surveying in Construction Projects

Article History	<p>Abstract: A questionnaire was made of 130 building engineers and 35 civil engineers in Baghdad governorate to determine the quantities in construction work Effectiveness of QMS variables in project performance was tested with regression analysis. Project performance was broken down into seven variables including cost variance (CV), cost performance index (CPI), time variance (TV), nonconformance report (NCR), client satisfaction (CS), number of accidents (NA), and fatalities (F). Regression quantified the effectiveness of QMS variables in project performance. At the same time, regression explored a pattern of relationship of QMS variables to every project performance indicator. QMS variables illustrate a significant positive impact on client satisfaction and time variance. At the same time, QMS variables also show a significant negative impact on the number of accidents and fatalities</p> <p>Keywords: QMS, NCR,COST, TV,QS</p>
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INTRODUCTION

The calculation and inventory of construction quantities is one of the most important steps for studying and planning projects, knowing the quantities and cost of materials required to submit the study to the project owner or entering into a tender. It is also one of the most important methods of project follow-up, checking the quantities of materials, knowing the costs of each part in the project, and calculating the total cost of it.

There are many methods for calculating and counting quantities, so we must warn that there is no right or wrong way. For example, two engineers, each one of them used a certain method to calculate project quantities, and in the end, the result of the inventory was the same, so the two methods are considered 100% correct. The more you know and practice calculating quantities, you will be able to From developing your own methods to know the most comfortable and easy way and get the work done in it, then you can choose the method that best suits the type of project you are calculating and counting the quantities for.

When referring to the planning and management of a project or business, We talked about the necessity of estimating the time in which each is implemented The proposed activity (implementation of the schedule) and with them the development of details Construction budget in order to determine each of the technical activities Among other tasks proposed in the planning. In other words, we can specify that the management and layout of a file Project refers to the process of analysis and monitoring that allows us to do so Continuous evaluation of the outcome of implementation versus planning in in terms of costs, risks, scope and quality.

One of the components that will be worked on is the cost There are direct costs. When we refer to direct costs, we subtract Which is one of those resources that are part of the activities and have A direct relationship to the production of a good or the provision of a service. main reason who leads the project. For example: labor cost to implement project activities; The cost of materials consumed by the project and that become part of the final product; Cost of foreign service contracts Part of the project was contracted for example Indirect costs is Indirect costs that are part of the whole business Those who, as their name indicates, are a major percentage, but are not a major percentage Within project planning, these can be administrative; Such as Pay the salaries of the employees, the expenses of stationery and laboratory tests, and Some other expenses that can be called overhead.

METHODOLOGY

The methodology of this study was based on some of the questionnaires and interviews that were conducted and based on the analyzes with

- Engineers
- contractors
- Junior Engineers

The biggest advantage is that the planning of all parties involved in construction (architect, planner, factory engineer, installer, facility manager, etc.) is carried out in a common building model. In this way, many problems can already be identified and eliminated during the planning stage, which nowadays often only appear on the construction site or after the building has been completed.

Lifecycle by definition means: the cyclical course of a thing or person's existence.

Plan the buildings that the customer and therefore their long-term residents should have. That's why design, quality, costs and sustainability are taken into account from the planning stage.

Writing evaluated demonstrates that there is a connection between's the determination of a specific sort of building acquirement framework and the result of an undertaking. The result of a task (achievement or disappointment) was characterized as far as the achievement of client targets for example time, quality, time furthermore, other client necessities like strengthening, and so on It was seen that as no single structure obtainment framework is, consequently, reasonable for all projects yet that, toward the start of each task, different venture attributes must be considered prior to showing up at a reasonable building acquisition framework. Such determination of a structure acquirement framework affects the achievement or disappointment of a task. Writing evaluated additionally observed that development the board has worked on the accomplishment of specific client targets, especially as far as time and cost.

As these are significant client targets, it was presumed that development the board can for the most part work on the fulfillment of client targets on projects. It is, notwithstanding, vital to take note of that the writing obviously showed that development the executives was reasonable on all tasks certain activities were viewed as more reasonable than others.

RESULTS

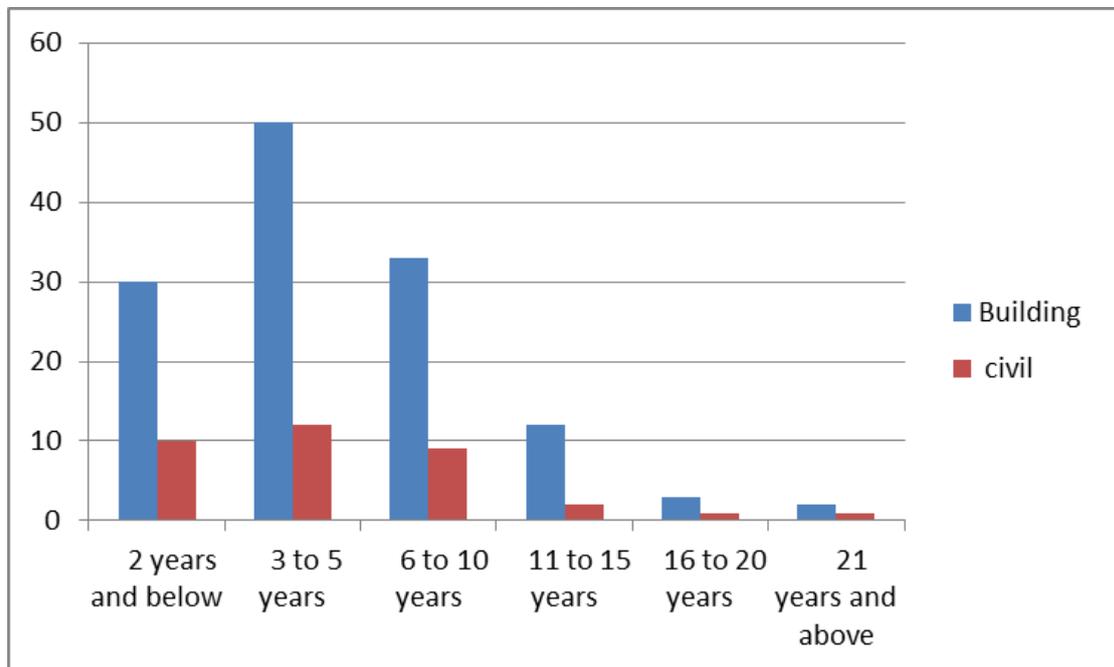


Figure 1- distribution according service of year

Table 1- Position of sample

Position	b	c
Top management ¹	40	9
Middle management ²	80	20
Lower management ³	20	6

Table 2- Regression result

Dependent variable	Model	B	Std. error	Sig.
Cost variance	Constant	3.816	0.246	0.000
	QMS variables	-0.059	0.055	0.284
Cost performance index	Constant	3.327	0.097	0.000
	QMS variables	0.004	0.022	0.842
Client satisfaction*	Constant	4.567	0.098	0.000
	QMS variables	0.178	0.022	0.000
Nonconformance report	Constant	5.206	0.184	0.000
	QMS variables	0.065	0.041	0.115
No. of accidents	Constant	5.114	0.044	0.000
	QMS variables	-0.032	0.010	0.301
Time variance*	Constant	3.503	0.221	0.000
	QMS variables	0.345	0.049	0.000
Fatalities	Constant	2.062	0.015	0.000
	QMS variables	-0.016	0.003	0.145

DISCUSSION

The majority of the organizations embrace quality administration to get intensity by further developing quality execution while development organizations carry out QMS to further develop their venture execution (time, cost, and quality). There are seven markers that have been utilized in this exploration to gauge project execution, including cost change, cost execution list, time fluctuation, nonconformance reports, client fulfillment, number of mishaps, and fatalities. Generally workers for hire will stress time, cost, and quality, however not a solitary one of them can demonstrate by and large undertaking execution.

As per the client design of a development organization, client (designer) will enlist and deal with the project workers to guarantee the nature of the final results before handover to end client. Moreover, clients will ordinarily list their prerequisites in point by point depictions in the agreement while granting the task to workers for hire. That implies client will have agenda and determination to assess project the board execution from different viewpoints which have been expressed in the agreement. Consequently, the client fulfillment might address the general venture execution. In this exploration, two venture execution markers (client fulfillment and time change) have shown critical positive relationship with QMS factors in relapse investigation. Simultaneously, both client fulfillment and time difference additionally delineated frail however critical relationship with QMS factors. That has made sense of why time is generally firmly connected with the estimation of clients' fulfillment in past investigations.

Detailed costing is a time consuming process. It is prepared when all construction project documents are completed. Creativity and knowledge are essential for preparing construction cost estimate. Different contractors use different processes, methods, and techniques during construction. Therefore, estimators need knowledge, creativity, and experience to successfully carry out the estimation task. Detailed cost estimation consists of two important steps: quantity estimation, also known as take-off quantity and pricing.

Equipment can be owned or rented. If owned, the cost is based on two components: the cost of ownership and the cost of operating. However, if rented, the cost depends on the cost of renting the equipment and whether it is rented by the hour, daily, weekly, monthly or annually. The quantity of materials offered and pricing can be calculated after all the necessary information has been collected. The quantity of material being offered should be calculated based on the drawings and specifications. The estimated quantity and the cost of labor, equipment, and materials are used to calculate the total cost of each work item.

CONCLUSION

In the construction industry, one of the main challenges is managing construction projects that have unique features and requirements. However, all projects have common elements: scope, schedule, and budget. Estimating construction costing is an essential skill for engineering firms and contractors because important project decisions depend on costs. The accuracy of cost estimates improves throughout the design phase, as the project is defined in more detail.

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