

# Quantity Surveying



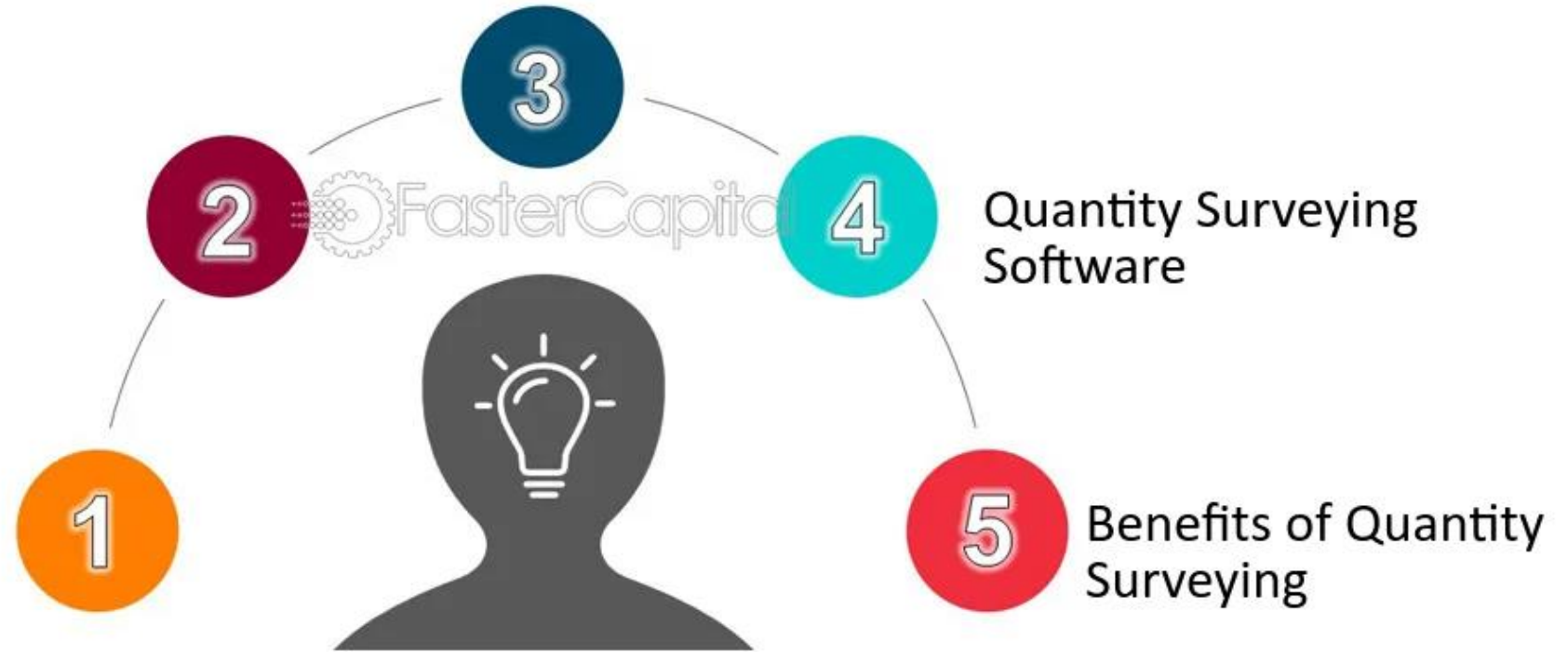
# Introduction to Quantity Survey

Skills Required for  
Quantity Surveying

The Role of Quantity  
Surveyors

Quantity Surveying  
Software

What is Quantity  
Surveying?



# Quantity Surveying

**Quantity surveying; is measuring the items which form a construction one by one and quantifying these items.**

In calculations, **distances, meters, volumes and weights** are measured by using **meters, meter square, meter cubic and tonnes, respectively.**

There is a direct relationship between the accuracy of the costs of the construction calculated based on quantity surveying and accuracy of quantity surveying. Therefore, it is required to know how to prepare quantity surveys properly.

**Inappropriate quantity survey >>> Inappropriate estimation of costs of construction**

# Role of Quantity Surveyors in Enhancing Accuracy

Preparing accurate cost estimates

Monitoring project costs



Value engineering

Managing contracts

# Estimate

## Estimate,

An estimate is **an educated guess**. We are all familiar with estimates.

We have obtained estimates

- \*for work on our car,

- \*for getting our house painted

- \*for closing costs on a mortgage.

The main difference between these simple estimating activities and the estimates used to price construction is complexity and what's at stake.

# TYPES OF ESTIMATE

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## Preliminary or approximate or abstract estimate

This type of estimate is required for preliminary studies of a project, to decide the financial position and policy for administrative sanction by the competent administrative authority.



The approximate estimate is prepared with the practical knowledge and cost of the similar works. This is also accompanied with a site plan or layout plan. A percentage of about 5% to 10% is added as contingencies.

## Plinth area estimate (P.A. estimate)

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This is prepared on the basis of plinth area of building, the rate being deducted from the cost of similar building having similar specification, heights and construction, in the locality.



Plinth area estimate is calculated by finding the plinth area of the building and multiplying by the plinth area rate.



## Cubic rate estimate

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This is prepared on the basis of the cubical contents of the building. The cube rate being deducted from the cost of the similar building having similar specifications and construction, in the locality.

This is calculated by finding the cubical content of the building (length x breadth x height) and multiplied it by the cube rate.



**Cube rate estimate is most accurate than to the plinth area estimate**



## Approximate quantity method

In this method approximate total length of work is found in running metre and this total length multiplied by the rate per running metre of wall gives a fairly accurate cost.



**For this method the plan or line plan of the structure should be available.**

## Detailed estimate

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Detailed estimate is an accurate estimate consists of the quantities of each item of works, and working the cost.

The dimensions, (length, breadth and height) of each item are taken out correctly from drawing and quantities of each item are calculated.

The detailed estimate is prepared in two stages.

- 1) Details of measurement and calculation of quantities
- 2) Abstract of estimate cost



## 1) Details of measurement and calculation of quantities

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The details of measurement of each item of work are taken out correctly from plan and drawings and quantities under each item are computed or calculated in a tabular form named as Details of Measurement Form (Table 1).

Table 1: Details of measurement form

Item No.	Description	Nos	Length (m)	Breadth (m)	Height or depth (m)	Content or Quantity

## 2) Abstract of estimate cost

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The cost of each item of work is calculated in a tabular form from the quantities already computed and total cost is worked out in abstract of estimate form (Table 2). The rates of different items of work are taken as per schedule of rates

Table 2: Abstract of estimate form

Item No.	Description or particulars	Quantity	Unit	Rate	Amount

## Supplementary estimate

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Supplementary estimate is a detailed estimate and is prepared **when additional works are required to supplement the original works, or when further developments is required during the progress of work.**

This is a fresh detailed estimate of the additional works in addition to the original estimate.

## Revised estimate

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Revised Estimate is detailed estimate and is prepared under any one of the following circumstances.

- I. When the original sanctioned estimate exceeds more than 5%.
- II. When the expenditure on a work exceeds of administrative sanction by more than 10%
- III. When there are material deviation from the original proposal, even though the cost may be met from the sanctioned amount.



The revised estimate should be accompanied by a comparative statement showing the variations of each item of works

**Thank You**