

Product Cost Estimating in Industrial Setting

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Introduction

Estimating costs is a common practice in the engineering field. The emphasis stays the same whether the expert is referred to as a cost estimator, cost engineer, cost analyst, labor estimator, or material planner. One will be asked to respond to the question, "How much will it cost?" Even though the goals for which this question is asked to differ, to find that enterprises, governments, and non-profit organizations all want timely and trustworthy economic measures. It is the engineer that appraises, analyses, forecasts, and compiles a pro forma document that includes everything from the basic cost elements to the estimate's bottom line. Other management personnel use this evaluation to make decisions about price, make versus purchase, return on investment (ROI), and the public fiscal-year budget. This historical path of cost estimation development is inextricably linked to industrial engineering. The original concept of a labor standard paved the way for the widespread use of standard cost plans in industry [1-5].

Description

Formal cost estimation began to take hold around 1900, as it was strongly linked to the growing manufacturing and building industries of the time. For many engineers, cost estimation is a long-standing task that they do on a daily basis. To make informed judgments, organizations of all sizes and types must produce cost estimates. More workers need cost estimating knowledge and abilities as a result of modern engineering processes, collaborative ideals, and total employee involvement. Because of the high demands of customers and worldwide competition, cost estimate operations must be completed swiftly and accurately. The following list explains the various sorts of cost estimates that businesses make on a regular basis.

New product cost

When considering new product concepts or improvements, precise cost estimates are required to assist management in making informed decisions. Material costs, processing expenses, fabrication costs, assembly costs, labor costs, and acquired components are all included in the detailed estimates. Estimates for tooling, dies, fixtures, inspection instruments, and other items are included in the processing, fabrication, and assembly costs. Capital equipment, space, and facility costs are other significant estimate areas. If it is decided to go through with the new product, the estimate will very certainly become the project budget. This type of estimate should be exceedingly complete, covering all requirements and expenditures from the beginning to the end of the project's life cycle. Product life has been extended to cover the recycling and disposal of the product and its components in recent years. It's not uncommon for businesses to determine the market selling price first, then work backward

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to see how much cost may be absorbed by various departments. Costs must be restricted within each organizational area to the maximum extent possible.

Selling price determination

These calculations can be used in two ways. Estimates are first utilized to calculate the selling price. The cost to create, market, and deliver is determined by the estimate. Then, to determine a selling price, a profit margin can be included. To enter an existing market, work backward from the competitive selling price to assess whether creating the product is appropriate.

Equipment and technology acquisition

Companies routinely make decisions to replace or supplement existing resources by purchasing new equipment, software, or whole systems. Often, this entails weighing the pros and cons of new technology and/or switching from manual to automated processes. It's not easy to come up with realistic cost estimates for new and unknown places.

Conclusion

Temporary work standards and cost control

Cost estimates are used by some businesses, particularly job shops, as a means of cost control. The size of the lot varies, although it is usually tiny, and practically every task is unique. Job shops rarely adopt work standards to assist determine prices for these and other reasons. If management decides to go through with the new product, the detailed estimate will almost certainly become the project budget. Because the goal is to see if the job can be done more profitably and less expensively than the competition, these estimates should not be regarded temporary work standards. Estimates are used as temporary work standards by flow-shop companies that produce high-volume items. Hopefully, precise time studies, job sampling, or fixed time standards will be used to replace these temporary standards as soon as possible.

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