



## Concept of Business Cost Modeling In New Age

Nirmal Kumar Mishra, School Of Business, Sushant University, Gurugram, India  
[nirmalmishra.phd20@sushantuniversity.edu.in](mailto:nirmalmishra.phd20@sushantuniversity.edu.in)

### Abstract

Business cost modelling involves creating a framework to analyse and understand the costs associated with various aspects of a business. It helps in making informed decisions, evaluating profitability, optimizing operations, and identifying areas for cost reduction. Business cost model creation has multiple steps and components including categorizing cost, cost data collection, cost allocation, cost driver analysis that leads to cost model development. Tweaking the cost model based on scenario analysis and monitoring for relevance are further final steps to make sure it helps in decision making and utilized.

It's very important to note that a Cost model is a tool that helps analyse and understand costs. It should be flexible and adaptable to changing business situations. Regularly reassessing and refining cost model to ensure it provides meaningful insights and supports effective cost management in an organization is also important.

**Keywords:** Cost Categories, Cost Drivers, Cost Allocation, Cost Model

### INTRODUCTION

A business cost model (Sower, Chris & Sower, Victor. 2009) is a framework or representation used by businesses to analyse and understand the costs associated with their operations, products, or services. It provides insights into cost structures, cost drivers, and cost allocation, which helps businesses make informed decisions about pricing, resource allocation, and cost optimization. A well-designed cost model can contribute to effective cost management and improved profitability.

Key components and features of a business cost model are Cost Categorization (Direct, Indirect, Sales, Admin costs, etc), Cost Drivers (factors influencing the cost), Allocation of Costs (as per products, services, projects, etc), Preparing cost model (based on techniques like Standard Costing, Absorption costing, etc), Data Collection (from sources like vendor pricing contracts, financial ledgers & books and other sources available), Analysis of data for relevance, tweaking the Cost Model based on updates and changes and finally Utilizing the model for overall cost management (Faria, B. C., Vale, J. W. S. P. et al., 2020).

In this paper, we will take example of Steel Investment castings and discuss the concepts of Business cost modelling.

### BUILDING A COST MODEL

#### Cost Categories

Start by identifying the major cost categories relevant to your business. These may include direct costs (e.g., materials, labor), indirect costs (e.g., overhead expenses, utilities), marketing and sales costs, administrative costs, research and development costs, and any other cost areas specific to your industry or business.

#### Cost Drivers

Determine the factors that influence costs within each cost category. For example, in the case of labor costs, the number of employees, their salaries, and productivity levels may be the key drivers. Understanding cost drivers helps identify the variables that have the most significant impact on costs.

#### Cost Allocation

Allocate costs to specific cost objects, such as products, services, projects, or departments. This step helps understand the cost structure and profitability of individual components of the business.

#### Cost Modeling Techniques

Select appropriate costing methods or techniques for each cost category. This may include



activity-based costing (ABC) (Ben-Arieh & Qian, 2003; Niazi et al., 2006), absorption costing, standard costing, or other suitable approaches.

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### **Data Collection**

Gather accurate and up-to-date data related to each cost category. This can involve reviewing financial records, invoices, payroll data, supplier contracts, and other relevant sources.

### **Scenario Analysis**

Perform scenario analysis to understand how changes in various factors can affect costs. This can include evaluating the impact of changes in production volume, labor rates, material prices, or process efficiencies.

### **Sensitivity Analysis**

Conduct sensitivity analysis to assess the sensitivity of costs to changes in key cost drivers. This helps identify areas where small changes can have a significant impact on overall costs.

### **Cost Optimization Strategies**

Use the cost model to identify cost reduction opportunities and optimize resource allocation. This can involve streamlining operations, eliminating waste, negotiating better supplier contracts, and making informed decisions about investments.

### **Continuous Monitoring and Review**

Regularly monitor and review the cost model to ensure it remains accurate and relevant. Update the cost data regularly and refine the model as new information or changes occur in the business environment.

### **Decision-making**

Utilize the cost model to support decision-making processes. This can involve evaluating the profitability of products or services, assessing the impact of pricing changes, identifying cost reduction opportunities, or analyzing the feasibility of new projects or investments.

### **Integration with Financial Planning**

Integrate the cost model with financial planning and budgeting processes to align cost management with overall business goals and objectives.

A well-developed cost model can provide valuable insights into the cost structure of a business, facilitate informed decision-making, and contribute to sustainable business growth and profitability.

Cost Models in new age are a mix of Direct & Indirect Costs as well as not limited by a single Costing technique. For example, activity based costing . (Ben-Arieh & Qian, 2003; Niazi et al., 2006), standard costing and other techniques can be brought in a single model.

### **BUSINESS COST MODEL**

Here is a proposal of Cost Model for products that can be referred by businesses based on the building blocks of cost modeling summarized above.

There are Six (6) major Cost Categories and Cost Drivers are summarized under each of them. The model is self-explanatory.

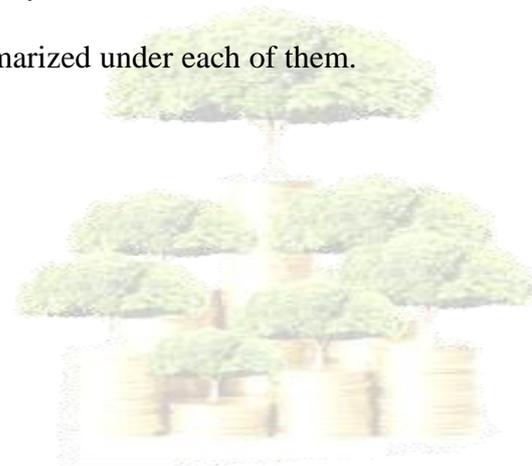
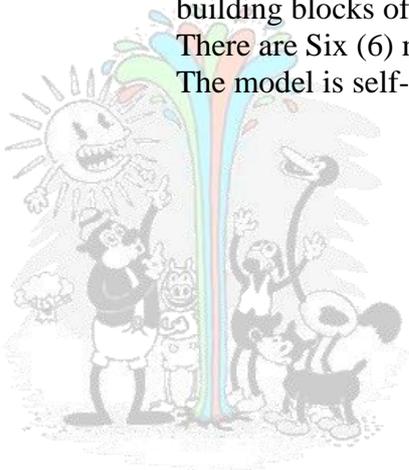




Figure 1: Business Cost Model

**ILLUSTRATION OF BUSINESS COST MODEL: STEEL INVESTMENT CASTING**

Investment casting (Mandolini et al., 2020) is a metal forming process based on lost-wax casting and is one of the oldest known processes of casting steel.

Illustrated here is the Business cost model of a Investment Casting Component.



Figure 2: Investment Casting Business Cost Model



## CONCLUSION

Business Cost Modeling is the process or technique of preparing a framework or architecture or model to analyze and study the costing of a product or service. Cost models are built on the basis of Cost categories and the associated cost drivers. Allocating the costs to the cost drivers and elements allows businesses to arrive at the correct cost of products and services. Cost modeling helps in managing the cost and planning the expenses. It also facilitates decisions making.

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