


Costing Techniques



No purchasing professional can afford to be unaware of the various cost accounting approaches (Lysons and Farrington, 2006)



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Introduction

Costing techniques are 'cost down' tools (Hughes et al., 2011), which can refer to a range of methods. Different costing techniques emerged as alternatives to traditional accounting methods in which indirect costs (e.g. lighting, heating, marketing) were allocated in proportion to an activity's direct costs. This became unsatisfactory because two activities that absorb the same direct costs can use very different amounts of overhead. For example, a mass-produced industrial robot and a customised robot would require the same amount of labour and materials, but the latter would use much more R&D, patent and other intellectual property resources than the former (The Economist, 2009).

The most commonly used costing techniques are whole-life costing (WLC, sometimes referred to as Life-cycle costing) and Activity-based costing (ABC). WLC is concerned with the maintenance of physical asset cost records over entire asset lives. It is used to ensure that decisions on the acquisition use or disposal of assets are made in a way that achieves the optimum asset usage at the lowest possible cost to the entity. The method may be applied to the profiling of cost over a product's life, including the pre-production stage (CIMA, 2005). WLC is considered to be the best practice tool for evaluating options for substantial procurement (CIPS: Whole life costing). ABC is a "method of assigning costs to products or services based on the resources that they consume" (The Economist, 2009). The method was simplified in 2007, when the attempt was made to relate the measurement of cost to time. The updated technique is known as TDABC (time-driven activity-based costing).

Target costing and absorption costing are among other well-used costing techniques. The former is a "product cost estimate derived from a competitive market price ... used to reduce costs through continuous improvement and replacement of technologies and processes" (CIMA, 1991). Absorption costing is defined as the "principle whereby fixed, as well as variable costs, are allotted to cost units and total overheads are absorbed according to activity level" (CIMA, 1991).

Definition

Costing techniques are methods for ascertaining cost-for-cost control and decision-making purposes. They can be applied to make-or-buy decisions, negotiation, price appraisal and assessing purchasing performance (Lysons & Farrington, 2006).

Successful Application

Different costing techniques require different implementation approaches. As an example, the application of ABC as a costing method requires four main stages: (1) initiation and adoption, (2) design, (3) implementation, and (4) use of information (Arnaboldi and Lapsley, 2005).

Steps to Successful Application

- Map and identify activities.
- Define resources and the costs of each activity.
- Identify activity drivers.
- Select activities and drivers which will constitute the operational system.

Arnaboldi and Lapsley (2005)

Hints and Tips

- Top management support is crucial for the development and implementation of costing techniques (Arnaboldi and Lapsley, 2005).
- WLC is most appropriate for high value and high risk procurements (CIPS: Whole life costing).
- ABC is best suited in situations where the competition is strong, the product mix is diverse, and product life-cycle is short (up to three years) (Burch, 1994; CIPS: Activity based costing).
- Large firms should develop and test a pilot scheme before implementing ABS system throughout their organisation (The Economist, 2009).
- Undertaking WLC may require extensive research and involvement of suppliers (CIPS: Whole life costing).

Potential Advantages

- The WLC method can be applied to the majority of equipment purchasing and leasing decisions (CIPS: Whole life costing).
- WLC techniques bring increased awareness of total costs and provide buyers and decision-makers with increased knowledge of the factors affecting cost and the resources associated with a purchase (CIPS: Whole life costing).
- The ABC method helps to monitor the procurement function by regarding it as an activity centre where all purchasing activity related cost pools are aggregated. ABC provides data on drivers and rates allowing for comparisons to be made across functions and with potential external suppliers (CIPS: Activity based costing).

Potential Disadvantages

- WLC can be challenging as different cost considerations can arise at different stages of a product's life-cycle (e.g. initial product design, development costs, marketing, advertising, product redesign, product replacement) (CIPS: Whole life costing).
- Introducing activity-based costing can be challenging, as all business activities must be broken down into their discrete components (The Economist, 2009).
- The initial popularity of the ABS costing technique quickly stagnated, as many companies found it difficult to apply theory to practice. Many companies were not prepared to give up their traditional cost-control mechanisms in favour of ABC (The Economist, 2011).

Case Studies

- Boeing Commercial Airplane Group Wichita, a cost centre plant of the world's largest manufacturer of commercial airplanes, implemented ABC to achieve a 20% reduction in the amount of parts needing to be reworked. The company achieved US\$900,000 per year in rework costs and a significant reduction in overtime hours (Labour Aerospace Research Agenda, 2001).
- AIRCO, an air-conditioning unit manufacturer implemented ABC to overcome the shortcomings of its traditional cost accounting method. ABC revealed that three out of seven products manufactured were losing money at current sales prices (Nachtmann and Al-Rifai, 2004).
- IBM developed and implemented a fully automated ABC system for the State of California's Department of Motor Vehicles, which now accounts for personnel activity and overhead

costs. This helps to ensure that limited resources are used in the most effective and efficient manner (IBM, 2007).

Further Reading/Reference

Web Resources

- Resources on costing techniques provided by the Chartered Institute of Management Accountants (CIMA) <http://www.cimaglobal.com/>
- Costing Methods In Manufacturing
<http://www.referenceforbusiness.com/encyclopedia/Cos-Des/Costing-Methods-Manufacturing.html>
- Rethinking ABC by Robert Kaplan and Steven Anderson
<http://hbswk.hbs.edu/item/4587.html>
- The Importance of Using Efficient Cost Accounting Techniques
<http://www.accountant-search.com/cost-accounting-techniques.html>

Books

- Handbook of Management, Lock & Farrow, ISBN 978-0566079382
- Purchasing and Supply Chain Management, Lysons & Farrington, ISBN 978-0273694380
- Strategic Procurement, Booth, ISBN 978-0749460228
- Procurement Principles & Management, Baily, Farmer, Crocker, Jessop & Jones, ISBN 978-0273713791
- Cost and Effect, Kaplan & Cooper, ISBN 978-0875847887

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Video

ABC costing

https://www.youtube.com/watch?v=0fO40ZsVNqM&feature=player_embedded

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