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Problems evaluating sales representative performance? Try activity-based costing

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Abstract

Activity-based costing (ABC) offers a way to improve performance evaluation by providing estimates of the cost of satisfying sales terms to which a sales representative may agree, such as number of batches in which an order is produced and number of training hours provided to customer employees. It also provides estimates of the cost of resources that a sales representative may use while engaging in marketing activities, such as making sales calls and attending trade shows. Traditional costing, which assumes that costs only vary at the unit level, does not provide estimates of the costs of many of these terms and activities.

Keywords: Activity-based costing; Activity-based management; Marketing management; Sales management; Performance evaluation

1. Introduction

Is the compensation of your sales representatives growing rapidly while your profit declines? Are your marketing costs increasing while sales remain unchanged? Do you feel that the cost estimates provided by your accounting system are not helpful to you as you evaluate sales representative performance?

If the answers to these questions are "yes," activity-based costing (ABC), a relatively new type of costing system, which analyzes a company's costs differently than does a traditional costing system, may provide the answers to these and other important concerns facing you in your role as marketing manager.

Although ABC is frequently thought of in the context of manufacturing cost [1–4], it has the potential to provide cost data to facilitate decision making for decisions well beyond those related to the manufacture of a product [5]. The present paper describes ways in which ABC can facilitate managing the marketing function. Specifically, it explores the potential of ABC to enhance performance evaluation for sales representatives.

Understanding ABC and how it can facilitate decision making is important to a marketing manager for two reasons. First, a change to an ABC system provides the potential for the accounting department to provide cost data for more informed decision-making. However, it is up to the marketing manager to ask for this data and to understand what it means and how it can help. Second, initiatives to change accounting systems should come from those who use the figures provided by the system. An appreciation for the potential benefits of an ABC system may suggest to the marketing manager that a change to an ABC system will be desirable. In this case, the marketing function can join with other users who may benefit from ABC cost data to push for a change.

Section 2 contrasts the types of data available from an ABC system with that available from a traditional costing system with an emphasis on those features that can assist the marketing manager in managing the marketing function. ABC data can assist the marketing manager by providing a more appropriate measure of a sales representative's output to use in evaluating the performance of and determining appropriate rewards for individual sales representatives. It can do this by providing estimates of the costs of features of an order that a sales representative may negotiate. A traditional costing system does not provide such estimates. Separate sections of the paper demonstrate how ABC data

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reflect (1) the impact of terms negotiated by a sales representative and (2) resources used by sales representatives on firm cost and profitability. The concluding section of the paper provides a summary.

2. ABC versus traditional costing

The important distinctions between ABC and traditional costing can be divided into issues of cost behavior and issues of cost assignment. This section briefly reviews these distinctions using manufacturing cost examples. Later sections expand this discussion to customer service costs and marketing costs.

When applied in manufacturing, differences between ABC and traditional costing are related to the handling of manufacturing overhead (all production-related costs that are not direct materials or direct labor).

Traditional costing divides costs into those that vary with some measure of volume, "variable costs," and those that do not vary, "fixed costs." For manufacturing overhead, the volume measure used is units produced or one that varies with units produced, such as direct labor hours (DLHs) worked or machine hours worked.

GMI, a hypothetical firm that manufactures products to customer specifications, provides an illustration. A portion of GMI's manufacturing overhead increases at the rate of US$4.65/DLH. Therefore, GMI's variable manufacturing overhead is US$4.65/DLH. Most of the costs that make up GMI's manufacturing overhead, such as the depreciation cost on the manufacturing facility, the cost of retooling a machine for a new production run, and the cost of redesigning a product, do not vary with volume. At GMI, the total of these fixed manufacturing overhead costs is US$11,610,000.

Unlike traditional costing, ABC recognizes that some costs that do not vary with a volume measure such as DLHs do vary with other measures. In ABC, the activities that cause a cost to be incurred or the measures with which a cost varies are called cost drivers. ABC categorizes drivers by unit-, batch-, and product-level activities. Unit-level activities are those activities that are performed on every unit of product. Examples of unit-level manufacturing activities are machining products, assembling products, and inspecting products. Batch-level activities are performed on a group of units and usually include activities such as machine set-up and material handling. Product-level activities are tasks that relate to a specific product in its entirety and can include design re-engineering, product design testing, and parts administration.

As in traditional costing, there are some costs that do not vary with unit-, batch-, or product-level cost drivers. These costs are called facility-level costs. They include costs such as depreciation on equipment and property taxes on facilities, as well as costs associated with such activities as factory security, custodial maintenance, and grounds maintenance [6].

Table 1
Unit-, batch-, and product-level activities at GMI

Activity	Level	Cost driver	Rate
Power usage	Unit	Machine hours (MH)	US$1.10/MH
Inspection	Unit	Units	US$2.10/unit
Machine setup	Batch	Number of setups	US$750.00/setup
Materials handling	Batch	Moves	US$210.00/move
Parts administration	Product	Number of new parts	US$1000.00/new part
Product engineering	Product	Engineering hours (EH)	US$31.00/EH

GMI identified seven activities: power usage, inspection, machine setup, materials handling, parts administration, product engineering, and providing space. The cost driver and cost per unit of cost driver for each unit-, batch-, and product-level activity are shown in Table 1. The cost per unit of cost driver for each of these activities represents the increase in total manufacturing cost GMI expects for each unit increase in the activity's cost driver.

Providing space is a facility-level activity. An analysis by GMI's accountants indicates that the total cost of providing space is US$6,930,000. This cost behaves like the traditional costing fixed cost.

Assigning fixed manufacturing overhead and the cost of facility-level activities to units creates a challenge because these costs do not vary at the unit level. Therefore, these costs are allocated to units.[1]

Because their variable manufacturing overhead varies with DLHs, GMI allocates fixed manufacturing overhead to units using a rate based on DLHs. GMI anticipates that 600,000 DLHs will be worked during the year. This yields a fixed manufacturing overhead rate of US$19.35/DLH (US$11,610,000/600,000 DLH). When combined with GMI's variable manufacturing overhead rate of US$4.65, this yields a total manufacturing overhead rate of US$24/DLH. The top portion of Table 2 illustrates the computation of the cost for Job #IM939 using this overhead rate.

The bottom part of Table 2 illustrates computation of the cost of Job #IM939 if GMI uses ABC. The direct material and direct labor costs of the job are the same as when a single overhead rate based on DLHs is used. The difference is in the assignment of overhead. Now the cost of each unit-, batch-, and product-level activity is assigned to the job based on the job's use of that activity.

At GMI, the cost of the facility-level activity is allocated using a rate based on units. Because GMI plans to produce 700,000 units, their allocation rate for providing space is US$9.90/unit (US$6,930,000/700,000 units).

As indicated in Table 2, the traditional costing system results in a higher cost assignment of US$7094 (US$55,500–

[1] For a more detailed discussion of overhead cost assignment issues, see Ref. [2].