
WHITE PAPER I

Throw Out Fixed And Variable
Cost Thinking—

Bring In Activity-Based
Costing For Distribution
Decisions

ROGER K. HARVEY, D.B.A.

Dr. Roger K. Harvey is President of Value Associates, Ltd., P.O. Box 1156, 564 Graceland, Carbondale, CO 81623. Phone: 970/963-1444. E-Mail: rharvey_2@yahoo.com. Value Associates, Ltd. offers consulting services and educational programs on Activity-Based Costing, Customer Profitability Analysis, computer-based financial planning, and wholesale-distribution financial management.

Copyright © by Value Associates, Ltd. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior written permission of the copyright owner. Making copies of any part of this publication for any purpose other than personal use is a violation of the United States copyright laws.

Throw Out Fixed and Variable Cost Thinking— Bring In Activity-Based Costing for Distribution Decisions¹

By

Roger K. Harvey, D.B.A.

Consider the following scenario raised by John Shank, Professor of Accounting, Dartmouth College: “Suppose an airline has an empty seat on a flight leaving in one hour. Isn’t the contribution approach (i.e., covering variable costs and ‘contributing’ something to fixed costs) appropriate for pricing that seat?”

For distributors, the question takes many forms:

“Shouldn’t we bid on that direct sale at a 3% margin ... most of it goes to the bottom-line?”

“Shouldn’t we under-bid on the systems contract ... the big gross profit dollars on the contract contribute to ‘fixed’ overhead?”

“Shouldn’t we price it at ‘X’ dollars ... that will cover our variable costs?”

“Shouldn’t we forgo the delivery charge...we’re driving by their location anyway?”

“Shouldn’t we pick up their new line ... we’re already carrying their other lines?”

How do you answer these questions in your daily decision making? Professor Shank answered his airline question this way:

I understand as well as you the sense in which that extra seat is free. What I have said is that for my 25 years of experience, the mindset that will sell that seat for \$50 because it is free destroys companies. We have created the mindset that profit at that level is real profit.²

I suggest it could also destroy industries—possibly the distribution industry. To continue the story ... “the airline sells the seat for \$50 and the “smart” passenger sits next to you. Her “discount price” of \$50 comes up in the course of the conversation; you, the business traveler, paid \$300 for your seat. The next time you fly you hold out for the “discount price” of \$50 and sit next to another business traveler. You mention the \$50 fare to your seat mate—a full-fare business traveler. You notice your old seat mate is sitting across the aisle talking to another business traveler. You overhear the word ‘\$50.’”

¹ This article was inspired by Tony Hope and Jeremy Hope’s book *Tony Hope and Jeremy Hope, Transforming the Bottom Line – Managing Performance with the Real Numbers*, (Boston, MA: Harvard Business School, 1996).

² John Shank, *Contribution Margin Analysis: No Longer Relevant/Strategic Cost Management: The New Paradigm*, *Journal of Management Accounting Research* 2, Fall 1990, p. 28.

It doesn't take long for the word to get around that seats are \$50 and only dummies pay full price. With more seats selling at \$50 than \$300, what is the contribution of the flight to fixed costs? Look what fixed cost/variable cost thinking has done to the airline industry, paper manufacturing industry, trucking industry, to mention only a few. It could happen to our industry.

It's time to throw out fixed cost/variable cost thinking in distribution decision making. The history behind the fixed cost/variable cost distinction is traditional cost accounting systems for manufacturing companies—systems developed in the first half of the twentieth century. Costs were classified as either *variable* because they were thought to vary with volume or *fixed* because they didn't vary with volume. When an argument ensued between accountants and managers about a cost being fixed or variable, a compromise was to call it a *semi-variable* or *semi-fixed cost*. Why quibble over whether a cost is fixed or variable when the cost system that raises such questions only leads to poor strategic decisions?

In several articles and books on the subject, Robert Kaplan and Robin Cooper recommend using the *Rule of One*:

If only one person (or one machine) exists in a department, it can be considered a fixed expense. But when more than one unit of a resource exists in a department, it must be a variable resource. Something is creating a demand for the output from that department, and more than one unit of resource is required to satisfy that demand.³

Today isn't in the first half of the twentieth century and our industry isn't manufacturing. It's time to stop "out-dumbing" our competitors and ourselves by answering **YES** to the questions raised in the opening paragraphs of this article. Fixed cost/variable cost thinking has no place in distribution decision-making. The reason why is *customer driven costs*.

CUSTOMER DRIVEN COSTS

As a distributor, your costs are far more driven by customer demands than they are by volume. Your pre-sale costs to earn the order are driven by preparation, visits, demonstrations, bids, quotes, follow-up, geography, etc.—customer demands. Your purchase costs to acquire products are driven by lines carried, lead-times, inventory levels, I/S costs, fill rates, etc.—customer and vendor requirements. Your storage and handling costs are driven by order size, standard/special order type, automation, product characteristics, packaging, inventory requirements, etc.—customer and vendor behavior. Delivery costs are driven by geography, distance, traffic congestion, equipment, etc.—customer requirements. After-sale costs are driven by returns, training, warranties, repairs, etc.—customer requirements.

Rather than think about costs as being either fixed or variable, think about costs as associated with the activities you do for customers. Take the delivery activity for example. If you think in terms of fixed costs/variable costs, truck leasing expense is

³ Robin Cooper and Robert S. Kaplan, *The Design of Cost Management Systems*, (Englewood Cliffs, N. J.: Prentice-Hall International, 1991), p. 294.

fixed, the driver's salary is fixed, the truck maintenance contract is fixed, taxes and licenses are fixed, and in the situation that we'll describe next, even fuel is a fixed cost. With this mindset, you should deliver, without charge, a \$10 carton of paper to a new customer located across the street from an existing customer. The \$2.00 gross profit you earn on the delivered carton contributes to your fixed costs. Wow, what logic!

In the same situation, if you outsourced delivery, you wouldn't think fixed cost/variable costs—you would think direct or out-of-pocket costs. If your carrier charged you \$10 for the drop, you wouldn't accept a \$2.00 gross profit order without a delivery charge.

Note: if the common carrier to whom you outsourced the delivery used fixed cost/variable cost, they would charge you almost nothing to make your delivery because you are a new customer and they drive by your customer's location anyway. Try this logic on UPS the next time you negotiate an outsourcing contract.

Let's look at a better way of thinking—an approach to gathering cost data in a distribution business that leads to better strategic decision making.

ACTIVITY-BASED COSTING

Activity-Based Costing (ABC) approaches the problem of accounting for costs from a perspective that is totally different from a fixed cost/variable cost classification scheme. ABC tries to give you a clearer picture of your costs of doing business, first, by identifying *activities* in your business and the resource costs associated with them and, second, assigning those activities to objects such as customers, products, or processes.⁴ Examples of “activities” in a distribution business are: ordering products from vendors, receiving products, selling products, taking orders, and delivering products. Resources are people, technology, equipment, supplies and money, and the costs associated with them. Customers, products, and processes consume resources and, therefore, incur their costs. ABC assigns (not allocates) costs to these objects based on their rate of consuming activities.⁵

Let's return to the delivery example. ABC has you identify all resources and their associated costs that go into your delivery activity. It doesn't matter if a cost is fixed (e.g., truck lease) or variable (e.g., fuel), it is assigned to a delivery cost pool. If the warehouse supervisor spent 20% of her time scheduling deliveries, 20% of her compensation is assigned to the delivery cost pool. Notice that activity costs cut-across traditional distribution functions so resource costs assigned to delivery might come from the warehouse, office, administrative, or from wherever the resource originates. Also,

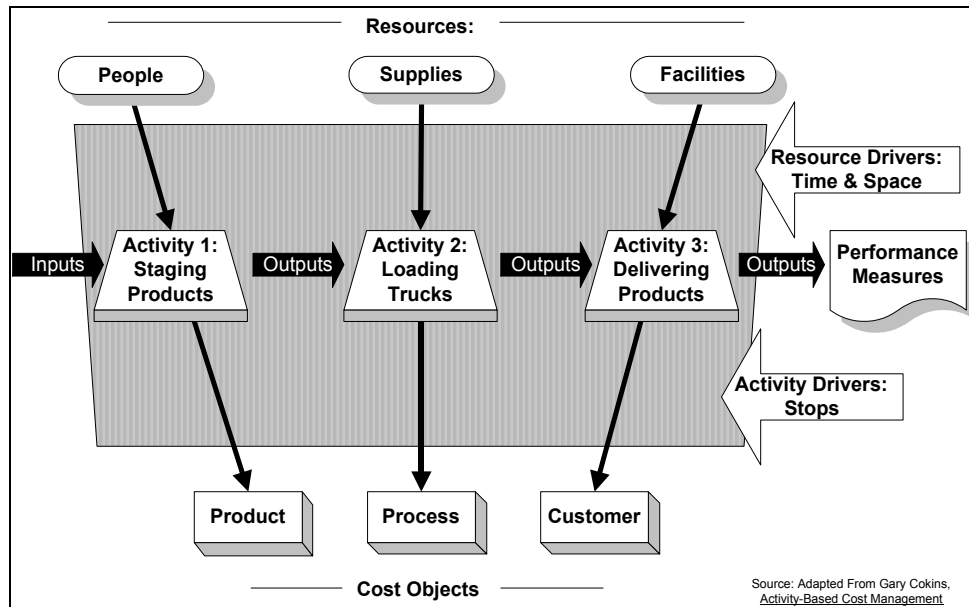
⁴ Tony Hope and Jeremy Hope, *Transforming the Bottom Line – Managing Performance with the Real Numbers*, p. 119.

⁵ ABC accounting links together activities with a common purpose into “processes,” such as the processes of selling products and services, order taking and fulfillment, obtaining products, and managing inventories and deliveries. A typical process cuts across several traditional distributor functions. For example, the process “order taking and fulfillment” involves activities within the inside sales, warehouse, and delivery functions. “Business Process Analysis” then analyzes and re-engineers the process in order to reduce costs by eliminating unnecessary tasks, streamlining operations, and outsourcing inefficient activities.

notice it doesn't matter where in the General Ledger the expense is recorded. We map it to the activity cost pool that consumes the resource.

After all the costs identified with an activity are totaled, they are assigned to customers, products, or processes based on an "activity unit." An activity unit, sometimes called a "cost driver," is the usually the output unit that the activity produces. The output unit for the delivery activity is a stop or drop. Each customer is assigned a delivery cost based on how many activity units they consume (i.e., deliveries or stops they receive).

Exhibit I graphically illustrates the elements of an ABC system:



ABC identifies and assigns costs not based on their perceived behavior (fixed or variable), but rather based on what activities cause them and who consumes those activities. ABC recognizes that we as distributors do what we do—perform activities—to meet customer demands. We provide value-added services that require value-added activities and those activities consume costly resources. From there, it is a matter of assigning costs to customers if we are engaged in customer profitability analysis, to vendors if we are doing product-line profitability analysis, or to processes if we are trying to reengineer costs out of our business or out of the entire distribution channel.

CONCLUSION

We as distributors need cost information not to track the cost of manufacturing operations, but to make strategic management decisions—decisions on pricing, unbundling value-added services, customer profitability, vendor profitability, and automating processes. If we approach these decisions with a fixed cost/variable cost mindset, we will be flying by the same dumb decision-making rules that the airlines use every day. ABC offers us a new mindset—one which starts with customer requirements and ends with the "cost to serve" those needs. Let's adopt the ABC approach to strategic

cost management as our tool for decision-making and throw out fixed cost/variable cost thinking.

ADDITIONAL SOURCES OF INFORMATION

This article is meant to suggest a new way of thinking about costs in distribution management. To learn more about ABC methodology, you may wish to consult the following articles and books:

Roger K. Harvey, *The ABC's of Activity-Based Cost Accounting for a Distribution Business*—White Paper #2. Available at no charge from Value Associates, Ltd., PO Box 1556, 564 Graceland, Carbondale, CO 81623. Voice: 970-963-1444; Fax: 970-704-9740; E-Mail: rharvey_2@yahoo.com .

Roger K. Harvey & Peter L. Mullins, *Implementing Activity-Based Cost Accounting, Customer Profitability, and Product-Line Analysis in a Distribution Business*—White Paper #3. Available at no charge from Value Associates, Ltd.

Roger K. Harvey, *Activity Accounting and Customer Profitability Analysis for Distributors*, 1994, Value Associates, Ltd., Voice: 970-963-1444, Fax: 970-704-9740. (Updated version of the book to be published in 1997.)

Peter L. Mullins, *Measuring Customer and Product Line Profitability: Beyond Turn & Earn*, 1984. Available from Value Associates, Ltd., Voice: 970-963-1444, Fax: 970-704-9740. (Updated version of the book to be published in 1997.)

Tom Pryor & Julie Sahn, *Using Activity Based Management for Continuous Improvement*, 1996, ICMS, Inc., Voice: 817-633-2873.