The ABCs of Customer Profitability: Insights from the PAPER Industry in Florida

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ABSTRACT

The accuracy of customer profitability analysis is a fundamental prerequisite for financial management decisions such as pricing, growth strategies, and sales initiatives. Small and mid-sized firms tend to utilize rules of thumb based upon gross profit computations rather than more robust activity based costing models. This paper profiles the findings of an ABC analysis in major distributors of the paper industry, using two from Florida to model cost behavior. The results show the fallacy of using too simplistic of costing assumptions, and lay the foundation for how other firms may adopt more robust costing models.

INTRODUCTION

Estimating the profitability of customers is a crucial exercise when setting the sales, marketing, and customer service strategies of an organization. While large publicly traded corporations are known to take great pains in applying complex costing models to assess their customer base, few regional and closely-held companies are thought to put forth the effort. Rather, they often rely on *rules of thumb* derived from years of experience in their industry as well as in their own organization.

Most managers dealing with customer sales have a basic understanding of the now ubiquitous 80/20 rule of profitability – 20 percent of customers drive 80 percent of a typical firm's profits. Within the US, supply chain researchers in a multitude of industries have found that:

1. a small percentage of *angel*[1] customers are highly profitable,
2. the majority of customers are minimally profitable, and
3. a small percentage of *demon*[1] customers actually destroy profitability through their relationship with the organization.

So how does an organization without a specialized costing model categorize its customers?

Often these firms rely upon the *gross profit* supposition to estimate customer profitability. While there are several variations of this assumption, the two most popular beliefs also are the simplest: (a) the more *overall* gross profit dollars a customer generates from his orders, the more profitable the customer is to the organization, or (b) the more *average* gross profit dollars per order a customer generates, the more profitable the customer is to the organization. In addition to simplicity and low cost, the positive aspect of a gross profit assumption is that it is relatively accurate for a majority of customers. However, the negative of this approach is that it can lull the organization into a false sense of security in its ability to identify the profitability of its customers. The problem with profit-eating *demon* customers is that they often masquerade as profit-generating *angel* customers wearing gross profit costumes.

Can activity based costing be accomplished in a small organization?

Activity-based costing (ABC) is a strategy implemented by an organization to accurately identify the true profitability of its customers; this approach also may be applied when determining the profitability of other key variables such as product lines and geographic segments. When analyzing customer profitability, ABC is able to identify both direct and indirect activities that are incurred servicing a given customer. Thus, ABC allows its users to assign a more accurate cost of service estimate to each customer. ABC is an essential management instrument used predominantly in making strategic managerial decisions such as pricing, outsourcing, and process improvement opportunities. At present, every Fortune 1000 organization utilizes some form of ABC. To illustrate, consider the following scenario:

Customer A has been a customer of your organization since 2002. On a quarterly average, she generates sales of $12,000 and gross profit of $2,000. She responds well to quarterly sales initiatives, bunching her orders around quarterly end dates.

Customer B has been a customer of your organization since 1990. On a quarterly average, he generates sales of $13,100 and gross profit of $2,200. He tends not to respond to sales initiatives, instead planning orders based upon his own organization's retail traffic pattern.

Which customer is the profit-generating *angel* and which is the profit-destroying *demon*? Based upon the customary gross profit methodology, there is frankly no way of knowing. Both customers appear to be quite profitable and loyal in their relationship with the organization. Now consider the following additional information, generated from an ABC analysis:

Customer A generally orders products that you routinely carry in stock in case quantities. She places most of her orders through your organization's website. During the last quarter, she placed four orders and made one merchandise return. She called your customer service department twice to resolve a shipping problem, thus absorbing 15 minutes of call time. Her sales consultant visits her company twice yearly to explain new product updates and generally service her account.

Customer B generally orders half of his products from stock that you routinely carry in case quantities and half from between 10 and 12 specialty product lines that you must order as specific items. He places most of his orders through your organization's call center and at least monthly calls his sales consultant directly to negotiate larger merchandise purchases. During the last quarter, he placed 45 orders and made 16 merchandise returns. He called your customer service department eight times to resolve a multitude of issues, including checking the status of three backorders, inquiring about color selections, and to alter his previous day's order four times, thus absorbing 75 minutes of call time. His sales consultant visits his company twice monthly to service his account.

Which customer is the profit-generating *angel* and which is the profit-destroying *demon*? Based upon the more robust activity-based information set, it becomes obvious that, while our two customers generate similar sales and gross profit levels, the bottom line net profitability of angel Customer A far exceeds that of demon Customer B.

In 2011, the PAPER Institute at the University of North Florida conducted a case study of customer profitability with a group of volunteer distributors in the fine paper industry, the major of which were two Florida firms, representing some of the largest in the industry nationwide. Each of these distributors set their sales or customer service strategies based upon some variation of the gross profit model of estimating a customer's profit to the organization.

For each distributor, the researchers reconstructed their financial accounting expense records to identify how much of those expenses should be attached to each of their customers based upon an ABC analysis. For each customer, the cost-to-serve was estimated based upon activities such as *sales time*, *customer service call time*, and warehouse-related indicators such as the numbers of *pick tickets*, *purchase order line items*, *shipping weight,* and *miles* required for delivery of products.

Three outcomes of the case study are of particular interest. First, based upon ABC analysis, while the distributors' operations and cost structures generally displayed the classic 80/20 rule of customer profitability, their results indicated an even more extreme dispersion of the true profitability of their customer base. As show in Figure 3, for distributors in this industry, the profitable *angel* customers are sharply concentrated in the top 2 deciles of the customer base, the *demon* profit destroying customers in the bottom 2 deciles, leaving the middle 60% as contributing negligibly to the profitability of the firm. Thus, organizations in the paper trade appear to mirror similar organizations researched in other industries.

Second, we ranked the merchants' customers in two ways: profitability based upon *gross* profit generated and profitability based upon an ABC activity driven cost-to-serve *net* profit generated. Over 90% of two ranking methods matched in terms of general rankings. Thus, the distributors' use of the gross profit methodology for estimating customers' profitability to the organization was accurate in nine out of ten instances.

Third, we ran statistical correlations between the gross profit and ABC rankings. The results indicated no statistical correlation between the outcomes of the two methodologies of *gross profit* method versus the *ABC* method for the overall customer base. Simply stated this means that the negative consequence of misidentifying one out of 10 customers is so severe that it almost perfectly cancels out the positive effects of correctly identifying nine customers!

The implications of our exploratory study are clear. Gross margin models work nine out of ten times but the tenth can lead to a very costly mistake. Thus, regional and closely held companies could benefit from the application of a costing model that improves their customer cost to serve knowledge. In addition to the gross margin generated, real profitability is strongly related to the merchant's internal activities required to service the customer. Thus, if your firm is relying on a gross profit rule of thumb to judge customer profitability, how prepared are you to answer the following questions.

Questions to consider in your organizations.

1. In proportion to their sales volume, can you identify patrons that absorb abnormally high sales time, customer service time, or warehouse related activities such as delivery frequency, returns, and back orders?
2. Can you identify customers that order a product mix from you that is complicated, difficult to warehouse or ship, or that increases the number vendors you must maintain to service the orders?
3. How confident are you with your answers to questions one and two above? Remember, nine out of ten correct answers isn't good enough!

If you have any doubt in your mind regarding your ability to effectively allocate your cost-to-serve, that doubt should trigger an aggressive attempt on your part to better understand your situation. We believe that ABC systems offer a systematic approach to address these issues. ABC models have the robustness to adapt to most organizations regardless of system complexity.

During prolonged economic downturns it is a natural tendency to strive to retain all customers. While most small to midsize organizations cannot implement full scale ABC-informed strategies for sales and pricing issues, they can refine their current rules of thumb for more effective relationships with their customers. Taking a few simple measures to identify the characteristics of low or negatively profitable customers and revising your sales, servicing, and inventory strategies accordingly is the first step in maximizing the profitability of your business in any economic environment.

We caution prospective adopters of this ABC modeling approach to appreciate what the outcome does and does not tell us. While the methodology does accurately segregate customers by their relative profitability profile to the organization, it does not tell us why these customers are or are not profitable. The production of this data is a good starting point for analyzing why customers fall into the bottom deciles of profitability. A necessary second step is to identify common characteristics of this group. For instance, do these customers cluster around a certain size, geography, or perhaps utilize a specific product line? It is in the answering of these questions that proper management decisions can be made on how to best bring these customers into a more tenable profit relationship with your firm.

<u>NOTES</u>

1. For an exhaustive discussion of customer profitability using the nomenclature of angels and demons, see Seldon, Larry, & Colvin, Geoffrey (2003). Angel Customers & Demon Customers.

<u>REFERENCES</u>

Seldon, Larry, & Colvin, Geoffrey (2003). Angel Customers & Demon Customers: Discover Which Is Which and TURBO-CHARGE YOUR STOCK. New York, NY: Portfolio, [[7(1), 7-10.]]

Author Biographical Sketch:

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Figure 1

Sample Distributor #1
Reconstructed Income Statement

Sales	$250,000,000
(COGS)	$200,000,000
(Commission)	$8,500,000
Gross Margin	$41,500,000
(Distribution)	$20,000,000
(Customer Service)	$1,500,000
(Sales & Marketing)	$4,500,000
Allocatable Margin	$15,500,000
(General Admin)	$9,000,000
Net Profit	$6,500,000

Figure 2

Activity-Based-Costing Methodology for Customer Profitability Analysis

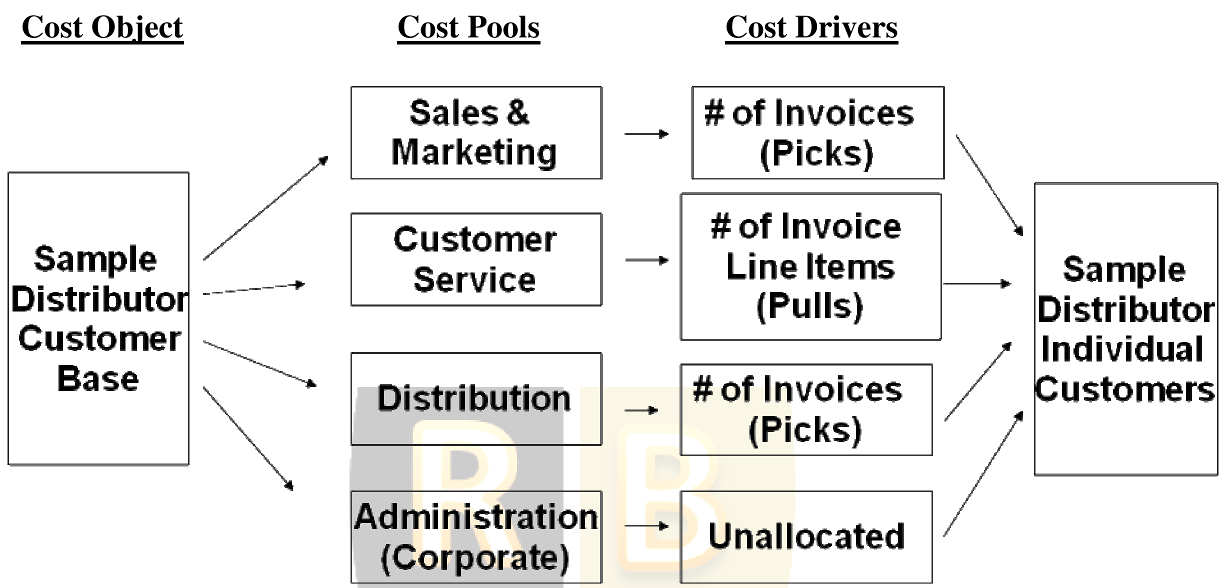
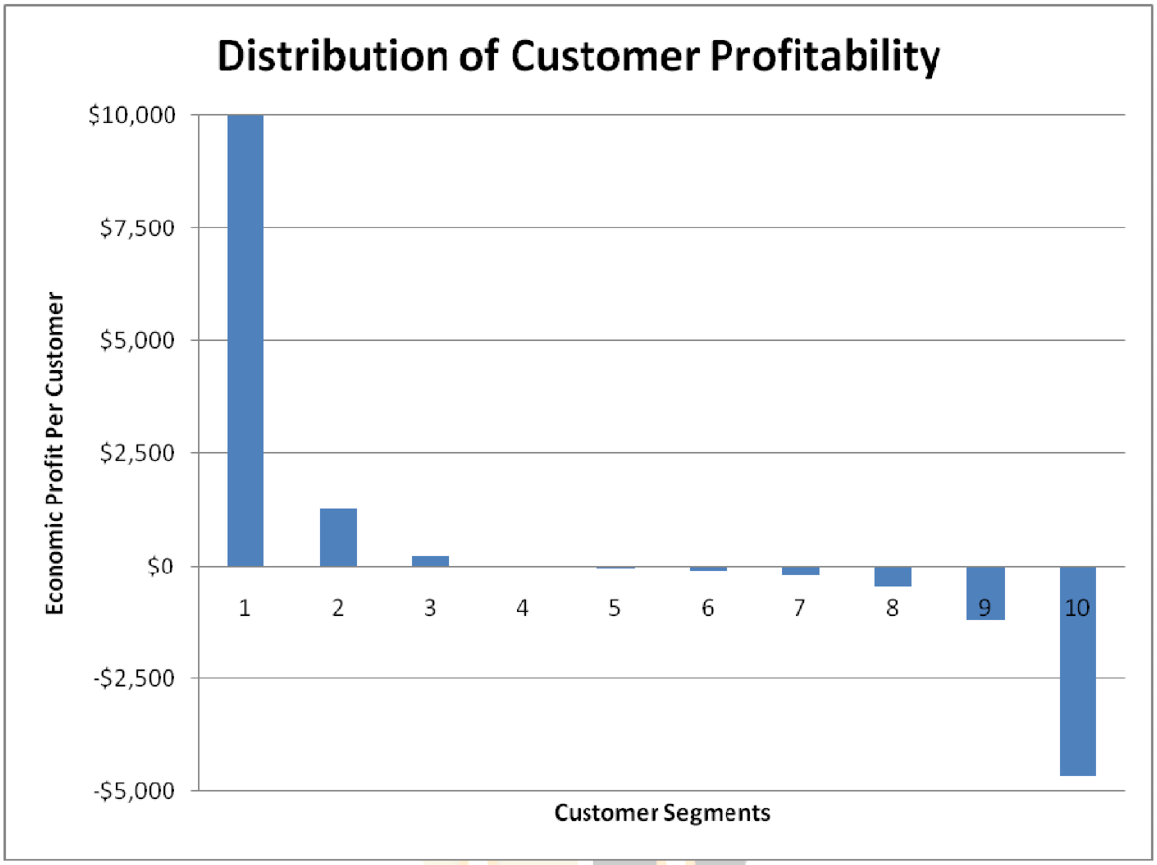


Figure 3


Distribution of Customer Profitability
$10,000
$7,500
$5,000
$2,500
$0
-$2,500
-$5,000
Economic Profit Per Customer
1
2
3
4
5
6
7
8
9
10
Customer Segments