IMA EDUCATIONAL Case Journal | Case Study

The Association of Accountants and Financial Professionals in Business

ISSN 1940-204X

Activity-Based Costing and the Evaluation of Customer Profitability: A Case Study

David M. Bukovinsky, Ph.D., CPA (inactive)
Department of Accountancy
Wright State University

INTRODUCTION

"You look frustrated. Did you have a bad day at work today?" Edward Bachon's wife asked him as they sat down for dinner.

"You have no idea," Edward replied. "Grandpa called me into his office today and read me the riot act. I seriously thought he was going to remove me as COO, maybe even kick me out of the company."

"Oh, come on, he would not do that. You know he is prone to outbursts, but then he settles down and acts like nothing happened," she said. "He is a bit of a control freak, and you probably did something that was not the way he would have done it. He loves and respects you. That is why he chose you to run the company instead of one of your siblings."

"No, this time it is different. He is really mad, and I can understand why. I have been COO for about four years, and I thought I was doing great. My initiatives really helped the company expand. We have a growing customer list, and sales are increasing. But something is not working right. Our profits have been declining steadily. Grandpa thinks that I am running the company into the ground and that I am going to put a lot of our family out of work. If I do not turn things around quickly, I will be the one on the unemployment line."

CAROLINA CREATIONS' EARLY HISTORY

Richard Bachon started manufacturing wood furniture as a hobby in 1994 in his Aiken, South Carolina, workshop after retiring from his job as a human resources (HR) director at a local company. He sold his furniture at craft and woodworking shows across South Carolina and Georgia and soon developed a reputation for quality and a loyal following. After several years on the craft-show circuit, he moved his operation into a local warehouse, which he converted into a manufacturing facility and salesroom. Expansion continued with the addition of several manufacturing employees, a small salesforce, and clerical staff—several of whom were family members. Richard eventually exited the craft-show market and began selling his furniture to local and regional home décor stores.

Carolina Creations expanded and became more sophisticated, but the accounting system did not evolve with the business. The accounting software proved adequate for general recordkeeping and financial statement preparation but was inadequate for a manufacturing system. Richard supplemented the system with spreadsheets as necessary. Of particular concern was product costing. A job order cost system was used as the furniture pieces were made individually or in small batches for customers. Carolina Creations occasionally made custom pieces for some customers. Materials and labor could be directly charged to jobs, but overhead was more of a problem. Richard's accounting knowledge was limited, but he was satisfied that allocating manufacturing overhead to products based on labor hours was appropriate, as much of the process was labor-intensive. Product costs formed the basis for determining selling prices, and Richard reasoned that a 75% markup on cost was adequate. Carolina Creations' products were well-received, and the company prospered.

RELATIVES, RAPID GROWTH, AND REDUCED PROFITS

By 2014, Richard was ready to retire again. He wanted to maintain ownership control of the company but no longer wanted to be involved with operations. Richard approached his grandson, Edward, about assuming operational control. Edward recently earned an MBA degree and worked for a management consulting agency in the area. He was eager to put his education and experience to work in the family business. Edward assumed control in late 2014 and immediately began an extensive expansion program. Edward's goal was to expand Carolina Creations across the Southeast United States and eventually nationwide.

Edward realized that Carolina Creations had outgrown its organizational structure. He began hiring accounting, marketing, and operations personnel. Expansion required significant resources, and the growth in selling, general costs, and administrative costs quickly outpaced sales growth. Carolina Creations' marketing team vigorously pursued new customers across the region, approaching everything from small interior design shops to large furniture warehouses. Many of the contacts proved fruitless, but a sizable number became new customers. Sales continued to grow. Before long, though, the costs of the expansion caught up with Carolina Creations, and profits began to deteriorate quickly (see Table 1). If the trend continued, Carolina Creations would soon be experiencing significant losses. Something had to be done.

Richard became concerned. Edward's Ivy-League education and ideas may work for large corporations, but they did not seem to work for the small, family owned business. Richard called Edward into his office to express his concerns in no uncertain terms. Richard questioned the rapid expansion of the customer base. Was expansion necessary? Was it worth the amount of time and money being expended? How were potential customers selected? How many customers were too many? Richard wanted answers and proof that the expansion would lead to success. Richard tried to convince Edward that Carolina Creations did not need more customers; it needed the right customers—ones they could make money from. Richard gave Edward his marching orders: "Straighten out this mess you created, and do it quickly." Edward knew if he did not get a handle on the costs and pricing, he may bankrupt the company. Even worse, it could seriously strain his relationship with his grandfather and other family members.

The 75% markup over cost gave the customers identical gross margins. Edward wondered whether the markups should be increased or if they should be different for different customers. Unfortunately, there was no way of knowing how customers would react to higher prices or which customers should have higher or lower markups. Guessing was not an option. Guessing wrong could result in lost customers if markups were increased and customers responded negatively, and profits would be reduced if some customers were unnecessarily or incorrectly given lower markups. The problem was obvious. Operating expenses were increasing faster than sales. Edward knew he needed better information. He instructed the Marketing and Accounting departments to do a thorough analysis of how the company interacted with customers, with an emphasis on determining whether the company was making or losing money from each.

Table 1. Carolina Creations' Statement of Operating Income
Years Ended December 31, 2014 Through December 31, 2018

	2018	2017	2016	2015	2014
Sales	$3,114,160	$2,223,148	$1,638,140	$1,300,075	$1,134,998
Cost of Goods Sold	1,779,520	1,270,370	936,080	742,900	648,570
Gross Margin	1,334,640	952,778	702,060	557,175	486,428
Operating Expenses	1,276,806	844,796	556,968	390,023	317,799
Operating Income	$57,834	$107,981	$145,092	$167,153	$168,628

Note: All monetary values are represented in U.S. dollars.

DEVISING A PLAN

Daniel Bennet, director of the Accounting department, suggested using activity-based costing (ABC) to allocate operating expenses to customers. He approached Robin Frankel, director of the Marketing department, with the idea. Initially Robin was not sure what she could contribute to what seemed to her to be an accounting project. Daniel explained that allocating costs to customers would require information about the activities performed to serve the customers, and that is where marketing fits in. He also cautioned her that if allocations were too arbitrary, they would "muddy the waters" and reduce the reliability of the information. Robin understood and agreed to help.

Daniel prepared a breakdown of Carolina Creations' operating expenses (Table 2). His intent was to identify expenses that could reasonably be related to customer activity. Once that was achieved, he hoped to be able to drive the expenses down to individual customers.

Table 2. Carolina Creations' Operating Expenses Year Ended December 31, 2018

Administrative Wages	$368,000
Advertising	71,852
Building Depreciation	48,600
Maintenance	38,718
Office Equipment Depreciation	8,400
Promotional Materials	58,000
Sales Staff Commissions and Wages	361,416
Shipping	42,893
Taxes and Insurance	15,283
Travel	92,788
Utilities and Fuel	6,491
Warehouse Wages	152,817
Other	11,548
Total	**$1,278,806**

Note: All monetary values are represented in U.S. dollars.

Meanwhile, Robin and her staff began brainstorming about the activities Carolina Creations performed to serve its customers. They did not want to be so specific as to make the analysis unwieldy, but defining the activities too broadly would not be useful either. Eventually, they identified seven major customer-servicing activities (Exhibit).

Exhibit 1. Customer-Sustaining Activities

Making sales calls	Contacting customers by telephone or email, or making visits to customers' location
Negotiating contracts	Conducting administrative activities related to negotiating contracts with large, repeat customers
Processing orders	Conducting clerical activities related to processing orders, including online orders and customer accounting
Warehousing activities	Operating the warehouse, including receiving completed goods from the factory, collecting items and preparing them for shipping, and receiving returns
New customer development	Identifying potential customers and efforts related to acquiring new customers and account setup
Shipping	Shipping merchandise to customers' "free on board destination" and shipping merchandise returns
Post-sale customer support	Handling customer questions and complaints, processing and restocking returned merchandise

Daniel liked the list Robin presented to him and decided to use the activities as the cost pools for the ABC analysis. He also added an eighth pool, "other," which would be used for costs that did not fit well into any other cost pool. The next step would be to allocate the operating expenses to the cost pools, then identify the most appropriate cost drivers to allocate the costs in each cost pool to the customers. It was a start, but there was much work to be done before individual customers could be analyzed.