

## Case 5

### NARNIA, INC.

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Once there was a company called Narnia, Inc. Its management developed three wonderful products and prepared to sell them. Prices would be set at 10% above cost to ensure a fair and reasonable profit. Product A required six manual assembly operations, product B had three machining and three assembly steps, and product C required nine steps done on automatic numerically controlled machines.

The projected costs and planned volume were as follows:

**TABLE 5-1**  
Narnia's Costs

	<u>Product A</u>	<u>Product B</u>	<u>Product C</u>
Material per unit	\$6.00	\$12.00	\$18.00
Labor per unit	\$10.00	\$6.00	\$4.00
Planned volume	1 million	1 million	1 million
Total material	\$6M	\$12M	\$18M
Total labor	\$10M	\$6M	\$4M

All other costs were expected to be \$100M and since Narnia's president wanted to know how much each product cost in order to set a price, she needed some way of dividing these other costs among the three products. Her accountant said that since usage of labor seemed to represent usage of capacity, it seemed fair to charge each product for its share of other costs according to the amount of labor required for each product. Price would then be based on each product's total cost plus 10%. On this basis product A used 50% of direct labor and would be charged for 50% of the other costs, or \$50 million. Product B would be charged \$30 million and product C \$20 million. Projected costs and profit per unit are listed in Table 2.

Narnia began marketing its three unique products and their sales built up nicely. Soon demand for all three products was straining Narnia's capacity. Wishing to capitalize on its excellent products, Narnia's management began to make plans to increase capacity.

**TABLE 5-2**  
Narnia's Unit Costs, Profit and Selling Price

	<i>Product A</i>	<i>Product B</i>	<i>Product C</i>
Material	\$ 6.00	\$12.00	\$18.00
Labor	10.00	6.00	4.00
Other Costs	<u>50.00</u>	<u>30.00</u>	<u>20.00</u>
Total	\$66.00	\$48.00	\$42.00
Profit at 10%	<u>6.60</u>	<u>4.80</u>	<u>4.20</u>
Selling price	\$72.60	\$52.80	\$46.20

Now in the same land three other companies were preparing to begin production and sale of products that were very similar to Narnia's. Each company was going to specialize in one of the products and a peek at their cost projections revealed the following:

**TABLE 5-3**  
Cost Projections of the Three Competitors

	<i>Company X</i> <i>Product Ada</i>	<i>Company Y</i> <i>Product Beeta</i>	<i>Company Z</i> <i>Product Cema</i>
Planned Volume	1 million	1 million	1 million
Total Material	\$6M	\$12M	\$18M
Total Labor	\$10M	\$6M	\$4M
Total Other	\$20M	\$30M	\$50M
Per Unit:			
Material	\$ 6.00	\$12.00	\$18.00
Labor	10.00	6.00	4.00
Other Cost	<u>20.00</u>	<u>30.00</u>	<u>50.00</u>
Total Cost	\$36.00	\$48.00	\$72.00
Profit	<u>3.60</u>	<u>4.80</u>	<u>7.20</u>
Selling Price	\$39.60	\$52.80	\$79.20

The Narnia company had been selling its three products for about six months by the time the other three companies perfected their products. When companies X, Y, and Z entered the market, Narnia's management was surprised at their selling prices. Company X seemed to be trying to buy into the market by selling at a loss; soon they would either raise their price or go bankrupt. Company Y was going to be tough competition but company Z was clearly much less efficient than Narnia.

Narnia's management decided to double the production of product C, but delay expanding production of products A and B.

What do you think happened next?