



V.G. NARAYANAN

LISA BREM

## Owens & Minor, Inc. (A)

It was January 1996. José Valderas, divisional vice president for Owens & Minor (O&M), a \$3 billion distributor of medical and surgical supplies, was driving back to his Savage, Maryland office. His mind was processing the news he had just heard. Ideal Health System, a not-for-profit hospital chain that for the last 10 years had purchased supplies from a rival distributor, announced it was putting its \$30 million annual medical/surgical supply contract up for bid. In an environment where healthcare consolidations were the norm, resulting in ever-larger contracts that were fewer and farther between, Ideal would have all the major distribution companies in the region vying for its business.

In operation for 114 years, O&M was a *Fortune* 500 company and one of the nation's largest distributors of medical and surgical supplies such as gloves, gowns, wound closure devices, and other operating room items. Through its 49 distribution centers nationwide, O&M warehoused and delivered over 300,000 products from roughly 3,000 manufacturers to nearly 4,000 hospitals, integrated health care systems, and group purchasing organizations.

Obtaining and keeping profitable customers was critical for O&M's survival. Like most medical and surgical distributors, O&M was feeling squeezed by customer demands for more services and lower distribution fees. The current pricing methodology—cost-plus—based distributor fees on product cost, not the actual cost of delivering the product. O&M was struggling to contain its costs while trying to understand which customers and services were profitable. O&M had ended 1995 with an \$11 million loss due to a decrease in gross margin and an increase in expenses. Winning the Ideal contract would certainly boost O&M's bottom line—but only if Valderas priced the proposal appropriately.

Valderas knew that tearing Ideal away from its current supplier, Atlantic Healthcare, would be a challenge. Atlantic was a subsidiary of a medical supply manufacturer. The high margin from sales of its parent's products allowed Atlantic to offer distribution services at extremely low rates—rates that would force O&M to operate at a loss. Valderas had bid for—and lost—Ideal two years ago to Atlantic for just that reason. The fact that the business was coming up for bid again gave Valderas hope that maybe this time Ideal was ready for a change. Valderas explained:

Atlantic could offer low prices. It could undercut us all day long, but the customer was locked into buying its self-manufactured products. One of the things that made us attractive to Ideal was that we were brand-neutral. We were a lot more flexible than the other competitors bidding for this contract. I felt that after 10 years with Atlantic, Ideal was ripe for change. Our job was to give them a good reason to change to O&M.

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Research Associate Lisa Brem prepared this case under the supervision of Professor V.G. Narayanan. HBS cases are developed solely as the basis for class discussion. Cases are not intended to serve as endorsements, sources of primary data, or illustrations of effective or ineffective management.

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Spurred by the cost reduction initiatives of its customers and suppliers, O&M had instituted a logistical consulting division headed by Ed Petrella, and a budgeting, forecasting, and cost management group directed by Michael Stefanic. Valderas and Petrella had been working with Stefanic to convert Valderas' Savage distribution center to a new activity-based cost system.

As Valderas arrived at his office and reviewed the activity cost reports from the prior month, he was struck by a sudden thought: What if he could use the ABC information, not just to keep his costs down, but to add value for his customers? After all, Valderas thought, our new costing system made us more efficient and helped us better understand our customers' costs. Not only could ABC help O&M communicate its internal costs to Ideal, it could also be a new way—using activity-based pricing—to make a proposal.

There were substantial risks involved, however. The existing price structure—cost-plus—was entrenched in the industry, and ABC ideas were so new that Ideal might not understand an activity-based pricing system. In addition, Valderas wasn't entirely sure what such a proposal would look like. Valderas said:

We had done some work in terms of costing out our processes. Although we had been doing activity-based *costing*, we didn't know how to relate that information to a *pricing* methodology for our customers—at least not one that they would accept.

Even so, Valderas believed that an activity-based pricing proposal might be the only way he could offer a competitive price to Ideal and still reap profits for the company. Valderas picked up his telephone. The first thing he needed to do was set up a meeting with Ed Petrella, director of logistics and support services and Michael Stefanic, director of budgeting, forecasting and cost management.

## Company Background<sup>1</sup>

O&M was founded in 1882 by George Gilmer Minor Jr., a wholesale drug salesman from Richmond, Virginia, who joined forces with competitor and drug salesman Otho Owens. Minor came from an esteemed family of healthcare practitioners. His great-grandfather had been an apothecary-surgeon in colonial Williamsburg and his grandfather was Thomas Jefferson's personal physician. Owens and Minor operated both a wholesale and a retail business in Richmond, selling sundries, paints, and window glass as well as filling prescriptions. In the 1920s the Owens family sold its interest in the company. The Minor family eventually took over the company when George Gilmer Minor IV became president in 1947.

In 1954 Owens & Minor installed its first computerized order fulfillment system. In the late 1960s, the company acquired two medical and surgical supply companies: A&J Hospital Supply and Powers & Anderson. In 1971, the company made its first public offering of stock. Throughout the 1970s, the company continued to acquire new businesses including Murray Drug, White Surgical Supply and Southern Hospital, expanding its operations into 10 states.

G. Gilmer Minor, III, became president of O&M in 1981. With the purchase of a portion of G. D. Searle's Will Ross subsidiary, the second largest medical and surgical supplier in the United States, the company increased its presence in the medical and surgical supply industry. In 1984, medical supplies replaced wholesale drugs as the company's largest income source. In 1986, the company's

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<sup>1</sup> Data Sources for this section: Media General Financial Services distributed by Dow Jones & Company Inc. (15 January 2000); and Owens & Minor Annual Reports 1990-1995, (Richmond, Owens & Minor, 1990-1995).

goal was to grow from \$367 million in sales to \$1 billion by the end of 1990 by concentrating on medical/surgical and wholesale drug sales to hospitals and independent drug stores.

In 1990, the company turned its focus inward. Its new long-term strategy was to improve margins, productivity, and asset management through a commitment to technology and supply chain partnerships. It also articulated “an aggressive growth strategy, through acquisitions and internal expansion, to become the leading low cost distributor of healthcare products.” By 1994, it had sold its wholesale drug and packaging businesses and had acquired several medical and surgical supply companies. The largest acquisition—Stuart Medical—increased the company’s presence to 50 states and brought a much-desired expertise in stockless and just-in-time inventory management systems. By the end of 1995, still under the leadership of G. Gilmer Minor, III, O&M had become one of the largest distributors of medical and surgical supplies in the United States. It employed nearly 4,200 people and had grown to almost \$3 billion in revenue. The company’s plan for 1996 included improving service quality and controlling inventory costs. O&M also planned to increase its gross margin by putting higher prices to services that demanded more resources.

## The Medical/Surgical Supply Industry<sup>2</sup>

Although beset by cost pressures, medical and surgical supply was a growing sector, since expenditures in the healthcare industry in the United States were expected to continue to rise. The Health Care Financing Administration estimated that after ranging from 13.5% to 13.7% of gross domestic product (GDP) in the mid-1990s, healthcare expenditures would account for \$2.2 trillion (16%) of GDP from 1998 through 2002. Healthcare industry growth was tied to demographic trends—the aging of the U.S. population—and advances in medical technology.

Changes in the medical/surgical supply industry reflected the evolution of U.S. healthcare in general. As managed care brought attention to costs, health care providers took a number of steps to reduce expenses, some of them directly affecting the medical supply industry. Several consulting groups sprang up to help hospitals manage inventory and supply costs. As Ed Petrella, director of logistic and support services at O&M, described:

Historically, health care providers only had to mark-up the reimbursement they received from insurance companies or government agencies to make a profit. When the fixed rate system came in, hospitals had to move from managing their profit margin to managing actual costs. Material management consultants advised providers to shift their costs to their distributors. Without paying us more, customers wanted us to carry more of the inventory, and make more deliveries in lower units of measure. That’s when O&M formed the logistics group. It was our job to look at the customer’s processes and make them as efficient as possible to keep our costs down.

In order to share resources, reap economies of scale, and gain more control over supply costs, hospitals joined forces with other hospitals, outpatient clinics, and long-term care facilities to form extended provider networks. The consolidations sparked consolidations in suppliers and distributors as well. Mergers and acquisitions were becoming the norm, threatening to change a market that had been populated by many small regional players and several large national firms.

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<sup>2</sup> Primary data source for this section: Robert Gold, “HealthCare: Products & Supplies,” *Industry Survey*. Available from Standard & Poor, <<http://www.netadvantage.standardpoor.com>> (9 February 2000).

As providers solidified their partnerships with other facilities, they formed buying groups that represented vast numbers of member sites. Sales to Voluntary Hospitals of America (VHA) member hospitals, O&M's largest buying-group customer, represented approximately \$1.2 billion in annual revenue, or 41% of net sales, for O&M in 1996. With such combined buying power, these groups were able to force suppliers and manufacturers to cut margins. As Michael Stefanic, director of budgets, forecasting and cost management at O&M explained:

Our negotiations with the customer entailed them trying to get our fee down to 6% of the product price and us trying to get it up to 8%. There would be no discussion of a change in services; it was simply that whoever had the strongest will would win. When customers started banding together to form these large integrated healthcare networks, they became more powerful, and they had a bigger stick to wield. There was always the threat that your customer could take all their volume to a competitor.

Distributors also experienced margin pressure from the manufacturing side of the supply chain. In an industry where the margins were already low—one industry trade journal reported that distributors' 1993 pre-tax profit was an average of 1.6% even a .5% reduction in discounts could mean a 31% cut in net profit before taxes.<sup>3</sup>

Many distributors struggled financially with these reduced margins. In 1995, unable to meet contracts calling for lower margins, Owens and Minor instituted an across-the-board 1% price increase. Although most providers absorbed the increase, O&M lost some business as a result of the price hikes.

O&M, unlike most other national distributors in the industry, focused solely on distributing medical and surgical supplies. Most of its competitors maintained other business lines. They were either supply manufacturers, subsidiaries of manufacturers, or distributors and wholesalers of pharmaceuticals. Some of O&M's closest competitors were: Allegiance Corp., a subsidiary of Baxter International; General Medical, and Bergen Brunswig (see **Exhibit 1** for Comparative Financial Statements).

Bergen Brunswig was a leading drug wholesaler and medical supply distributor. It also distributed medical equipment, over-the-counter medications, beauty products, and sundries to independent drugstores and large pharmaceutical chains in the United States. Baxter International manufactured and distributed a range of health care products, including blood, circulatory, dialysis, and intravenous products, and heart surgery equipment. In 1996, Allegiance was in the process of being spun off from Baxter. General Medical was often characterized as the third largest medical surgical distributor. Because of its precarious financial picture, posting net losses every year since 1993, the company was ripe for a merger or acquisition. The company was majority owned by Kelso & Co., a non-health care investment group.<sup>4</sup>

A few hospitals and buying groups opted for companies that were able to supply them with 'all-lines' distribution—purchasing pharmaceuticals and other healthcare supplies from one distributor in order to minimize the number of suppliers to manage. O&M, however, chose not to expand into

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<sup>3</sup> Curt Werner, "J&J Raises Ire of Med-Surg Distributors by Cutting Prompt Payment Discount," *Health Industry Today*; Union; August 1995, p. 2. Available from ProQuest, ABI/Inform. <<http://proquest.umi.com/pbdweb>> (9 February, 2000).

<sup>4</sup> Anonymous, "Shroud of Financial Secrecy Lifts; General Medical Goes Public," *Health Industry Today*; Union; February 1997, p. 6. Available from ProQuest, ABI/Inform. <<http://proquest.umi.com/pbdweb>> (9 February, 2000).

other product lines, believing that its focus on medical/surgical supplies would enable it to offer better products, prices, and services to its customers.

Many of O&M's competitors offered private label supplies—an area that O&M had decided would not be part of its strategy. The company's position was that pushing private labels along with other manufacturers' products would compromise its ability to act on behalf of its brand name suppliers.

### *Cost-Plus Pricing*

The dominant form of pricing in the medical/surgical distribution industry was cost-plus. Cost-plus meant the customer paid a base manufacturer price plus a mark-up added on by the distributor. For example, the buying group negotiated with the manufacturer a price of \$1.00 per box of bandages. The distributor added a 7% fee, charging the customer \$1.07 for the delivered product. The percentage was the same regardless of the costs to receive, move, store, and ship the product. As Valderas explained:

With cost-plus, our fee was based entirely on the price of the product from the manufacturer to the customer. A large box of adult diapers that cost \$30 would generate, on a cost-plus-7% fee, \$2.10 in revenue. In contrast, a small box of cardiovascular sutures that cost \$800 would generate \$56 in revenue. There was a huge difference in the cost to handle large boxes versus small ones. There was not much money in large, bulky packages, but a lot on small items.

Valderas went on to explain the genesis of cost-plus pricing:

In the 1980s VHA, the nation's first and largest group purchasing organization, introduced large-scale cost-plus pricing to the medical/surgical supply industry. Before cost-plus, distributors used a variety of ways to drive pricing. There were not a lot of prime vendor agreements, business was fragmented between distributors. VHA changed all that. It drafted the first national cost-plus distribution agreement. It was a committed contract, which meant that the member hospitals agreed to commit all their traditionally distributed business to one distributor. We had one cost-plus fee of 7% for all products. VHA chose O&M as one of its preferred distributors, which greatly fueled our growth throughout the 1980's and 1990s.

One drawback to cost-plus for distributors was the potential for customers to engage in "cherry-picking." As Petrella explained:

Cost-plus tied our fee to the value of the product rather than the value of the service. To avoid paying a high distribution percentage on expensive products, the customer would buy them directly from the manufacturer. That left us with only the low-margin, inexpensive product. Buying direct wasn't efficient for the customer either, since the manufacturer would require them to buy in bulk and they didn't have the space or management systems in place to handle the product. Often expensive items were mishandled, damaged, or lost.

Complicating the pricing structure was the fact that distributors and their customers negotiated separate product prices from manufacturers. Stand-alone distributors like O&M did not set product prices with their customers, they added their cost-plus percentage to the product price arrived at by the manufacturer and the customer (see **Exhibit 2** for a graphic depiction of the supply chain).

Additional factors affected the actual cost of the product both to the distributor and customer:

- Manufacturers offered incentives such as distributor discounts. Distributors, by buying in bulk from manufacturers, could increase their profits by the bulk discounts offered by the manufacturer.
- Product prices varied from customer to customer, depending on variables such as the amount of product the customer committed to buy over the life of the contract and whether the customer was part of a buying group.
- Some products were covered by contract while others were not.
- Hospitals had the option of making off-contract purchases for a different product or from a different manufacturer.
- Distributors that were part of a manufacturing company that sold private label items could combine the product price and distribution fee, making it impossible to distinguish between the two costs.

The complexity of the pricing structure made it difficult for a purchasing manager to track actual product costs or compare quotes from competing manufacturers and distributors. As Stefanic explained:

Many distributors will try to sell a customer by saying they will get cost plus 4%. Well, maybe that's true for, say, the top 10 items they purchase, but then they're paying up to cost-plus 20% for other things—items they don't track as closely. The result is the customer ends up paying an average of something like cost-plus 12% and they don't realize it until two years later when someone does a cost analysis.

## O&M Organizational Structure and Workflow<sup>5</sup>

O&M maintained a largely decentralized organization with each distribution center operating as a profit center. O&M located inventory forecasting, purchasing, accounts payable, customer service, accounts receivable, and warehousing functions in each of its 49 divisions. Divisions served customers within a 100-mile to 150-mile radius using a fleet of owned and leased trucks. Customers required an average of two to six deliveries per week. Typical products included disposable gloves, dressings, endoscopic products, needles, syringes, sterile procedure trays, surgical products and gowns, urological products and wound closure products. The vast majority—90%—of O&M's net sales came from acute care hospitals and hospital-based systems.<sup>6</sup>

The distributors purchased and warehoused the inventory until delivery to the customer. Typical customer contracts with distributors called for 30-day payment terms. In recent years, health care providers, in an effort to minimize expenses and reduce capital costs, increased their reliance on distributors to hold inventory. Some hospitals moved to just-in-time or stockless systems. Just-in-time systems relied on carefully planned replenishment of bulk items, while stockless systems required distributors to make several shipments per week—or even per day—to the end user. It was not unusual, in a stockless environment, for a distributor to deliver a box of sutures directly to an operating room. As Stefanic explained:

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<sup>5</sup> Primary data source for this section: Owens & Minor, Inc., "Virtual Warehouse Tours," Owens & Minor, Inc. Web page, <http://www.owens-minor.com/ourbusiness/default.asp> (8 February 2000).

<sup>6</sup> Owens & Minor, 1998 Annual Report (Richmond: Owens & Minor, 1998).

One of the services we provide to the supply chain is that we own and manage the inventory. Few want to take on that risk. Manufacturers want to produce product, sell it, and then get it out the door. Customers don't want to buy product until they are ready to use it. So we manage the inventory flow and we take on the financial risk associated with that function. For example, product returns can generate significant internal costs for us. Some manufacturers charge a restocking fee, while others don't even allow returns. Often products have expiration dates, so we have to be very careful not to get stuck with outdated or obsolete product. Another substantial burden is carrying the receivables. Customers take up to 90 days to pay for inventory, creating cash flow issues.

O&M's main operational functions included receiving, put-away, order picking, and shipping. Most warehouses used a hand-held radio frequency device (RF unit) to communicate and control inventory levels and workflow. Each RF unit had a scanner that read barcode labels on pallets of incoming product, bin locations, and shipping pallets. The RF units recorded changes in inventory levels and locations immediately to the division's central computer. Very little paper was needed to exchange information.

Warehouses were divided into several different zones. Bulk zones held full pallets of product, hand-stack zones were for boxes of product, and low-unit-of-measure zones housed 'eaches' of product. There was also a clean room for sterile products such as wound-closure units, and a high-velocity zone for the products that accounted for the top 56% of warehouse activity. These were palletized and hand-stacked items that represented the facility's top 650 items by velocity.

Divisions maintained two shifts. The 6:30 a.m. to 3:00 p.m. shift was primarily responsible for receiving and inventory control. The second shift did the picking, packing, and loading of product. Drivers left the facilities in the early morning hours to make delivery to most customers before 8:00 a.m.

In addition to managing inventory, distributors tracked and verified customer prices for contracted product purchases and monitored agreements between end-users and manufacturers. Since tracking this information was time-consuming and labor-intensive, O&M found the information stored in its databases and its expertise in product replenishment was valuable to both suppliers and customers. As Stefanic explained:

Manufacturers have to rely on distributors for information on product flow. Our manufacturers sell large quantities of product that comes to us by the truckload. We break it down and deliver it to the customer. We supply customer usage and sales numbers back to the manufacturers. We provide information on market trends, buying patterns, and product penetration that manufacturers use to manage their operations and production schedules.

Rebates are another complicated aspect of the supply chain. The manufacturer sells O&M a box of product for \$1, but the manufacturer may have negotiated a different price for the same item to different customers, such as \$.75 for one customer, \$.73 for another, and so forth. The negotiated price is what we receive from the customer. We have to collect the price information and claim the price differential from the manufacturer using debit memos twice a month. Maintaining price changes is also quite time-consuming. Manufacturing sales people often negotiate new prices and fail to notify us. Sometimes, we get updated pricing contracts from the customers themselves. All this activity requires us to maintain an army of contract people. We have 60 employees in contracts at the home office and their full-time job is to monitor and maintain pricing contracts and claim price rebates.

## Financial Performance 1984-1995

For the last ten years, O&M's financial picture reflected the opportunities and challenges of the health care industry. While the company enjoyed a constant increase in net revenue, its gross margin as a percent of net sales declined from 14.5% in 1984 to 9.7% in 1994 (see **Exhibit 3** for selected financial data).

The company responded to the downward pressure on margins by instituting internal cost control measures, specifically cutting sales, general and administrative (SG&A) expenses. The company was able to cut SG&A expenses from 12.5% of net sales in 1984 to 6.8% in 1994. In 1995, however, the company spent more on SG&A expenses—primarily personnel costs—in order to meet new contracts that called for “enhanced service levels” such as stockless and just-in-time services. Stockless and just-in-time systems required more labor, deliveries to customer, packaging, and material handling than traditional systems. As O&M's 1995 Annual Report explained:

The increase in SG&A costs as a percentage of net sales was primarily a result of increased personnel costs caused by new contracts providing for enhanced service levels and services not previously provided by the Company, a significant increase in the number of SKU's distributed by the Company, system conversions, opening or expanding 11 distribution centers and reconfiguring warehouse systems. This was mostly the result of absorbing Stuart Medical.

Coupled with a \$42.8 million restructuring cost associated with the acquisition of Stuart Medical and a decrease in gross margin, the rising expenses took a toll on the company, resulting in a net loss of \$11.3 million. The 1995 Annual Report described coming through “the toughest two quarters in the Company's history.”

## ABC at the Savage Center

O&M first began to explore activity-based (ABC) costing in 1994, under the guidance of Michael Stefanic, who had been hired to create and head a cost accounting department at O&M. In order to better understand and control costs, Stefanic initiated an ABC pilot project at the Richmond division. With the lessons learned from that early iteration, Stefanic's team moved on to Valderas' distribution center in Savage, Maryland. The Savage center employed 120 people and carried over 50,000 line items in its 121,000 square-foot facility. Savage utilized 12 tractor-trailer trucks to deliver product to its 120 customers. In 1995, the center grossed \$111.5 million in revenues. The market served by the Savage facility was extremely dense, nearly 12 million people lived within one hour of its location. As a result, it had one of the lowest delivery costs in the company.

### *Customer Profitability*

As a mover of bulk product, O&M had little cause to track customer profitability, since most customers had relatively similar needs. As customers demanded enhanced services such as stockless systems, however, the activity levels of those customers skyrocketed. Instead of one delivery per week, stockless customers demanded one or more per day. Stockless customers also wanted pallets and cases broken up and repacked into smaller units. O&M had very little information to price these new services properly. As Valderas explained:

In the mid-1980s customers began to demand more service from their distributors. Prior to that time most distributors' service stopped at the hospital's loading dock. We would put the product on pallets that we delivered to the customer's loading dock and we would leave. That



was it. The hospital staff would receive it, store it, then pick and pack it and deliver it to the floors.

Then low-unit-of-measure or stockless systems became popular. Customers wanted the distributor to package the product in much smaller units—usually a plastic tote about two cubic-feet in size—that would go directly to the nursing and surgical units, bypassing the entire storeroom process.

We had to figure out how to price this service under the existing cost-plus system. This dilemma was one reason we started doing activity-based costing. When a customer wanted a complex array of services, we needed to know what our costs were so we could bid appropriately. We had gotten into some contracts where we under-priced the service because we didn't know what our costs were. We knew what our *total* costs were to run our warehouse for *all* customers. However, we didn't understand how much it would cost us to run one particular account, pick orders in the fashion that account needed, make the number of deliveries they needed, and so on. This wasn't unique to O&M; it was an industry-wide problem. We were trying to address these issues when the Ideal bid came along.

Looking at individual accounts at the Savage plant, Stefanic and his team found that customer profitability was tied to several key activities, most of which could be controlled by the customer. The activities that affected profitability were:

- the type of service requested, such as traditional bulk delivery, low-unit-of-measure, or stockless programs
- the number of purchase orders generated per month
- the number of lines per purchase order
- the number of deliveries per week
- method of order (mail, telephone, fax, or electronic data)
- interest cost from carrying receivables and inventory, (see **Exhibit 4** for a sample stockless customer profitability worksheet).

Since the amount of customer activity generated most of O&M's operating costs, there was a wide disparity between the profits O&M made on each customer. Once O&M began to track internal costs, it became clear that even with internal cost reductions, some customers—particularly those with stockless or low-unit-of-measure programs—were unprofitable for the company. At that time, since fees were on a cost-plus system, the only recourse left to managers of unprofitable accounts was to increase the cost-plus percentage—a practice that did not sit well with customers.

Although ABC made it clear that certain services and customers were unprofitable, the company had not yet shared ABC information with customers. Valderas explained: "We needed a whole new way to look at the cost of our services. What we really had to do was separate the price of the box from the price to move the box."

## The Proposal to Ideal

### *Activity-Based Pricing*

Valderas, Petrella, and Stefanic worked together to make the leap from activity-based costing to activity-based pricing (ABP). They believed that, if O&M tied distribution fees to activity levels and if customers could see how their activity levels affected their costs, customers would want to become more efficient. Better customer efficiency saved O&M money in processing, delivery, and product handling. The team hoped that an activity-based pricing system would align fees with services, relieving O&M of the burden of unprofitable customers. They knew O&M needed to eliminate the cost-plus system and offer what was essentially cost-plus zero with a monthly fee based on activity levels—but no one in the industry had done such a thing before. Valderas decided to hedge his bets by offering both ABP and cost-plus, hoping that Ideal would appreciate O&M's flexibility in offering two vastly different approaches to distribution.

Early in the bidding process, Valderas, Stefanic and Petrella grappled with how to present the activity-based pricing concept to Ideal. As Petrella recalled:

We had an academically perfect concept, but we needed a way to sell it. We explored some possibilities that, for one reason or another, didn't work. One idea was to increase our cost-plus percentage and add a small flat activity fee that wasn't directly related to anything. But there was no incentive for the customer to improve its processes. Then we came up with a relatively simple matrix based on two major cost drivers—number of purchase orders per month and number of lines per purchase order [see **Exhibit 5**—Pricing Matrix].

The number of orders was tied to our fixed administrative fees and the number of lines was tied to our variable costs—the number of times a worker had to go to a product rack, etc. It was a very primitive way to identify our fixed and variable costs, but it was effective in showing the customer that they could lower costs if they changed their behavior.

Valderas elaborated:

We wanted to show the customer that instead of being locked-in to a traditional cost-plus contract, they could actually affect their service delivery fee depending on the type and amount of service requested, and the frequency and size of each request. [See **Exhibit 6** for a graphic depiction of activity-based pricing fees versus cost-plus.]

We also went out on a limb and shared our distribution center's financial data with them. We actually showed them our profit line. No other distributor had done that. In order for the customer to look at ABP as an honest way to do business, we had to share our numbers with them; otherwise they would have viewed it as just another pricing scheme.

Petrella's logistics group evaluated and gathered detailed information on Ideal's material management processes, such as monthly ordering levels, average lines per order, and EDI capability. Stefanic's group used the logistics information to develop the pricing matrix. For the first time, Stefanic's cost-accounting unit not only helped prepare a proposal, but helped deliver it as well. Stefanic explained that since the proposal was tied to accounting principles, and required an intimate knowledge of the pricing matrix, Valderas invited Stefanic to help make the proposal to Ideal. Stefanic described the customer's reaction to this:

We went up to meet with the decision-makers at Ideal. That was really a change in role. Essentially, we became salesmen, but we were very well accepted by the customer because we *weren't* salesmen.

### *Customer Reactions*

Valderas, Stefanic, and Petrella met with Ideal's purchasing and finance group several times over six months in 1996. Although O&M's proposal intrigued Ideal, it had several concerns about the new fee structure. As with the vast majority of buying groups and healthcare networks, all of Ideal's internal systems—from budgeting to incentive programs—were geared for cost-plus. Ideal's budgets had product prices with distributor fees built in. There was no line item in the budget or expense reports for a separate distributor fee. Unless O&M could address that problem, Ideal would have to modify its budgets—a time-consuming task. Adding to this dilemma was the fact that Ideal compensated and rewarded its buyers based on the cost-plus percentage they negotiated with distributors.

Transfer pricing was also an issue. Ideal, like most hospitals, used cost-plus to assign transfer prices. It charged each department for supplies using a combined distributor fee and product price. Ideal wanted to know how to charge departments for a distributor fee that was completely separate from the product price.

There were other obstacles to implementation. Although the chief financial officer at Ideal recognized the opportunity for cost control that activity-based pricing represented, he was concerned that employees might not change their behavior enough to reap maximum savings. In fact, accepting O&M's bid meant a huge commitment on the part of Ideal's member hospitals to change the way they purchased, stored, and used supplies. Even more daunting were the hard decisions associated with eliminating fixed costs. Ideal would have to eliminate or reassign personnel, equipment, and warehousing space.

There were technological barriers to ABP as well. In order to realize all of the potential savings, Ideal and O&M would have to be linked by EDI—electronic data interchange—also a substantial commitment in resources.

Valderas sat in his office in the summer of 1996 wondering if the ABP proposal would be successful. Would Ideal commit time and resources on activity-based pricing? Had he presented the costs and benefits of ABP well enough? How could he answer Ideal's concerns?

**Exhibit 1** Fiscal Year 1996 Comparative Income Statements and Balance Sheets (in millions)

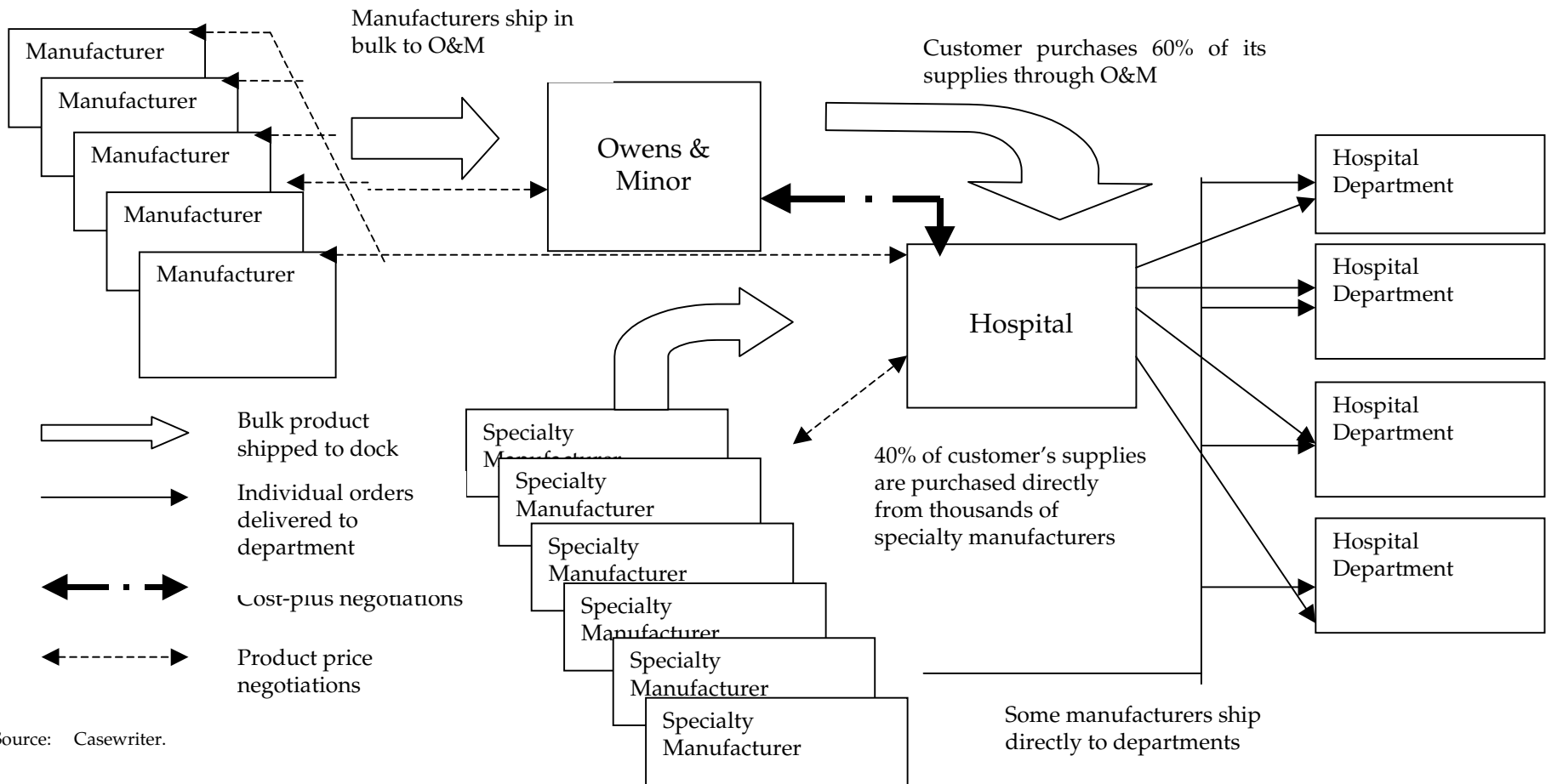
	Owens & Minor FYE 12/31/96	Allegiance FYE 12/31/96	Bergen Brunswig FYE 9/30/96	General Medical FYE 9/30/96 <sup>a</sup>
<b>Revenues/sales</b>	\$3,019.00	\$4,387.20	\$9,942.70	\$ 1,271.43
Cost of sales	2,720.61	,479.20	9,330.60	1,036.70
Gross operating profit	298.39	908.00	612.10	234.73
S, G & A expenses	233.70	672.00	418.40	189.70
Depreciation and amortization	16.10	32.20	38.30	5.67
Interest expense	18.95	18.60	30.20	29.47
Other expense	6.52	653.60	--	2.03
Total expenses	275.28	4,855.6	486.90	226.87
<b>Income (Loss) before Income Taxes</b>	<u>23.11</u>	<u>(468.40)</u>	<u>125.20</u>	<u>7.86</u>
Other income, net	--	40.50	--	--
Pretax income	23.11	(427.90)	125.20	7.86
Income taxes	10.15	49.80	51.70	4.92
<b>Net Income: Continuing Operations</b>	<u>\$ 12.97</u>	<u>\$ (477.70)</u>	<u>\$73.50</u>	<u>\$2.94</u>
<b>Assets</b>				
<b>Current Assets</b>				
Cash and cash equivalents	.7	22.9	21.4	5.2
Accounts and notes receivable	147.2	547.5	667.3	212.9
Inventories	281.8	628.5	1,221	159.6
Other current assets	25.7	136.6	22.6	1.8
Total current assets	455.5	1,335.5	1,932.2	379.6
<b>Non-Current Assets</b>	224.0	1,463.7	557.6	300.5
Total assets	<u>679.5</u>	<u>2,799.2</u>	<u>2,489.8</u>	<u>680.1</u>
<b>Liabilities and shareholders' equity</b>				
Current liabilities	262.5	698.1	1,491.6	207.0
Long-term debt	167.6	1,106.6	398.0	363.4
Other long-term debt and long term liabilities <sup>b</sup>	7.0	166.8	21.3	1.4
Total Liabilities	437.1	1,971.5	1,910.8	571.8
Shareholders' equity	242.4	827.7	579.0	108.3
<b>Total liabilities and shareholders' equity</b>	<u>679.5</u>	<u>2,799.2</u>	<u>2,489.8</u>	<u>680.1</u>

Source: Adapted from Owens & Minor, 1996 Annual Report, (Richmond: Owens & Minor, 1996), 18; Disclosure Inc, a Primark Company, Global Access, <http://www.primark.com> (8 February 2000); and Dow Jones Interactive Company Profiles (15 January 2000).

<sup>a</sup>Data is for nine-month period ending September 30, 1996.

<sup>b</sup>Other long-term debt includes accrued pension and retirement plans and deferred income taxes.

Exhibit 2 Supply Chain Flow Chart



Source: Casewriter.

**Exhibit 3** Owens & Minor, Inc. Historical Income Statements (in millions) and Balance Sheets (in thousands)

	1995	1994	1993	1992	1991	1990
<b>Revenues/sales</b>	2,976.49	2,395.80	1,396.97	1,177.30	1,021.01	916.71
Cost of sales	2,708.67	2,163.46	1,249.66	1,053.00	918.30	827.44
Gross operating profit	267.82	232.34	147.31	124.30	102.71	89.27
S, G, & A expenses	225.90	165.56	107.77	90.03	77.08	67.17
Depreciation and amortization	15.42	13.03	7.59	5.86	4.98	4.21
Interest expense	25.54	10.16	1.53	2.47	4.30	5.86
Other expense	17.38	29.59	--	--	--	--
Total expenses	284.23	218.35	116.89	98.36	86.36	77.24
<b>Income (Loss) before Taxes</b>	<u>(16.41)</u>	<u>14.00</u>	<u>30.42</u>	<u>25.94</u>	<u>16.35</u>	<u>12.03</u>
Income tax (Benefit)	(5.10)	6.08	11.90	10.51	6.68	4.63
<b>Income (Loss): Continuing Operations</b>	<u>(11.31)</u>	<u>7.92</u>	<u>18.52</u>	<u>15.44</u>	<u>9.67</u>	<u>7.39</u>
	1995	1994	1993	1992	1991	1990
<b>Assets</b>						
<b>Current Assets</b>						
Cash and cash equivalents	215	513	2,048	7,068	755	3,331
Accounts and notes receivable	265,238	290,240	144,629	116,984	140,783	127,534
Merchandise inventories	326,380	323,851	124,848	92,973	117,499	111,580
Other current assets	32,069	26,222	10,638	12,050	7,859	6,980
Total current assets	623,902	640,826	282,163	229,075	266,896	249,425
<b>Long Term Assets</b>	233,901	227,734	52,159	45,465	44,890	40,808
Total assets	<u>857,803</u>	<u>868,560</u>	<u>334,322</u>	<u>274,540</u>	<u>311,786</u>	<u>290,233</u>
<b>Liabilities and Shareholders' Equity</b>						
Current liabilities	292,239	359,038	143,072	129,249	144,221	131,442
Long-term debt	323,308	248,427	50,768	24,986	67,675	71,339
Accrued pension and retirement plans	6,985	4,919	3,539	3,646	2,799	2,450
Total Liabilities	622,532	612,384	197,379	157,881	214,695	205,231
Shareholders' equity	235,271	256,176	136,943	116,659	97,091	85,002
<b>Total liabilities and shareholders' equity</b>	<u>857,803</u>	<u>868,560</u>	<u>334,322</u>	<u>274,540</u>	<u>311,786</u>	<u>290,233</u>

Source: O&amp;M Annual Reports 1990-1995 (Richmond: Owens &amp; Minor, 1991-1995)

**Exhibit 4** Owens & Minor Stockless Customer Profitability Statement

Alpha Hospital Monthly Customer Profitability Statement			
Revenue			
Product Sales		\$ 150,000	
Cost-Plus Margin		<u>22,500</u>	
Net Sales			\$ 172,500
Cost of Goods Sold		150,000	
Vendor Discounts		<u>(4,035)</u>	
Cost of Goods Sold			<u>145,965</u>
Gross Margin			26,535
		EDI	Non EDI
Take Customer Order		28	467
Customer Billing & Collection		47	259
Inventory Management		94	641
Staging Documentation		300	1,193
Office Administrative		188	821
Processing Order		<u>188</u>	<u>1,688</u>
Total Order Cost		845	5,069
			5,914
Replenishment			750
Picking			5,250
Staging			750
Warehouse Inventory Control			900
Processing Lines			1,050
Warehouse Administrative			<u>1,200</u>
Total Line Cost			9,900
Shipping & Handling			1560
O&M Deliveries			5491
Emergency orders			500
Interest			2160
Other Costs			
Procurement			1486
Labeling			1000
Account Management			991
Fixed Costs			
Occupancy			1007
Group Fee Expense			750
Total Operating Expense			<u>30,759</u>
Net Operating Profit			\$ <u>(4,223.96)</u>

Source: Data adapted from Owens &amp; Minor Inc., 1999

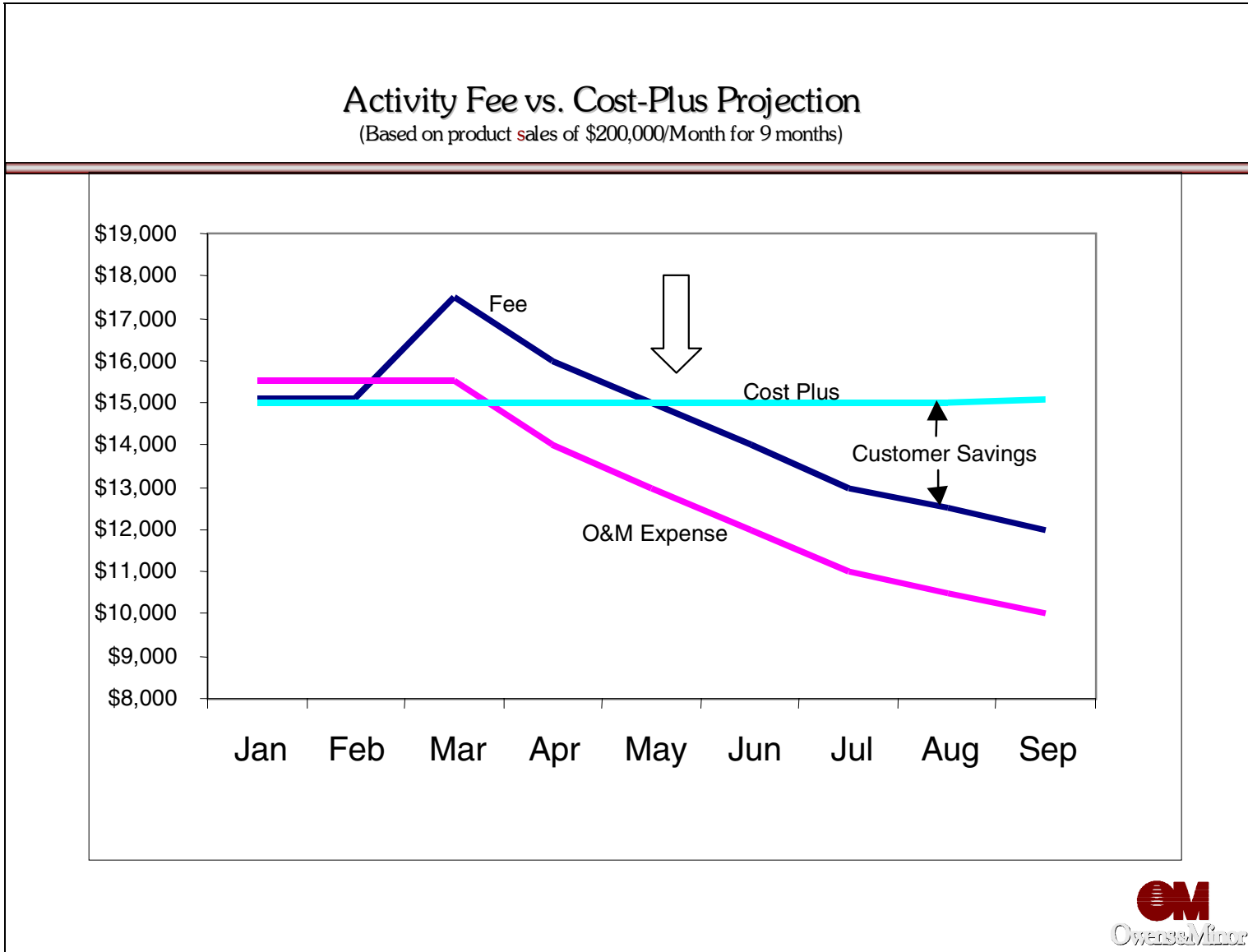
## Exhibit 5 Pricing Matrix

P.O.'s per Month	Number of Lines Ordered per Month									
	975-1,249	1,250-1,749	1,750-2,249	2,250-2,749	2,750-3,249	3,250-3,749	3,750-4,249	4,250-4,749	4,750-5,249	5,250,5,749
30-50	\$21,869	\$23,421	\$24,972	\$26,524	\$28,075	\$29,627	\$31,178	\$32,730	\$34,281	\$35,832
51-70	\$22,149	\$23,701	\$25,252	\$26,804	\$28,355	\$29,907	\$31,458	\$33,010	\$34,561	\$36,112
71-90	\$22,429	\$23,981	\$25,532	\$27,084	\$28,635	\$30,187	\$31,738	\$33,290	\$34,841	\$36,392
91-110	\$22,709	\$24,261	\$25,812	\$27,364	\$28,915	\$30,467	\$32,018	\$33,570	\$35,121	\$36,672
111-130	\$22,989	\$24,541	\$26,092	\$27,644	\$29,195	\$30,747	\$32,298	\$33,850	\$35,401	\$36,952
131-150	\$23,269	\$24,821	\$26,372	\$27,924	\$29,475	\$31,027	\$32,578	\$34,130	\$35,681	\$37,232
151-170	\$23,549	\$25,101	\$26,652	\$28,204	\$29,755	\$31,307	\$32,858	\$34,410	\$35,961	\$37,512
171-190	\$23,829	\$25,381	\$26,932	\$28,484	\$30,035	\$31,587	\$33,138	\$34,690	\$36,241	\$37,792
191-210	\$24,109	\$25,661	\$27,212	\$28,764	\$30,315	\$31,867	\$33,418	\$34,970	\$36,521	\$38,072
211-230	\$24,389	\$25,941	\$27,492	\$29,044	\$30,595	\$32,147	\$33,698	\$35,250	\$36,801	\$38,352

Source: Data adapted from Owens & Minor Inc., 1999.



Exhibit 6 Cost-Plus Fee versus Activity Fee



Source: Data adapted from Owens & Minor Inc., 1999.