Operational Execution at Arrow Electronics

Betty Jane ("B.J.") Scheihing, Senior Vice President of Worldwide Operations at Arrow Electronics (Arrow), a distributor of electronic components, was struggling with the need to make a decision on whether to allow the newly acquired Eagle Semiconductor Division to maintain its traditional strategy of operating several regional warehouses or moving the inventory in these warehouses into Arrow’s large Primary Distribution Centers (PDCs). Although Arrow’s CEO had committed to the Eagle CEO when negotiating the deal that Eagle would continue to have considerable autonomy in managing itself, Scheihing was concerned with the low inventory accuracy levels being reported for the Eagle warehouses.

Scheihing reflected on how important system compliance and inventory record accuracy had been to Arrow’s operations and her own role in championing the cause within the company. Scheihing joined Arrow Electronics as an inventory clerk in 1968 after graduating from Philadelphia Bible College. She was passionate about ensuring that inventory data – stored in a manual Cardex system when she joined – was as accurate as possible. Such was her passion for the topic that she wore the title of “Cardex Girl” with pride. Every year, Scheihing said, she waited for the results of the annual physical audit that revealed the accuracy of inventory records at Arrow. “It was my final exam,” she said, “and the accuracy score was like my grade.” As she moved up in the hierarchy, Scheihing remained passionate about system compliance and accuracy at Arrow and retained personal responsibility for it. Over time, Arrow’s operating processes had grown accustomed to very high levels of system compliance and most sales personnel and managers never questioned system accuracy when making decisions and commitments to customers. As Arrow had grown from $10 million to $10 billion in sales during Scheihing’s 35 years with the company, the need to share data and improve operational performance increased. Consequently, Scheihing thought, system compliance and inventory data accuracy had never been more important.

Industry Background

In 2002, distribution of electronic components was a $30 billion industry worldwide and $12 billion in North America. Growth in the industry had been strong, averaging 13% compounded annually between 1970 and 2000. Since the 1970s, consolidation in the industry had led to a few large companies capturing a large portion of the market. In 1970, the top five electronics distributors accounted for 25% of the industry’s revenue, whereas in 1990, the market share of the top five electronics distributors was over 60%. By 2001, the two largest electronic distributors, Arrow and Avnet, represented 50% of the market and the top five represented over 75%.
Electronic component distributors sold products such as semiconductors, passive and connector products, peripherals, and software supplied by more than 200 different manufacturers, such as Intel, Motorola, Texas Instruments, and AMP. Manufacturers typically sold 70% of their output directly to their large industrial customers and about 30% of their output through distributors, which then sold to thousands of small or medium sized customers as well as to the large industrial customers. For the customers, electronics distributors provided one-stop shopping from these 200 suppliers and rapid delivery. In addition, electronics distributors offered credit management services and value added services, such as kitting, connector assembly, specialized packing, and semiconductor programming.

Company Background

Arrow was founded in 1935 as a retailer of radio equipment and expanded in 1950s and 1960s to sell home entertainment products and electronic parts. Three Harvard Business School MBAs, Duke Glenn, Roger Green and John Waddell acquired controlling interest in 1968, at which point Arrow was the 11th largest electronics distributor. In mid-1982, Steve Kaufman joined Arrow as Executive Vice President. Shortly after he joined the company, Kaufman became the President and in 1986 he became the CEO. By 1992 Arrow was the largest electronic parts and computer products distributor in the world. In 2002, Arrow’s global network employed 12,450 people in 40 countries in North and South America, Europe, and Asia Pacific. Worldwide Arrow operated 202 branch offices and 23 PDCs, serving more than 175,000 customers and 600 suppliers. In North America Arrow operated 55 branch offices and five PDCs.

Arrow’s global sales were $7.4 billion in 2002 (see Exhibit 1 for Arrow’s annual income statement). The company’s sales were comprised of semiconductor products; industrial and commercial computer products, including servers, workstations, storage products, microcomputer boards and systems, design systems, desktop computer systems, terminals, printers, controllers and communication control equipment; and passive, electromechanical and connector products (PEMCO), principally capacitors, resistors, potentiometers, power supplies, relays, switches and connectors. Semiconductor products generated 56% of Arrow’s revenues, commercial computer products accounted for 22% of sales and industrial computer products and PEMCO products comprised the balance. In addition to providing electronic parts and computer products, Arrow engaged in various value-added services to support customers from product conception to delivery of products.

Arrow’s value proposition was to help customers design-in and obtain parts and products they needed, at the right price, at the right time and place. To achieve this, Arrow invested in a world-class sales force and world-class logistics capabilities. The sales force, located in branch sales offices, consisted mainly of Field Sales Representatives (FSRs) and Sales and Marketing Representatives (SMRs). FSRs were traditional sales people who spent the bulk of their time at customer sites. They spent time with design engineers to understand current projects and to explain and promote new products offered by Arrow’s suppliers. They also spent time with the purchasing personnel of the customer to build relationships, negotiate major contracts, and resolve any problems that may occur in the flow of orders and deliveries. A typical FSR had 10 to 20 customers. SMRs were branch-based sales personnel responsible for handling daily interactions with the purchasing agents of their customers, checking on delivery availability, quoting daily prices, taking orders, and tracking customer shipments. A typical SMR had 25 to 40 customers.

In addition to FSRs and SMRs, branch sales offices housed Product Managers who worked on behalf of the suppliers and made sure that FSRs were up-to-date on suppliers’ latest products, and Field Applications Engineers (FAEs) who offered customers design assistance, technical support and training.