Daisytek International, Inc., is the largest wholesale distributor of non-paper consumable computer supplies and accessories in North America. This article focuses on the evolution of Daisytek’s distribution operations from a decentralized, ground-based system to a centralized, air-based system that features a strategic alliance with FedEx. Daisytek’s distribution strategy has resulted in significant improvements in order cycle times, fill rates and operating costs, providing Daisytek with a recognized competitive advantage in its industry. This article presents a “before and after” picture of Daisytek’s distribution operations and identifies key principles of cycle time reduction inherent in Daisytek’s distribution strategy.

Introduction
Incredible growth in the use of computers and related peripheral equipment has created a new industry—consumable computer supplies and accessories. The market for toner cartridges, magnetic media, impact printer supplies, and other essential consumable items found in today’s automated office is sizable and growing. Current estimates indicate the market for non-paper consumable computer supplies is approximately $15.5 billion per year in the United States and Canada. This industry is expected to grow to approximately $22 billion per year by the turn of the century. Currently, Daisytek International, Inc. is the largest wholesale distributor of non-paper consumable computer supplies and accessories in North America.

Company History and Overview
Originally established in 1977 as a manufacturer of printer “daisywheels,” the early years of Daisytek’s existence were focused on being a supplier for daisywheels and a variety of other computer and software products. In 1982, British executive David Heap purchased the firm and developed alliances with major computer hardware manufacturers. Throughout the 1980s, the company’s business was split between hardware products and consumable computer supplies. By 1989, recognizing both the fierce competitiveness within the hardware industry and the seemingly untapped potential within the supplies market, Heap shifted Daisytek’s focus exclusively to non-paper consumable computer supplies and accessories. Headquartered just north of Dallas in Plano, Texas, Daisytek is a wholesale distributor of over 6,000 nationally-branded non-paper consumable computer supplies and accessories. Companies such as Canon, Digital, Epson, Hewlett Packard, IBM, Kodak, 3M, Sony, and Xerox are among the

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approximately 150 original equipment manufacturers whose products are sold by Daisytek. In addition, Daisytek works with over 14,000 customers, including value-added resellers, computer and office superstores (e.g., Office Depot, OfficeMax, and CompUSA), buying groups, and merchandisers across North America.

In developing client relationships, the Daisytek sales force makes use of a highly customer-oriented promotional program, leading-edge technologies, and a consistent, aggressive stream of promotions to down-channel organizations. Monte White, Daisytek’s director of product management, sums up the company’s promotional philosophy by saying Daisytek’s exciting future is based on “the services we offer to our customer base.” White goes on to emphasize the company’s optimism about the future and their exciting industry: “As there are more and more computers, copiers, and fax machines that go out into the market, the greater the need for offerings like Daisytek’s consumables.”

Daisytek has earned a reputation in its industry as a highly innovative and low-cost distributor. Testimonials to the firm’s success include the positive reception of its first public stock offering in January 1995 and citations such as twice being named one of Inc. magazine’s 500 fastest growing companies. Daisytek’s revenue for the 1994 fiscal year was $276 million. Revenue for the 1995 fiscal year grew to $353 million, an increase of 27.6 percent.

Daisytek’s success did not happen overnight. Nearly two decades and two
entirely different distribution systems have gone by since the company began operations. The transformation of Daisytek’s distribution operations, an important catalyst to Daisytek’s current favorable market position, is discussed below.

Daisytek Distribution: An Evolution from Decentralized to Consolidated Operations

Decentralized Distribution

In the late 1980s and into the early 1990s, Daisytek promoted itself primarily as the industry’s low-price supplier. The firm established a network of regional distribution centers (DCs) across the United States. By 1990, Daisytek had five distribution centers in the United States which were located in Dallas, Los Angeles, Atlanta, Chicago, and Parsippany, New Jersey. Figure 1 illustrates Daisytek’s United States distribution network. At this point, orders were transported via a traditional, ground-based shipping system.

As Daisytek’s order volume and customer base grew, so did the complexity of its operations. Increasingly, complaints were lodged by customers who inquired about orders that seemed to vanish. The regional DCs with their small staffs and low levels of automation in the order handling and shipping process, along with a series of difficulties with their ground carrier, were causing Daisytek considerable problems and were significant obstacles to further growth. Daisytek’s senior management was

Figure 2: Daisytek Distribution: The Memphis Superhub
faced with a critical decision regarding its distribution operations. The choice came down to two options: (1) build more regional DCs and maintain the status quo of OK distribution and order systems, or (2) break from traditional industry practices and consolidate distribution activities at a single “superhub” facility to realize economies of scale in both technology and operations. The later option was selected.

Daisytek Distribution Today
Daisytek's consolidation decision radically changed its distribution operations. Daisytek’s current distribution network looks very different than it did in 1990. Comparing Figure 2 with Figure 1 illustrates the extent of the firm's restructuring. The decision to consolidate shifted Daisytek's distribution activities to a superhub DC located in Memphis, Tennessee. The decision to locate in Memphis was based on several factors including: Memphis is “America’s Distribution Center.” More freight passes through Memphis distribution facilities every day than any other inland city in the United States. Memphis has an excellent transportation infrastructure. Positioned on the Mississippi River, Memphis offers local distributors access to virtually every form of freight transportation: air freight, trucking and rail facilities, along with access to ocean transport via the river.

Most important to Daisytek, Memphis is home to FedEx, the world's largest air distribution company and Daisytek's strategic partner. These factors resulted in the decision to locate Daisytek's superhub in Memphis. In fact, the Daisytek superhub and FedEx are neighbors. Daisytek’s 176,000-square foot DC, which houses more than $35 million dollars of inventory, is located four miles from FedEx’s Memphis hub. This facility handles approximately 3,000 orders that include over 5,000 packages every day. As a result of their strategic partnership, Daisytek has been able to integrate its own advanced information system capabilities with FedEx’s sophisticated freight tracking system and “time-definite” transportation services. Utilization of FedEx as their exclusive carrier allows Daisytek to guarantee next-day delivery of in-stock items. Integration of their distinctive information systems competencies allows Daisytek to track any customer's order at any time, at any point in the delivery cycle, within minutes. These advantages place Daisytek far ahead of its competition in terms of handling customer orders, a distinct aid in fostering customer satisfaction. Once a real problem for the firm, instant order information has become a unique advantage of doing business with Daisytek.
DaisyGrams: Proactive Order Processing

Recognizing the importance of customer order information in today's business environment, Daisytek actually goes one step farther than most of its competition. Rather than waiting for customers to call regarding the status of their orders, Daisytek takes a “proactive” approach and sends its customers “DaisyGrams.” DaisyGrams provide current order, back order, shipment, and delivery information for all orders and are faxed nightly. They are available to all Daisytek customers. An electronic data interchange (EDI) version of the DaisyGram is also available.

One Day Delivery Through Drop-Shipping

The Memphis superhub facility and its associated distribution system allow Daisytek to ship orders to its customers or to “drop-ship” orders directly to the Daisytek customer’s customer. Daisytek’s order fulfillment process is as follows:

Customer orders are received at the superhub.

Box assemblers label and introduce the most efficient (i.e., computer selected) shippable carton into the conveyor routing system.

The conveyor routes the carton through picking zones for product selection.

Order fillers are guided to correct products via a paperless “Pick to Light” system.

Packages pass over an in-line scale which verifies the expected weight of the carton and its contents against its actual weight.

Cartons pass under an in-line camera, which takes and retains a package-specific photo of the products in the carton.

Cartons are routed to a packaging and sealing area. At this point, based on the customer’s request, either paper or Styrofoam packaging is used to protect the box contents.

Packages pass under an in-line scanner for final verification of shipment. FedEx then assumes responsibility for the packages.

Because of the efficiency of Daisytek's superhub operations and proximity to FedEx, it is able to guarantee its customers next-day delivery on orders received by 9:00 p.m. EST. This is another distinct advantage of the Daisytek system. Not only can the company boast a 95 percent fill rate on customers' orders, it is often able to exceed customers' expectations in terms of delivery time. Beginning with the first customer shipment sent out of the superhub on July 6, 1992, the results have been tremendous. The next section illustrates several of the benefits associated with Daisytek’s distribution strategy and also identifies key principles of cycle time reduction incorporated in this strategy.

Daisytek’s Distribution Strategy: Resulting Benefits and Associated Principles of Cycle Time Reduction

Principles of Cycle Time Reduction

Daisytek’s innovative distribution strategy incorporates a number of key principles of cycle time reduction. These approaches...
have been shown to be effective means for reducing the time required to complete organizational processes. Specific principles observed in the Daisytek distribution strategy include consolidating, automating, “informating” (i.e., innovative application of information technology to allow the free flow of information between organizations), co-locating and partnering. In the following paragraphs, cycle time reduction principles are presented and resulting benefits realized by Daisytek are discussed.

Consolidating
Creation of a consolidated superhub DC has allowed Daisytek to take advantage of economies of scale in terms of personnel, automation, and technology. Specific benefits that have resulted include: (1) a reduced amount of safety stock by consolidating inventory from the multiple DCs in the previous system, (2) an increase in inventory turnover rate from approximately nine turns to approximately 12 turns in fiscal year 1994, (3) an improved order fill rate of approximately 95 percent, (4) an improvement in labor productivity, (5) a reduction in shipping errors and their associated cost, (6) an improvement in delivery times to most geographic areas, and (7) a reduction in facility-related expenses.

Automating
The move from small regional DCs to a superhub facility provided the order volume necessary to justify investment in “state of the art” warehouse automation. Specific automation employed includes automated conveyors, in-line scales for automatic accuracy checking, computerized sorting equipment, scanning and bar-coding systems, an automated package routing system, and a paperless order picking system. Order volumes in the regional DCs could not justify investments of the magnitude required for this level of automation. The high level of automation employed in the Memphis DC is a key enabler that allows Daisytek to provide next day delivery for 95 percent of its orders.

“Informating”
Linking Daisytek’s information systems with the FedEx order tracking system has significantly reduced the time required to provide tracking information for customer orders. At one point, nearly 30 percent of the time spent on a given Daisytek order was devoted to customer “WISMO” (Where Is My Order?) requests. The time devoted to tracking orders has been all but eliminated. Now when a customer calls, or when an order must be tracked for any reason, it can be done within minutes of the request. This development has not only reduced the time required to provide its customers’ with requested information, it has also reduced the cost associated with providing this information. Furthermore, the use of the DaisyGrams provides critical order information in a cost effective manner before it is even requested.

Co-locating
Locating the superhub in Memphis to take full advantage of the capabilities of FedEx has allowed Daisytek to extend its order cut-off time. Under Daisytek’s earlier decentralized DC configuration, customer orders had to be placed before 4:00 p.m.
EST to make the cut-off time for a given day’s shipping. Now, located practically in FedEx’s backyard, Daisytek’s customer order deadline has been extended to 9:00 p.m. EST. Even with the 9:00 p.m. cut-off, Daisytek still has 4.5 hours (12:30 a.m. CST) to process these orders before the end of their daily shipment window with FedEx. The Memphis location also allows FedEx to provide Daisytek with favorable rates given the relatively low cost associated with getting Daisytek’s freight into the FedEx system. Daisytek, in turn, charges its customers ground transportation rates, but provides them with air transportation performance.

Partnering

Daisytek and FedEx are true partners committed to a mutually beneficial, long-term relationship. Evidence of this partnership can be seen in the long-term agreement between Daisytek and FedEx, which runs through the end of 1999 as well as the co-location of FedEx personnel at Daisytek to facilitate the processing of Daisytek orders into the FedEx system.

Conclusion

Daisytek’s president and COO, Mark C. Layton, states that the company’s mission is “...to be a low-cost, high growth distributor.” The benefits of Daisytek’s distribution strategy and the Memphis superhub are being realized. Armed with a leading-edge distribution strategy, a strategic alliance with FedEx, and its innovative use of information technology, Daisytek appears well-positioned to accomplish its mission. These factors will enable Daisytek to remain the industry’s low-cost distributor while servicing steadily increasing demand for its products overnight.

References


Personal interviews with Jim Forrest, Distribution Director, Daisytek International, Inc., Memphis, TN.