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Reverse logistics program design: A company study

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Abstract A series of visits to a Fortune 500 wholesale distribution company of technology products revealed a changing perspective regarding building and implementing reverse logistics programs. Five major initiatives define the reverse logistics program design process at this company: (1) Gain senior management support and turn reverse logistics into a company-wide initiative; (2) Involve your customers in the reverse logistics design process; (3) Give distinct recognition to the employees involved in handling returns within the firm; (4) Implement carefully developed written rules and procedures that reflect both internal and external concerns; and (5) Assign strict responsibility for the execution of the reverse logistics program. The study follows these five major considerations in more detail. The interviews and observations at this particular firm provide guidelines for managerial decisions relating to reverse logistics.

You need to change the mentality of the top management team, the organizational culture, when it comes to building a successful reverse logistics program. — Reverse Logistics Manager at WCC (pseudonym, representing "Wholesale Computer Company")

1. Reverse logistics: Climbing up the "priorities" ladder

Reverse logistics is defined as "the process of moving goods from their typical final destination for the purpose of recapturing value, or proper disposal" (Rogers & Tibben-Lembke, 1999, p. 2). Gradually, the return movement of goods and services in the supply chain is becoming a necessary business activity regardless of the industry or product/services involved. Overall, the value of returns is estimated to be around $43 billion per year, representing an average of 15%-20% of all goods sold (Norek, 2003). Consequently, reverse logistics has long outgrown the role of a reoccurring headache which is simply part and parcel of the cost of doing business. Stock, Speh, and Shear (2006, p. 16) best describe the strategic change taking place: "Reverse logistics should not be viewed as a costly side-show to normal operations. Rather...[it] should be seen as an opportunity to build competitive advantage."

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The fact, though, is that "most companies' executives would rather spend their energies getting products out the door to customers who want them" (Zieger, 2003, p. 21). Maximizing sales and planning the outbound process, from raw materials to manufacturing to final consumption, is the focal point of contemporary supply chain management and logistics.

Firms are beginning to acknowledge that, in many cases, reaching the final customer does not automatically represent the end of the journey for a product/service. Products flow backwards after reaching their point of consumption for numerous reasons. For example, what happens when damaged and/or defective goods reach this final point? What if the final customer has received incorrect items or quantities? What if repairs are needed or piles of unsold merchandise await their destiny in a costly overstock situation? These questions are mainly related to the product side of the process. Marketing-related causes for returns must also be addressed, including customers' dissatisfaction with a particular product and/or customers who change their mind after the initial purchase. Straightforward abuse of firms' return policies by some customers provides for additional volume of the market-related returns (Rogers & Tibben-Lembke, 1999). For years, the answers to these issues were given secondary attention, at best. The obvious reason for neglecting to implement a state-of-the-art reverse logistics program is cost related. Companies are already hard pressed to cut costs—including logistics expenditures—to a minimum; dealing with returns is considered an unnecessary and costly effort.

Even as companies begin to recognize the value-added potential of reverse logistics, they often fail to distinguish the specific dimensions of the reverse process. Often, they attempt to incorporate it within their forward logistics operations (Knemeyer, Ponzurick, & Logar, 2002). Although intuitively appealing, this simplistic perspective of reverse logistics can be misleading. While it is true that both forward and reverse logistics must be engaged in handling the physical flow of goods and services, some notable differences exist when management capabilities are addressed. Stock and Lambert (2001) warn about the potential danger of equating forward and reverse logistical flows by stating that "most logistics systems remain ill equipped to handle product movement in a reverse channel." In a study related to the recycling industry, for example, the factors affecting the reverse logistics channel proved to be substantially different from those linked to traditional logistics' forward flows (Pohlen & Farris, 1992). These authors conclude that "differing product characteristics, extensive handling, and low density shipments pose considerable obstacles to establishing an efficient reverse channel" (p. 35) by just mimicking the forward flows. A strategic shift in the understanding of the complex nature of reverse logistics is necessary.

WCC—a pseudonym for our focal company, "Wholesale Computer Company"—provides a great opportunity to examine the successful implementation of a reverse logistics program. At WCC, the necessity of dealing with returns gradually transformed into a pressing problem. Returns began piling up in the distribution center, without a clear company protocol and dictate regarding who was responsible for processing. The situation became critical when customers—including key accounts—started to complain about excessive wait times for returns-related financial credits and, as a result, started to divert some or all of their business to WCC's competitors. The initial reaction of WCC's management was to substantially increase the budget for reverse logistics, with emphasis on hiring additional labor. A returns supervisor best described the resulting situation: "The returns department soon became crowded. The approach was to throw more bodies at solving every problem associated with returns handling, without any idea why the problem appeared in the first place." Top management was surprised to find that the increased budget seemed to worsen the situation.

The apparent contradiction required focused efforts to identify the root problem(s). Company executives assigned to the task reached a unanimous conclusion: there was a definite lack of understanding as to what was involved with handling returns, including the major processes and accompanying activities, and how to clearly map them.

The research presented herein describes the major processes and activities related to returns handling at WCC, and illustrates the successful turnaround the company made regarding its reverse logistics program. First, a more detailed description of the company and its competitive environment is provided. Second, a rationale is offered for selecting the specific case of WCC. Next, an analysis of the reverse logistics program at WCC is presented, with an emphasis on customer involvement and process formalization as key determinants of enhanced program performance. Finally, implications for managers involved in handling returns at other companies are discussed. Although descriptive in its nature, the case study can help other companies to more fully exploit opportunities to improve reverse logistics.

2. The company

WCC's primary business is the wholesale distribution of technology products. From humble beginnings more than 30 years ago, with a dozen dedicated employees and a single line of business, the company is now a global leader in providing complete IT product solutions. WCC serves the U.S. market and also has operations in Canada, South America, Europe, and the Middle East. WCC's main product lines include components, networking, peripherals, software, and computer systems. Within each product line, the number of SKUs offered is growing exponentially in response to customer requests. The components product line, for example, consists of more than 10,000 different items. The list of component suppliers includes names such as Microsoft, Seagate, AMD, Intel, Toshiba, and HP. Additionally, more than 450 vendors provide a vast array of networking, peripherals, software, and systems products. WCC has more than 100,000 customers including value-added resellers, direct marketers, retailers, corporate resellers, and individual clients. The company also provides a range of services including training, technical support, external financing, network configuration, and marketing. A separate division deals with electronic commerce solutions. Services offered include online order entry, product integration services, and electronic data interchange. The company business model has evolved into an integrated supply chain specialist offering products and associated services. WCC is regularly ranked in the Fortune 500 and consistently outperforms the computer wholesale industry, although it ranks behind its main competitors in terms of market cap. Its competitive position is remarkable, considering the growing trend of manufacturers to promote direct relationships with their customers and provide undifferentiated offerings to their various wholesalers. This trend leads to a major point regarding the current research.

3. Why WCC?

Logistics management has been recognized as one of the major factors contributing to the success of WCC's business model. The company has achieved an impressive 99% shipping accuracy rate and can accept same-day shipment orders as late as 5 p.m., Monday through Friday. In addition to comprehensive product offerings, WCC features an efficient distribution system which supports enhanced customer service including customized shipping documents and electronic commerce integration. Publicly available sources of information reveal that WCC is the only company amongst its direct competitors that does not outsource the logistics operation, a strategy which includes the reverse logistics program. Keeping returns handling as an in-house operation predetermined the interest to investigate further WCC's reverse logistics program in a case study. Initial correspondence with company executives confirmed the uniqueness of WCC's approach to reverse logistics as a potentially strong differentiating factor in a tight competitive space. As reported by one WCC distribution center manager:

> We could not afford to lose the direct contact with our customers in any stage of the distribution effort, including returns handling. We did try outsourcing this particular function in the past; the risk of losing a customer became too big.

This manager went on to explain that centering the reverse logistics program on customer needs not only enhanced the relationships with WCC, but also proved less costly as compared to an outsourced off-the-shelf solution. Taking care of customers first began to make perfect economic sense. The entire corporation is now involved in reverse logistics at WCC. The payoff is clear. Reverse logistics operations can help not only WCC but also its partners to minimize supply chain costs and to maximize efficiencies. To examine these issues, a qualitative type of research was utilized at one of WCC's five distribution centers in the U.S. (For an extended discussion regarding the research method, see the Appendix)

4. Getting started in reverse

4.1. Operational considerations

The study presented here involves WCC's largest facility in terms of physical space: 553,000 square feet. Approximately 150,000 square feet of this is dedicated to returns operations. Although the distribution center is considered a one-unit building, the area for returns processing and the returns receiving gate are treated separately. Each is assigned an individual mailing address and a partitioned physical space. Several important considerations were taken into account when reverse logistics operations were designed.

4.1.1. Security

A major reason behind separating returns from outbound distribution related to security issues. Prior to establishing strict personal responsibility for handling returned products at WCC, many returned

items were either lost or misplaced. The following scenario began to play out with increasing frequency: A customer would make an inquiry regarding delayed crediting for a return. After spending a considerable amount of time investigating the issue, returns personnel would report to WCC's customer service that this particular returned product was registered as having entered the building, but could not be found in the distribution center. Customer service had no choice but to apologize to the customer for the delay and immediately charge back the account.

Loss related to the low security level within the returns area was not only financial. The potential for eroding WCC's competitive reputation was also at stake. As a wholesaler, WCC often serves the needs of direct retail competitors. Sensitive data are often loaded on the electronic products coming back from the market, and customers expect proper liquidation without any possibility that third parties might recover such information. The need to tighten security around reverse logistics was thus recognized.

Currently, WCC has an airport-like security system run by a specialized separate firm. Employees have only one point to enter/exit the returns area. Metal detectors and personal security agents are assigned to monitor that point. The number of unaccounted returns is drastically minimized.

4.1.2. Shipping/receiving

A consistently recurring problem, for WCC returns managers and involved transportation companies alike, was the unloading of returns at the incorrect location within the distribution center. As a result, returned products were often mixed with new products waiting to be shipped. In addition, the shipping gate was frequently blocked by returns and much time was wasted sorting through the mix. Returns had to be internally transferred back to the returns area, often manually. Assigning a separate mailing address to the returns dock avoids these situations. Now, even new carriers and drivers are able to make an accurate delivery/shipping according to the predetermined gate.

4.1.3. Labor

According to the general manager of WCC's distribution center, returns inspection is the most complicated function performed at the facility. Numerous requirements regarding the condition of the returned product and related disposition options have to be accounted for by returns inspectors. At the same time, these staff members must possess high levels of computer data input proficiency in order to record all associated, pertinent information into the company's database system. As one of the returns supervisors stated: "returns personnel can pretty much do any other job in the distribution center, but it doesn't work the other way around." Better educated, better trained, and highly motivated employees are necessary to fill the positions.

Considerable investments were made related to improving the skills and abilities of returns inspectors. Such investments made it prohibitively costly to institute even temporary layoffs. At the same time, the unpredictable nature of returns made 100% labor utilization—covering a two shift, whole day operation throughout the year—difficult to ensure. The solution was found by establishing a mix of full-time and hourly workers for handling returns. All returns inspectors, for example, are hired full-time; supporting personnel—who unload returns, palletize and distribute the returns to the inspecting stations, and pick and pack the processed returns according to disposition options—are paid by the hour. This doesn't mean that WCC's returns management is indifferent regarding turnaround rates for supporting employees. Near full-time labor utilization is ensured for these workers, as well. Still, the rationale for the division is that it is much easier to hire additional supporting (temporary) employees than returns inspectors.

A balance is achieved at WCC. Here is how it works: Returns processing is executed in one shift only, from 6 a.m. to 2:30 p.m. Working this span, returns inspectors have a guaranteed work day load. At the same time, an official cutoff deadline for returned products has been set at 11:00 a.m. daily; transportation companies are contractually obligated to make any returns deliveries prior to that time. After 11:00, supporting returns personnel can be transferred to help with new-product outbound operations, whereby the same pick-pack-ship professional skills are required. Thus, a full day workload is ensured for hourly workers, too.

Coordination between returns and outbound distribution is an important additional benefit following intradepartmental employee transfer. Organizing returns handling around employees' needs pays off for WCC: the company has the lowest employee turnover rate among more than 100 other companies located in the same industrial zone.

4.2. Customers' requirements

WCC has always been proud of its ability to address customer needs and concerns. Managers recognized that the same high standards must be applied to returns. As such, customers' needs were established as the starting point in building a reverse logistics

program and developing a returns policy. As a wholesale company, WCC has two very different types of customers: (1) manufacturers and WCC's suppliers, and (2) resellers and end users.

4.2.1. Manufacturers and WCC's suppliers

WCC serves manufacturers and suppliers not only by distributing new products, but also by handling returns. These customers often have long lists of requirements related to what they will accept as a legitimate return. For example, manufacturers/suppliers often negotiate a returns allowance, stating the percentage of new products that can be returned with no questions asked. WCC accepts returns of products that are inoperable at first use (Dead-on-Arrival, or *DOA*), are defective, or are damaged in transit. Some manufacturers/suppliers limit the time for accepting returns on certain products. These limits must be considered in the returns policy. WCC is responsible for monitoring and strictly applying the agreements. Establishing formal agreements between WCC and its manufacturers/suppliers proved to be worth the effort. The value-added in providing a complete logistics solution related to the returns flows of goods results in more business for WCC at better terms.

4.2.2. Resellers and end users

The returns needs of resellers and end users are somewhat different from those of manufacturers/suppliers. While the latter focus on product-related reasons for returns, the former also add a market-related dimension to the mix in that seasonal surges in demand must be accommodated. The issue of receiving the wrong product and/or the incorrect quantity due to vendor error must be addressed, as well as changing end user preferences.

Overall, WCC serves more than 4,000 manufacturers/suppliers, as well as many resellers and end users. The two groups of customers affect the development of WCC's reverse logistics program in different ways. While the relationship between WCC and its manufacturers/suppliers provides complete logistical support for distributing and selling a product, the relationships with resellers and end users center on product and market-related information. The corresponding returns-related requirements for enhanced customer service can be burdensome. WCC management realized that unless the value of reverse logistics is communicated clearly to customers and internally to the different departments involved, improving program performance can be problematic. This being so, WCC needed to set up an established advance return policy in order for the achievement of high levels of communication and coordination between the firm and its various customers.

4.3. The returns policy

After careful analysis of the returns requirements of manufacturers/suppliers, as well as resellers and end users, WCC's management identified common areas across the customer base. Basic returns guidelines included return authorization information, return product eligibility requirements, return shipping guidelines, freight damage guidelines, and general corporate policy regarding returns. Stated explicitly in a policy format, the guidelines were introduced via special change announcement: "We have standardized our Returns Policy, which will enhance your customer experience with WCC. This simplified policy will allow WCC to provide you consistent returns information in a timely fashion."

With little out-of-pocket investment, WCC created a returns policy that was carefully communicated to customers through different channels, including online. WCC managed to successfully customize its returns offering based on a set of agreed-upon written rules and procedures. The basic guidelines included in the returns policy serve as a solid foundation to expand the value-added proposition to different groups of customers. Key accounts, for example, have access to the services of a dedicated Business Partner Authorization desk staffed with specialists who work directly with the customer. Currently, 51 vendors holding this privileged status may request technical assistance with returns 24 hours a day, 7 days a week.

The returns policy is externally oriented. It helps to set customer expectations and engages customers as partners in the efficient handling of the reverse logistics operation. The enhanced communication between WCC and customers results in increased visibility of the value of reverse logistics in the distribution channel. Stronger senior management support for greater IT investments, better training for employees, and better coordination among the different departments involved in handling returns are all justified by increased customer satisfaction, resulting in more business for WCC.

As part of this case study, an extensive search of competitors' databases and other available secondary sources of information did not produce any results regarding clear guidelines for handling returns. In light of the computer wholesale industry's drive toward identical product offerings, as discussed in Section 2, the notion that giving a strategic priority to handling logistics operations in-house appears to provide a competitive edge for WCC.

5. Reverse logistics in action

Next, the reverse logistics protocol established by WCC is analyzed, highlighting the requesting of return authorizations and the processing of returns.

5.1. Requesting return authorization (RA)

The first step in WCC's reverse logistics process involves return authorization (RA). Under this framework, all customers must call WCC prior to any return, no exceptions. During this call, the client is obligated to describe the product and explain why it is being returned. Only after the request has been approved and the customer service department has assigned the return an RA number can customers send back the product. Before establishing the formal rules and procedures that govern RA requests, however, related customer and operational requirements had to be considered. Getting customers "on board" proved to be crucial in setting the tone for the whole operation.

5.1.1. Customer considerations

Before customers were required to request return authorization and be granted an RA number, the average time for crediting clients' accounts varied considerably. Customers routinely complained about how long it took to credit their accounts for any given return, and were initially quite concerned that having to wait for return authorization would add yet more time to the refund process. Even when delays were the fault of the client, due to discrepancies in the quantity and/or quality of goods returned to WCC, a negative customer attitude prevailed. "Returns are not *our* job. Don't waste our time with returns-related problems. Just give our money back," was a common response. In this environment, changing customers' attitudes toward returns—to that of more of a partnership—was a necessity. The general manager of WCC's distribution center illustrated the issue: "Educating the customer about the importance of accurate returns claims became a priority. The best argument was related to cost reduction implications for returns handling, not only for WCC, but even more importantly for the customer as well."

5.1.2. WCC operational considerations

Customer satisfaction has always been considered top priority at WCC. Requesting return authorization had never been regulated and strictly enforced, out of fear of negative customer reaction. The misunderstanding of what constitutes better customer service proved to be costly. Lack of pre-return authorization resulted in no visibility as to what was being returned on any given day. The reactive nature of return processing resulted in a considerable waste of time, due to the impossibility of advanced resource planning and allocation. Inventory holding costs related to returns were growing exponentially and customer service was suffering.

5.1.3. Applied RA

WCC now guarantees 48-hour turnaround for processing any return request and granting RA. By carefully explaining the benefits of pre-return authorization and making the authorization request process user friendly, WCC turned customers into partners in the reverse logistics program. With just a few clicks online, clients can request a return authorization and receive a timely response message. Three sequential steps are involved in the process:

1. Step 1: Select items - WCC offers a complete list of all the products purchased by the customer by invoice number, part number, quantity, and invoice age. The client sees the list on her screen and clicks on the particular product/part to be returned. The same procedure is repeated again if more than one item is considered for return.

2. Step 2: Edit items — From a customized drop-down menu, the client edits the complete details of the returned product including the reason for the return, the unit price, the customer reference number, and the item's(s') serial number(s).

3. Step 3: Review - Final revision of all the selected items is offered to avoid any accidental inclusions, and/or to include additional items on the list. This final step is followed by clicking the "submit" button to register the official return authorization request.

There are four possible responses to a return request:

1. Approved — The request to return this item has been approved. A confirmation e-mail will be sent with the return details and instructions.

2. Denied — The request to return this item has been denied. See reason(s) below.

3. Reviewed — This return request has been reviewed. WCC's customer service representative will contact you.

4. Mixed — Some of the items in this return request have been denied or require additional review. Specific details are available below.

The implementation of this interactive and easy-to-use online tool for requesting return authorization resulted in improved relationships with customers, reduced human error, and considerable reduction in the returns processing time. The information collected in advance enables increased visibility within the returns flow of products. Additionally, an automatic electronic profile is created for each customer. This profile includes not only information related to specific returns but also information about the customer, a history of transactions with WCC including the number of returns, billing information, contact person(s), and so forth. The type of return is known, the specific reasons for the return are registered, and customer requests for proper disposition of products are explicitly considered.

5.2. Processing returns

Because WCC already possesses the information regarding quantity and condition of merchandise as provided via return authorization requests, it is ready and prepared to deal with incoming returns. The receiving process, as illustrated in Figure 1, is engineered with customers' needs in mind.

5.2.1. Receive and stage

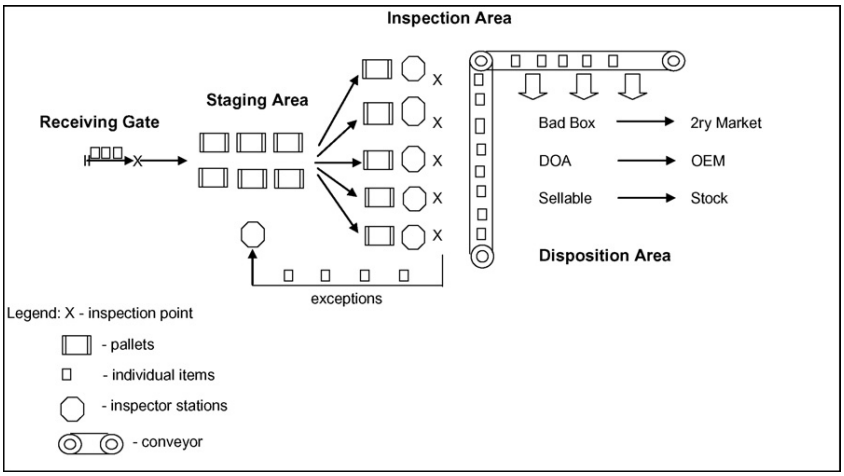
At the assigned receiving dock, the returned products are physically unloaded and organized; approximately 1,900 cartons of returns are received daily, placed on pallets, and staged in the receiving area. Every return must be registered at the point of entry in the returns facility and followed all the way to proper disposal.

The first inspection point and the subsequent palletizing and staging of returns all provide visibility in terms of turnaround times. Since pallets are wrapped in different color folio according to the day they are received, at any given time returns managers and/or supervisors can tell how large the unprocessed product backlog has become. A type of FIFO (first-in-first-out) rule is followed whereby the most recently arranged pallet is processed last. For example, if Monday's returns are wrapped in red folio (Tuesday might be assigned black; Wednesday, green, etc.) and 48-hour returns processing is guaranteed to customers, no red pallets should remain in the returns center prior to end-of-business on Wednesday. The increased visibility in terms of backlog helps WCC's managers focus their attention on prompt and accurate service to customers by assigning additional resources for processing.

5.2.2. Inspect returns

After the pallets are arranged and staged in the receiving area, the inspectors tackle the first pallet in line, disassemble it, and begin the itemized inspection process. Each inspector logs in with his or her own individual code to ensure strict and personal accountability. The electronic profile created by customer service following customers' requests to return product(s) proves invaluable in the inspection process. The information on the product (manufacturer's number, the product's serial number, invoice number, etc.) from the customer RA request is detailed on a screen. The verification process is centered on comparing this data to the physical condition of the product. If product condition and accompanying documentation match the information on the screen, the returns inspector assigns a disposition code for the return according to predetermined policy and individual service level agreements. Before disposition options are discussed, an important additional consideration of potential exceptions should be mentioned.

Figure 1. Returns processing



5.2.3. Identify exceptions

If upon inspection either information is missing or the actual condition of the product does not correspond with the RA electronic profile, the item is tagged as a "red exception." Rather than halt the entire processing line, red exceptions—which account for approximately 10% of WCC returns—are sent to an exceptions center within the staging area. Here, designated employees deal with exceptions under the close supervision of a returns manager. Customers must be informed immediately about the registered discrepancies and provided with a detailed description of the problem; explanatory photos may be added for the sake of proof. This proactive approach to client communication regarding exceptions is official policy at WCC and is included in the company-wide customer relationship management initiatives.

One additional issue that could be considered an exception is the privileged treatment of key account customers. Each inspector is provided with a list of the companies designated as key accounts, along with a detailing of their specific requirements. Relaxed return quotas and product return specifications, for example, may trigger a change in the inspection process. Senior distribution center management, corporate customer service, and sales team involvement is mandatory in cases of discrepancies recorded that relate to key accounts' product returns. Approximately 90% of the inspected returns comply with returns-related requirements and are moved to the disposition stage of returns processing.

5.2.4. Assign disposition

The task of deciding what will be done with processed returns is known as assigning disposition. Three major disposition categories were adopted at WCC: sell at a discount on secondary markets; return to the manufacturer/supplier; and return to stock/sellable (see Figure 1).

Sell on secondary markets: Products that are in good operational condition, but which are packed in containers that have been damaged/compromised or had the manufacturer's seal broken, fall under the disposition code "Bad Box." WCC can try to resell these products on secondary markets. The term "secondary" is used by WCC's personnel to indicate that these products have already been sold as new once, and now go back to the market for the second time as used. A negotiated percentage of the return's resale value is usually credited back to the vendor after a sale is made. Or, WCC pays vendors the full suggested residual price of a return and then tries to sell it at a profit. Selling the already processed return requires close coordination with the corporate sales department. This method not only highlights the importance of reverse logistics company wide, but also positions the returns department as a profit center as well. The latter was accomplished by the development and promotion of a departmental website selling Bad Box products online. Initial skepticism on the part of senior management quickly transformed into enthusiastic support when the Web initiative generated considerable traffic and more than 70% of Bad Box sales.

Return to manufacturer/supplier: As stated by a returns manager at WCC, "Pushing returned product back to manufacturers/suppliers is considered the highest priority when disposition options are discussed." The urgency stems from the direct cost implications for WCC: manufacturers/suppliers credit WCC only after they receive the returned product. According to preestablished service level agreements (SLAs), WCC can send vendors the following return product categories: product that is still factory sealed; product that is dead on arrival (DOA); and product that is defective. Factory sealed returns are described as in fully resellable condition, with no stickers, markings, etc. DOA product returns are initiated by resellers. Acceptable DOA reasons for return include product damaged in transit, vendor quality defect, or wrong product received in terms of quantity and/or technical specifications. Defective returns are usually initiated by end consumers; the product was inoperable at first use. As outlined by the agreement with vendors, such returns can be directly shipped to the vendor, who will then fully credit WCC.

Return to stock/sellable: The final option, related to products that are new with the original manufacturer's seal intact, is to place them back in new inventory as sellable. The manufacturers/suppliers must formally agree to WCC retaining their returned product in the hope of finding new customers. This is the most preferred option for manufacturers/suppliers, since returns transportation costs are avoided and valuable inventory space is preserved. If return to stock disposition is selected, the processed return must be put back to sellable inventory according to customer status and available space. Key accounts, for example, have dedicated stocking racks within the distribution center and processed returned product associated with them is automatically routed to that zone. The put-to-stock team is responsible for assigning the appropriate inventory location. Navigating thousands of square feet, this is often a formidable task. An electronic map of available space by zones and stocking racks guides the placement of this type of returns. Close coordination efforts are necessary with the new inventory/sellable shipping department to ensure proper utilization of available inventory space.

6. Measuring results

The customer-centric business model for handling returns is applied to measuring performance, as well. Two major groups of customers determine the core dimensions of measuring reverse logistics program performance at WCC.

With respect to external customers/partners, outcome measures relate to customer satisfaction, and financial and technical performance. The focus at WCC is service quality related to the time it takes a customer initiated return to result in a credit back to that customer's account. Another important measure directly related to customer satisfaction is how fast WCC handles exceptions to the generally accepted returns policy. As previously discussed, many companies still consider returns a low priority and the number of so-called ''exceptions'' is substantial. At WCC, proactive management of exceptions is set as a priority, requiring a system of constant monitoring and control. Written procedures and guidelines for execution are set to achieve predetermined performance outcomes. Most importantly, the externally oriented performance outcomes are continuously shared with customers, allowing for straightforward comparison of bottom line cost reductions for both parties following the strict implementation of the pre-agreed upon reverse logistics program.

The second major group of customers is WCC's own employees. The company boasts, and is proud of, having the lowest employee turnover within its industrial zone for the last 5 years. This is not accidental. Extensive training and the personal involvement of all employees engaged in returns handling contributes to the high labor retention rate. Total processing time from receiving to disposition, labor productivity determined by the number of returns processed per hour, and total orders received and shipped on any given day are the major indicators of individual performance. WCC wants to make sure that individual efforts are rewarded by providing adequate budgeting to support the reverse logistics program.

7. Implications for managers

The reverse logistics program described herein is exemplary of a successful transition from lack of accountability and reactive processing to streamlined and efficient operations. The insights provided by employees directly involved in handling returns at WCC highlight several major factors that enabled the transition—and which might prove beneficial to other firms, as well: engage your customers; reduce complexity; cherish your employees; and make reverse logistics a company-wide initiative.

7.1. Engage customers

While the firm itself is almost always responsible for the initiation of a reverse logistics program, customer input is crucial. Managers in charge of developing and implementing the program must account for clients' expectations and requirements. Not only can customers' input be vital in providing complete solutions from initiation to disposition of returned products, but also in highlighting to the firm client concerns that may be addressed in advance of implementation and therefore avert potential problems. For example, customers' misconceptions that adopting and enforcing a formal returns policy would delay their returns-related credits were proved unsubstantial by WCC's management. A detailed discussion with customers on the processes following the returns policy quickly resolved the problem. ''Customer satisfaction guaranteed'' is not, and should not be, just a slogan at any firm involved in reverse logistics.

7.2. Reduce complexity

Companies can easily become overwhelmed by the complex nature of returns, including an array of different customers' requirements, cost considerations, and profit opportunities. The lack of personal accountability and a system for monitoring and controlling the reverse logistics operation can further reduce the efficiency of handling returns. The intricacies related to handling returns can be moderated by formalizing the processes and activities involved. From return initiation and the introduction and enforcement of an agreed-upon customer returns policy, to receiving and processing the returns, to their final disposition, written rules and procedures must be readily available to guide execution. A formal performance feedback loop should be established. Formalization allows for the identification of potential weaknesses and the immediate application of corrective actions. Additionally, formalization suggests important implications in terms of internal integration of reverse logistics operations within organizations and external integration with customers. Detailed description of the reverse logistics program, including clear-cut intermediate and final operational outcomes, increases the probability of getting senior management's attention and securing favorable budgeting for the reverse logistics program. More importantly, by pinpointing the potential effects of a missing return authorization, for example, it becomes easier to motivate customers to actively participate in the program.

7.3. Cherish your employees

WCC's returns managers and supervisors agree that the best workers ought to be utilized in the returns area of the distribution center. Accordingly, extra care and resources should be dedicated to motivating and constantly enhancing their professional skills and abilities. Extensive training and on-the-job advising must be combined with improved working conditions. For example, WCC hired consultants to design the returns inspecting stations in the most ergonomic way possible; hydraulic lifts were installed to help returns personnel handling heavier products. The results are indicative of the importance of such investments: WCC has the lowest employee turnover rate among all the firms within this particular free trade zone location.

7.4. Make reverse logistics a company-wide initiative

The incorporation of reverse logistics operations within the logistics effort of a firm should be the first step in the process of corporate-wide integration. In the case of WCC, attracting senior management attention and support seemed to be the most difficult task regarding returns. Mapping out the reverse logistics program and identifying the different departments directly or indirectly involved in returns handling can prove to be a valuable initiative. Clear responsibilities must be assigned to accounting, sales, finance, marketing, etc. regarding increasing the efficiency and effectiveness of the reverse logistics program.

These factors, in isolation and/or as a whole, can be the missing ingredients in reverse logistics program development for other organizations faced with considerable returns flows. The potential for yielding big rewards from properly managed returns has long been acknowledged; it's time for companies to start capitalizing on that potential.

Appendix: The study

Qualitative research methodology was used to describe the reverse logistics program at WCC. Virtually no written materials exist which cover in detail the specific activities involved in building a state-of-the-art reverse logistics program as applied in practice. In such a scenario, the exploratory form of investigation is considered most appropriate (Yin, 2003). Furthermore, the lack of previous case studies on the topic precluded the possibility of preconceived notions regarding the practice of returns handling. Because of this, unstructured interviews with employees involved in reverse logistics at WCC served as the primary method for gaining a better understanding of the processes and activities involved. Prior to conducting the personal interviews, introductory phone calls were made to company officials to solicit initial agreement for participation in the research. In addition, the preliminary talks served as a guarantee that the most knowledgeable employees would be interviewed. All interviewees held executive positions related to reverse logistics operations. The interviews took place during prearranged site visits whereby the reverse logistics operation was observed and recorded in detail. Both audio recording and handwritten notes were used to ensure a complete transcript following each visit. Additionally, another academic volunteered to be present during one of the site visits to ensure that the interviews were conducted according to WCC's requirements for anonymity and to ensure high ethical and academic standards. A total of four visits were made to this WCC distribution center. The interview participants included the general manager, the logistics manager, the returns manager, and two returns area supervisors. During the face-to-face interviews, respondents were encouraged to identify specific processes and activities related to reverse logistics. The insights gained from the interviewees were combined with direct observations during tours taken around the returns handling area. Such dual sourcing of information resulted in a more comprehensive description of the reverse logistics program case at WCC (Yin, 2003).

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