

The Returns Management Process

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Returns management is the supply chain management process by which activities associated with returns, reverse logistics, gatekeeping, and avoidance are managed within the firm and across key members of the supply chain. The correct implementation of this process enables management not only to manage the reverse product flow efficiently, but to identify opportunities to reduce unwanted returns and to control reusable assets such as containers. In this paper, we describe how the returns management process can be implemented within a firm and across the supply chain. The process is described in terms of its sub-processes and associated activities, and the interfaces with corporate functions, other supply chain management processes and other firms. Examples of successful implementation are provided.

The management of returns is important for many firms. In the United States, retail customer returns for general merchandise are estimated to be approximately six percent of revenue [1]. At this rate, returns for the top 30 U.S. non-grocery retailers for 2001 were approximately \$44 billion. Return rates can be even higher for specialty retailers. For example, one catalog apparel retailer included in this research has experienced return rates of up to 40 percent. Logistics costs associated with managing returns have been estimated at four percent of a firm's total logistics costs [2]. For 2001, this would represent about \$40 billion to the U.S. economy. The magnitude of these numbers demonstrates the need for management attention to the returns process.

Returns management is a critical supply chain management process that requires planning and effective execution throughout the supply chain. Effective implementation of returns management enables executives to identify productivity improvement opportunities. Returns management is a boundary spanning process that requires interaction between members of the supply chain. It encompasses activities such as the implementation of avoidance and gatekeeping, which are central elements to effective management of the return flow. As part of implementing the process,

management needs to measure the financial impact of returns on the firm and on other members of the supply chain.

The paper is organized as follows. We provide a background on the eight processes that comprise supply chain management identified by The Global Supply Chain Forum. This background is important because returns management is one of the eight processes and interfaces with each of the other seven. Next, we review the different types of returns and relevant definitions. We then describe the strategic and operational processes that comprise returns management, and present the sub-processes and their activities. In addition, we identify the interfaces with the corporate functions, the other supply chain management processes and other firms. Finally, we present opportunities for future research and conclusions.

Background

Supply chain management is increasingly being recognized as the integration of key business processes across the supply chain. Efficiency and effectiveness are driven through linking supply chain management processes. In this paper, we use the definition of supply chain management developed by The Global Supply Chain Forum which is a consortium of leading practitioners and academics:

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Supply chain management is the integration of key business processes from end user through original suppliers that provides products, services, and information that add value for customers and other stakeholders [3].

The Forum members identified the following eight business processes that need to be implemented within and across firms in the supply chain [4]:

- Customer Relationship Management - provides the structure for how relationships with customers are developed and maintained, including the establishment of product/service agreements (PSAs) between the firm and its customers.
- Customer Service Management - provides the firm's face to the customer, including management of the PSAs, and provides a single source of customer information.
- Demand Management - provides the structure for balancing the customers' requirements with supply chain capabilities.
- Order Fulfillment - includes all activities necessary to define customer requirements, design the logistics network, and fill customer orders.

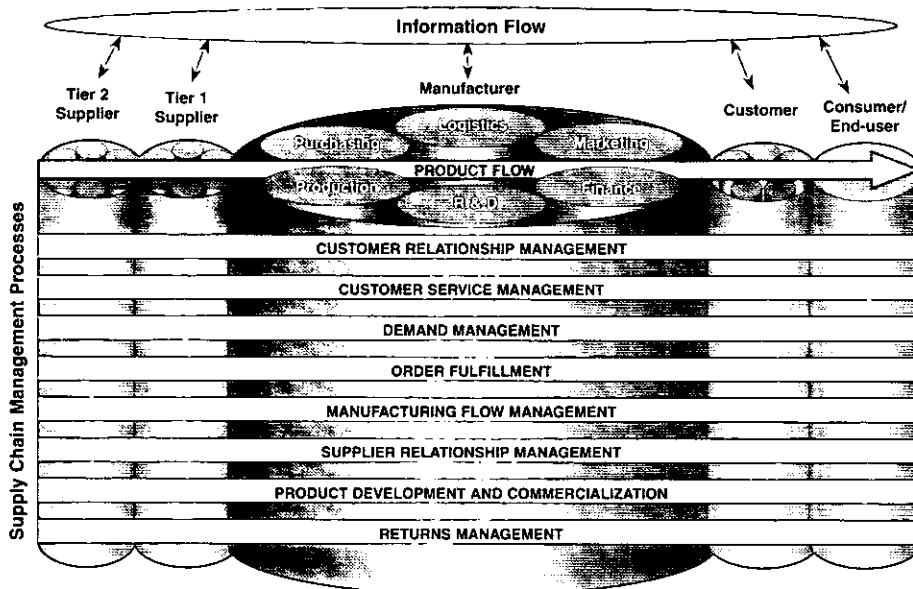
- Manufacturing Flow Management - includes all activities necessary to move products through the plants and to obtain, implement and manage manufacturing flexibility in the supply chain.
- Supplier Relationship Management - provides the structure for how relationships with suppliers are developed and maintained, including the establishment of PSAs between the firm and its suppliers.
- Product Development and Commercialization - provides the structure for developing and bringing to market new products jointly with customers and suppliers.
- Returns Management - includes all activities related to returns, reverse logistics, gatekeeping, and avoidance.

Each process cuts across firms in the supply chain and the corporation functions within each firm, as shown in Figure 1. It is through the customer relationship management and supplier relationship management processes that most inter-firm activities are managed. The eight processes were presented in Croxton, García-Dastugue, Lambert and Rogers [5].

In this paper, we describe the returns management process in greater detail. We

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Figure 1
Supply Chain Management:
Integrating and Managing Processes Across the Supply Chain



Source: Adapted from Douglas M. Lambert, Martha C. Cooper, and Janus D. Pagh, "Supply Chain Management: Implementation Issues and Research Opportunities," *The International Journal of Logistics Management*, Vol. 9, No. 2 (1998), p. 2.

examine the activities of each sub-process, describe the interfaces between functions, processes and firms, and look at examples of successful implementation. The framework presented is based on the literature and in-depth interviews with managers in a wide range of industries. In addition, it was further validated in four working sessions with members of The Global Supply Chain Forum over a period of 18 months. The goal is to provide managers with guidelines to help with the implementation of returns management and researchers with a detailed framework for future research.

Types of Returns

There are many types of returns that need to be managed within this process, each of which poses unique challenges. Based on input from The Global Supply Chain Forum, we group returns into five categories: consumer returns, marketing returns, asset returns, product recalls and environmental returns.

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Consumer Returns

Consumer returns due to buyers' remorse or defects are generally the largest category of returns. Many companies, because management believes it will increase revenues, have liberal returns policies that make it easy for consumers to return products. For the Christmas 2002 season, Circuit City, a large U.S. retailer of consumer electronics, made returns easier for the customer by not requiring receipts for credit card purchases, since they keep information of past purchases linked to each customer's credit card number. Some companies such as L.L. Bean, a large U.S. based catalog retailer, even have lifetime warranties that allow consumers to return a product after years of ownership.

Marketing Returns

Marketing returns consist of product returned from a position forward in the supply chain, often due to slow sales, quality issues, or the need to reposition inventory. Other examples of marketing returns include: close-out returns, which are first quality products that the retailer or distributor has decided to no longer carry; buy-outs or "lifts", where one manufacturer purchases a retailer's supply of

a competitor's product to get access to shelf space; job-outs, where seasonal merchandise is returned after the season's end; and, surplus and overruns. In many cases, marketing returns can represent a significant percentage of sales.

In addition to returns driven by market issues, some marketing returns are driven by management practices. For example, end-of-quarter loads to the channel in order to achieve short-term financial results are artificial loads that can produce high return rates. Management should identify the costs associated with these returns to evaluate the benefits from artificially loading the channel. The use of inappropriate incentive systems may also drive the undesired behavior of loading the channel unnecessarily by misaligning the firm's objectives and those of the sales force. For example, when sales force bonuses are linked to revenues and returns are not taken into account, the objective of some salespeople is to ship products out to the channel. This practice often results in high return rates.

Asset Returns

Asset returns consist of the recapture and repositioning of an asset. These returns are typically characterized as items that management wants to see returned. Categories that fall within asset returns are repositioning of an asset, such as oil drilling equipment, and reusable containers. For example, the Ford Customer Service Division of the Ford Motor Company uses a closed-loop reusable collapsible rack system to deliver automobile parts to their dealerships. A truck driver delivers the order in a wheeled cage that collapses to facilitate shipping the cage back to the Ford Customer Service Division distribution center. The driver makes the delivery of the parts and picks up the collapsed cages from the previous order. This racking system has reduced the overall delivery cost and is also environmentally friendly.

Reusable totes are another example of a desirable return that has become a standard in many industries. At Baker and Taylor, a book, music, and video wholesaler, reusable plastic totes are used to move product between Baker and Taylor and some of its customers such as Amazon.

These totes are stackable, protect the product better than corrugated cardboard and are less expensive on a per movement basis. The use of reusable pallets, racks or totes should be coordinated with customer relationship management and/or supplier relationship management teams.

Product Recalls

Product recalls are a form of return that are usually initiated because of a safety or quality issue. Recalls can be voluntary or mandated by a government agency. They require more up-front planning than most other return types, and this planning is central to managing them effectively [6]. Information technology and effective communications play a central roll in the management of product recalls. For industries that are susceptible to recalls, like the automotive or food industries, part of designing an effective returns management process is developing procedures for informing customers of a recall and efficiently handling the return.

Environmental Returns

Environmental returns include the disposal of hazardous materials or abiding by environmental regulations. Environmental returns are different from other types of returns because they might include regulatory compliance that limits the set of options. Additionally, there are often stringent documentation and audit requirements. For example, the Environmental Protection Agency in the United States has banned computer monitors that use cathode ray tubes from landfills since 1992 because of the lead content in the components [7]. Due to this regulation, the firms responsible for the cathode ray tubes need to have a process in place to dispose of the unusable computer monitors.

In the European Union (EU), producer responsibility regulations have been adopted. For example, the EU Packaging Waste Directive established the concept of the "polluter pays" by sharing the responsibility for waste packaging recovery across the whole supply chain. This legislation has helped to dramatically reduce packaging waste. In 2001, German firms recovered 80 percent of packaging and Dutch firms recovered 65 percent [8].

Summary

When designing a returns management process, managers need to consider each type of return and develop procedures that are appropriate for each one. The type of return might have a different impact within the firm and on other firms in the supply chain. For instance, a return that affects a consumer could have a long lasting effect in the market's perception of the firm; thus, management might take marketing considerations into account to find the best procedure to handle the event. In contrast, for a return in which there is no direct effect on the consumer, the key considerations might be limited to finding the most cost effective return flow option. Similarly, returns due to product failure might require interfaces with supplier relationship management and/or product development and commercialization, while returns due to consumer remorse might not.

Defining Returns Management

Terms such as reverse logistics, closed-loop supply chain management, and returns have been used to describe some of the activities in returns management. However, these terms do not adequately describe the returns management process.

For example, *reverse logistics* has been defined to be:

The process of planning, implementing, and controlling the efficient, cost effective flow of raw materials, in-process inventory, finished goods and related information from the point of consumption to the point of origin for the purpose of recapturing value or proper disposal [9].

Reverse logistics is the process of moving goods from their typical final destination for the purpose of capturing value, or proper disposal. Remanufacturing and refurbishing activities also may be included in the definition of reverse logistics, as well as processing returned merchandise due to damage, seasonal inventory, salvage, recalls, and repositioning of inventory. It also includes recycling programs, hazardous material programs, obsolete equipment disposition, and asset recovery. While reverse logistics is a useful term, it does not include

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all activities involved in managing the backward flow of materials and information through the supply chain. If no goods or materials are being sent "backward," the activity is not a reverse logistics activity.

Another phrase that has been coined to attempt to describe these activities is *closed-loop supply chain management*, which has been defined as:

Supply chains that are designed to consider the acquisition and return flows of products, reuse activities, and the distribution of the recovered products [10].

This definition is helpful because it recognizes that both forward and backward flows need to be managed in the supply chain. However, it does not help in understanding the activities that make up the management of the return flows.

Another term often used to describe the backward flow of goods is *returns*. The Supply Chain Council expanded their definition of the SCOR model to include returns in 2000. The Council has defined returns to be:

Processes associated with returning or receiving returned products for any reason. These processes extend into post-delivery customer support [11].

This definition appears to focus on the physical movement of goods backwards in the supply chain and does not include critical activities such as gatekeeping and avoidance. Also, the SCOR returns process does not include activities required for the financial management of returns nor does it link returns to the financial performance of the firm.

The term used throughout this article to describe the process is *returns management* which we define as the follows:

Returns management is that part of supply chain management that includes returns, reverse logistics, gatekeeping, and avoidance.

This definition includes activities that are critical to supply chain management such as avoidance and gatekeeping. Avoidance involves finding ways to minimize the number of return requests. It can include ensuring that the quality of product and user friendliness for the consumer is at the highest attainable level before the product is sold and shipped, or changing promotional programs

that load the trade when there is no realistic chance that the product shipped to the customer will be sold.

Gatekeeping means making decisions to limit the number of items that are allowed into the reverse flow. Successful gatekeeping allows management to control and reduce returns without damaging customer service. Gatekeeping eliminates the cost associated with returning products that should not be returned or the cost of products returned to the inappropriate destination. The point of entry into the reverse flow is the best point to eliminate unnecessary cost and management of materials by screening unwarranted returned merchandise.

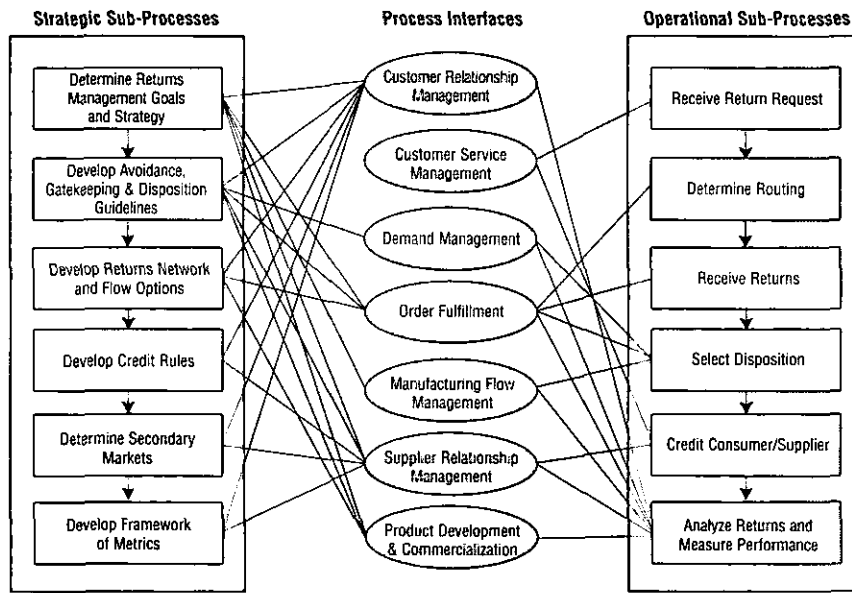
Returns Management as a Supply Chain Management Process

Each of the eight supply chain management processes defined by The Global Supply Chain Forum contains strategic and operational elements [12]. The strategic portion of returns management establishes a structure for implementation of the process within the firm and across key members of the supply chain. The operational portion is the realization of the process that has been established at the strategic level. Figure 2 shows the sequence of sub-processes that comprise strategic and operational returns management. The lines connecting the sub-processes to the other seven supply chain management processes in the center of the diagram depict the interfaces between each sub-process and these processes.

Both the strategic and operational processes are led by a management team that is comprised of managers from several functions, including marketing, finance, production, purchasing and logistics. In some cases, the team may include members from outside the firm. The returns management team may include customers, suppliers or representatives from third-party service companies. For example, Genco, a third-party provider, is a key player on the returns management team of Sears, a U.S. retailer. When management of Sears considers a change in their returns process, Genco is usually part of the team that analyzes the data and develops options.

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Figure 2
Returns Management



Source: Adapted from Keely L. Croxton, Sebastián García-Dastugue, Douglas M. Lambert, and Dale S. Rogers, "The Supply Chain Management Process," *The International Journal of Logistics Management*, Vol. 12, No. 2 (2001), p. 19.

The process team is responsible for developing the procedures at the strategic level and seeing that they are implemented. This team also has day-to-day responsibility for managing the process at the operational level. While firm employees outside of the team might execute parts of the process, the team maintains managerial control.

The Strategic Returns Management Process

The objective of the strategic portion of the returns management process is to construct a formalized structure through which the operational process is executed. It provides the blueprint for the implementation of returns management. The strategic process is composed of six sub-processes, as shown in Figure 3.

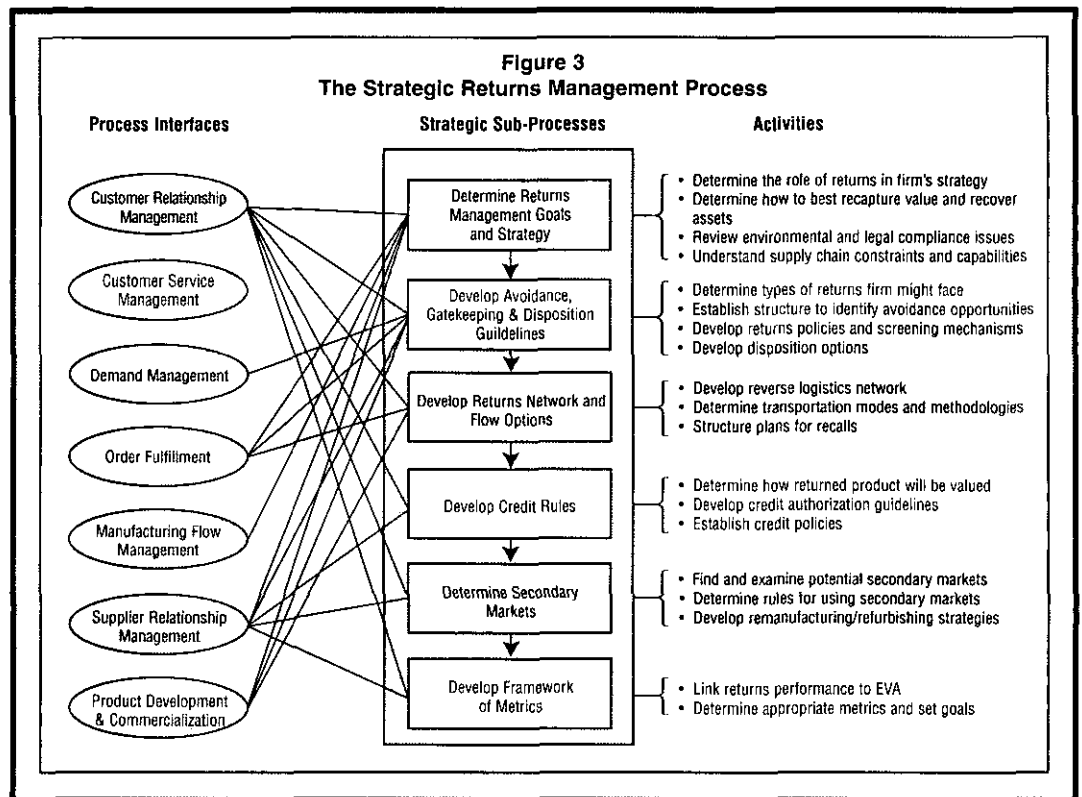
Determine Returns Management Goals and Strategy

A firm's returns management capabilities can be used strategically to enhance the overall performance of the company. For example, returns policies can be used to improve customer loyalty, improve profits, and enhance the brand or firm's public image.

Returns policies can be used to improve customer loyalty by reducing risk to the customer. A buyer for a retailer will be more likely to purchase a new product if he/she knows that it can be returned if the product does not sell. For example, an electronics distributor facing a period of volatile memory chip prices used their returns policy to help resellers better control inventories. By allowing resellers to return anything within a reasonable timeframe, customers' risk is reduced [13]. Consumers are also more likely to buy a product that can be returned if they experience buyer's remorse [14]. Allowing returns is critical to the catalog apparel business because most consumers need the assurance that they can return something if it does not fit or otherwise meet their expectations.

Management can also use returns policies to improve loyalty from small wholesalers or retailers by helping them control their inventories. Often these customers will buy large quantities of one product on a deal offered by a salesperson, but then are unable to purchase other products later from the same company because their inventory levels are too high or their credit lines are full. It may be in the best

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interest of the supplier to allow customers to return product that is not selling to help reduce these inventory and credit-line constraints.

In addition to strategically using returns to improve customer loyalty, returns can be used to directly improve profits.

In addition to strategically using returns to improve customer loyalty, returns can be used to directly improve profits. For example, manufacturers can use returns management capabilities to protect marketing channels. They may pull product off the shelf and bring it back for refurbishment or disposal in order to make certain that the product is not sold through channels that might damage the value of the brand. For some high-end brands, it is critical for the long-term value of the brand to protect the channel and not allow leakage into inappropriate channels.

In order to design a returns management system, the process team needs to first consider the role that returns play in their firm's overall customer service strategy and the ways returns management might contribute to improved profits.

Recapturing value and recovering assets is another strategic use of returns that can reduce costs and improve profits. Innovative ways of reusing materials, or refurbishing and reselling products, whether through primary or secondary channels, can be an important source of revenue. In interviews, we found that firms with asset recovery programs achieve significant bottom-line profits as a result.

Another way a firm can improve profits is using returns capabilities to adjust which products are being offered to the consumer.

The most important asset a retail store has is its retail space. To maximize profit per square foot of selling space, management needs the flexibility to take slow-moving items off the shelf and replace them with fast-movers. Traditionally, retailers compensated for mistakes with markdowns. Today many use returns management capabilities of the supply chain to keep the products fresh and then find other outlets for the slow-moving products [15].

Management can also use returns to enhance the firm's public image or exhibit good citizenship by doing what they believe is the right thing. For example, some companies engage in voluntary recycling programs with their products. Nike, Inc. established the Reuse-A-Shoe program where old athletic shoes are collected. Once the shoes are collected, they are sorted and those that are in good condition are donated to charity. The remaining shoes are shipped to Nike's shredding facility. The recycled material is used to make running tracks, athletic courts and playground surfaces [16].

In order to design a returns management system, the process team needs to first consider the role that returns play in their firm's overall customer service strategy and

the ways returns management might contribute to improved profits. This should be done in conjunction with the customer relationship management process team who will best understand the needs and expectations of the customers.

Another key consideration in determining the goals of the returns management process is to understand the environmental and legal compliance issues that impact the firm and the supply chain. In many firms, environmental and legal issues are the impetus to start improving returns management. Laws that apply to used product and product planned for disposal need to be understood by team members. For example, in one U.S. state, Minnesota, it has been ruled that automotive shocks and struts cannot be placed in landfills [17]. Various computer components are banned from landfills, including circuit boards with high lead content and computer monitors with cathode ray tubes. Each member of the supply chain needs to understand and minimize the environmental impact of returned materials. This step could also include developing guidelines for measuring the environmental impact of particular modes of transport, obtaining ISO 14000 certification, reducing usage of hazardous materials and decreasing unnecessary packaging. In many cases, there will be an interface with the product development and commercialization process because the product and packaging will have to be designed with these environmental issues in mind.

Compliance with legal requirements is a minimum baseline. Firms that appear to be environmentally careless risk offending a large portion of the consumer base. For example, firms that wish to sell to the European market need to be aware of the Green Dot initiative. The Green Dot is the logo for the Duales System Deutschland which is a joint effort by 400 firms in Germany to try to meet the German government's quotas for recycling packaging. When the Green Dot trademark was implemented in Germany, it set a new standard for extended producer responsibility. For example, to obtain the right to place the Green Dot symbol on their product packaging, German beverage brand owners must ensure that at least 72 percent of their

bottles are refillable and that deposits are charged on all non-refillable containers. A package stamped with a Green Dot indicates the brand owner is paying its fair share of waste recovery [18].

In industries that could be subject to product recalls, the team also needs to review the legal issues that arise in the event of a recall. Product recalls can either be mandated by a government agency, or they can be initiated by one of the members of the supply chain. Either way, there are legal and ethical issues that need to be addressed. For example, in the infant care industry, product recalls occur frequently. Firms that operate in this industry need to identify and remove affected product from the supply chain quickly when a product recall issue develops.

Part of developing the returns strategy is understanding the constraints and capabilities of the firm and the supply chain. This requires interfaces with the order fulfillment and manufacturing flow management processes. Order fulfillment assists the returns management process team in understanding the boundaries around the physical flow and the information technology capabilities and constraints of the logistics system. Manufacturing flow management provides costs and capacity available for remanufacturing and refurbishing in order to identify the best options to recapture value and recover assets.

There is also an interface with the supplier relationship management process. Firms such as large retailers determine their returns management strategy in conjunction with their buying group. The PSAs that are developed with suppliers include policies regarding returns.

Develop Return Avoidance, Gatekeeping and Disposition Guidelines

The second step in the strategic returns management process is to develop return avoidance, gatekeeping and disposition guidelines. This step includes determining the types of returns the firm might face and developing policies and screening mechanisms to handle those anticipated returns. The team in conjunction with suppliers and customers will develop disposition options for returned items and establish the structure to identify avoidance opportunities.

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The use of effective avoidance, gatekeeping and disposition procedures minimizes the cost of moving returned items back through the supply chain. Avoidance aims at reducing the number of return requests. The goal of gatekeeping is to identify as early as possible what products should be accepted as a return. The disposition procedures will enable quick routing of a return to the most appropriate destination. Interfaces with order fulfillment, demand management, supplier relationship management, and product development and commercialization facilitate the construction of these guidelines. Order fulfillment assists the returns management process with developing disposition guidelines that reflect the capabilities of the distribution system. Demand management provides long-term forecasts which can be used to structure the disposition guidelines. Supplier relationship management coordinates with suppliers to determine appropriate avoidance and gatekeeping procedures. The link between this sub-process and product development and commercialization facilitates communication about product quality which is critical to return avoidance.

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Avoidance can be accomplished in a number of ways. For example, it can be derived from improved quality by having fewer items that are defective, or by giving better instructions to the consumer regarding how to properly operate the product. In some consumer electronics categories, over half of the products returned are classified as "no-fault found." In many of these cases, the product was returned because the consumer did not know how to operate it properly. In the computer industry, return avoidance has been improved through "ease-of-use" initiatives [19], such as a setup poster included inside a computer's shipping box. Because consumers are often intimidated by the complexity of the computer and the accompanying setup manuals, or refuse to read the setup manuals, PC manufacturers include an easy to understand poster that

includes pictures and minimal text to improve the consumer's experience and reduce the number of unnecessary support calls and returns. For the TIVO tapeless video recorder and player, many consumers were unaware of the complexity of the product and that it required a phone line. This misunderstanding by the consumer resulted in many first quality, fully functional TIVO machines being returned to the store. The high return rate could have been reduced if, for example, retail sales personnel had been better trained to explain to the consumer how the product functioned.

Black and Decker integrates the returns process with product development to learn from the returns how to develop better products, increase ease-of-use, and minimize future returns. Most Black and Decker returns from around the U.S. flow back to the National Disposition Center in Nashville, Tennessee. The National Disposition Center includes a laboratory for product engineers so that they can evaluate the defective products and work to develop solutions to improve quality or ease-of-use. This has decreased the time it takes to make engineering changes, and reduced the amount of defective product sold.

Consistency of product can be critical in return avoidance. For the catalog business at Victoria's Secret, a lingerie retailer, many returns are a result of sizing issues. If their suppliers do not consistently size the product, consumers might order the wrong size. Victoria's Secret incurs the cost of shipping the item back to the distribution center and putting it back into stock. In order to reduce the number of returns, management works with suppliers to apply sizing guidelines across all products in a uniform manner. This reduces the costs associated with returns and improves customer satisfaction. In situations where suppliers have a direct effect on the amount of returns, the returns management team must coordinate with the supplier relationship management team so that suppliers know their role in avoidance.

Internal procedures and metrics can lead to returns. For example, if sales people engage in end-of-quarter loads, some customer firms will accept the product and return unsold product later, despite the fact that both seller and buyer anticipated that

some of the product would be returned. In some cases, internal procedures that drive returns reach the end-customer. For instance, catalog retailers often offer free shipping if customers spend more than a set minimum. Some customers will spend more than the required amount only to get the free shipping, with intentions to return some of the items. At the strategic level, the process team develops procedures that will be used to identify avoidance opportunities. At the operational level, the team will look for sources of these unnecessary returns and try to change the internal policies to limit them.

Gatekeeping. Gatekeeping is the screening of both the return request and the returned merchandise [20]. When the return request is initiated, it might be possible to divert it to technical support to assist the customer on the appropriate use of the product to avoid the need for the return. If a product is returned, gatekeeping is the screening of the product to determine if it is a valid return and includes developing returns policies that describe returns that are allowed. Gatekeeping assures that only product that should be returned to a specific point in the returns network is allowed to enter the return flow. Preventing unwarranted returned merchandise from entering the channel improves the disposition of the warranted goods. By gatekeeping at the point of entry into the reverse flow, unnecessary costs can be eliminated. However, there might be more than one gatekeeping point in the supply chain.

Failure in gatekeeping can create significant friction between supplier and customer firms, not to mention lost revenue and higher costs. Store-level clerks and front-line personnel are often unwilling or unable to gatekeep returns. Once a sales associate makes a decision about a return, it is usually not overturned. Unwarranted return problems are exacerbated because items that should not be in the return stream continue to pick up additional costs as they travel back through the supply chain. Thus, the sales associates have the power and the responsibility to avoid unnecessary cost. Management has to make sure that sales associates are aware of this and have the necessary information and empowerment to make the right decisions.

Nintendo, the electronic game

manufacturer, has developed a particularly innovative gatekeeping system. They encourage retailers to register the game machine at the point of sale. If the game machine is returned to the store, Nintendo and the retailer can determine if the product is covered by warranty, and if it is being returned inside the allotted time. A window was added to the package that allows the product's serial number to be scanned at the point-of-sale. This information updates a database that a retailer can access when the customer brings back a Nintendo machine [21]. This gatekeeping system has become so successful for Nintendo that a spin-off firm, SiRas, has been established to sell the Nintendo gatekeeping solution commercially.

The implementation of effective gatekeeping usually involves integrating some activities with other members of the supply chain. Thus, the involvement of the process teams from customer relationship management and supplier relationship management is central to managing the relationships across the supply chain. Considerations related to returns are likely to be an item to be included in the PSAs.

Disposition. Disposition refers to the decision about what to do with returned product, which might include resale through secondary markets, recycle, remanufacture or transfer to a landfill. The disposition guidelines define the returned items ultimate destiny. A firm forward in the supply chain should make disposition decisions quickly, particularly with products that have date codes or lose value over time. Rules need to be developed for disposition options in conjunction with other members of the supply chain, as well as with input from other processes, such as customer relationship management, product development and commercialization, and supplier relationship management. For example, returning an item to the vendor needs to be accomplished in accordance with the PSA with the supplier that was developed through the supplier relationship management process.

Develop Returns Network and Flow Options

Next, the returns network and flow options are determined. During this stage the team develops the reverse logistics network and evaluates if it is appropriate to outsource

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any of the returns management activities to third-party logistics providers. Transportation modes and methodologies are determined during this stage of the process. For example, managers might decide that utilizing backhauls is the most efficient way of transporting returns. For some firms, a network of central return centers may be established to handle returned product separately from products moving forward toward the consumer. Rogers and Tibben-Lembke found that for many firms, distribution centers do not effectively handle both forward and reverse flows [22].

This step in the process is completed with input from the customer relationship management, order fulfillment, and product development and commercialization process teams. The customer relationship management team helps assure that the returns management process meets customers' expectations. Input from the order fulfillment process team is important because both forward and reverse flows might use the same resources or systems. If management wants to analyze the returned product and provide feedback into the development of new products, then the product development and commercialization process team should be involved in designing the returns network.

When developing the returns network, the team must consider the different types of returns and develop procedures that meet the needs of each one. For instance, product recalls usually require an efficient communication system with consumers, and a well thought-out process for how material will be returned and handled. Having the ability to respond to the unexpected can be critical. In 1982, cyanide was put into unopened bottles of Tylenol, poisoning several people in the Chicago area. McNeil Laboratories' response was to immediately recall approximately 31 million bottles of the pain reliever, with a retail value of more than \$100 million. The company quickly took the product off the shelf, analyzed all of it for further tampering, and offered consumers incentives such as free replacement of capsules with caplets and coupons for future purchases. The recall was executed with a returns management system that immediately cleansed the channel of any possibly tainted product. Because they acted quickly and

competently, long-term sales were not affected negatively and the perception of the brand was strengthened [23].

Develop Credit Rules

The next sub-process in strategic returns management is to develop credit rules. In this stage of the process, general guidelines are established with input from suppliers and customers that will determine how returned merchandise will be valued. Credit authorization guidelines will be developed and credit policies established. Since this involves customers and suppliers, the customer relationship management and the supplier relationship management process teams should be involved in determining the rules that will be included in the PSAs. Determining the value of used items that are returned and unused items that have not sold well also takes place in this sub-process.

Determine Secondary Markets

Once it has been determined where in the supply chain the returned product will be shipped, the process team can examine potential secondary markets. The team will determine which secondary markets are most appropriate. These secondary markets can include Internet-based auctions, or retailers that specialize in returned goods or "seconds." Often, manufacturers that utilize outlet malls as a secondary market will require that the store selling their second products not be located near a retailer for their first quality or new product.

Firms that choose to obtain additional value from items that have been returned must consider sales cannibalization of first quality items and the impact of secondary markets on brand image. For many years the large American automobile companies did not sell remanufactured or refurbished aftermarket parts because they did not want to damage sales of new parts. When they chose not to sell remanufactured parts, an entire industry of salvage dealers and remanufacturers grew to fill the need for less expensive auto parts. The large automobile companies recognized that selling refurbished parts could be as profitable as the new parts business and have now entered this business. If cannibalization is an issue, the team should interface with the

customer relationship management and supplier relationship management processes to develop programs that benefit all concerned parties.

Develop Framework of Metrics

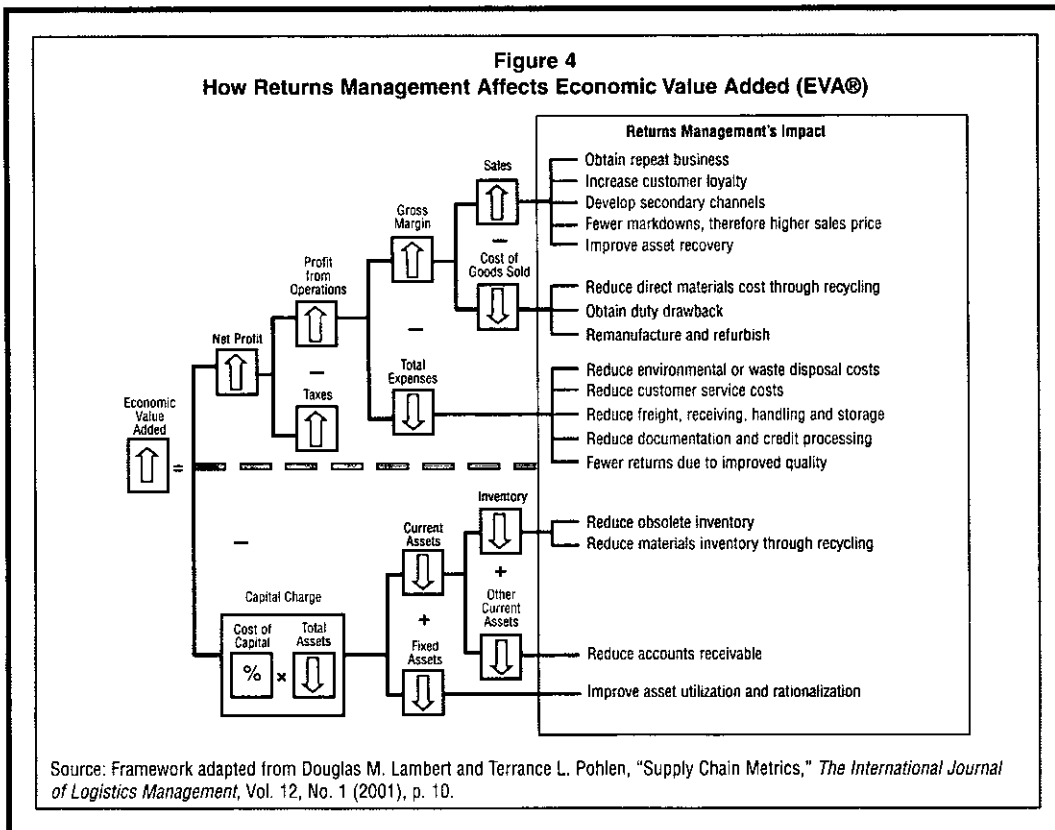
The last sub-process of strategic returns management is developing the framework of metrics. Metrics that might be used include return rates and financial impact of returns. As part of this sub-process, the team should develop procedures for analyzing return rates and tracing the returns back to the root causes. Measures such as amount of product to be reclaimed and resold as is, or percentage of material recycled are examples of such metrics. For example, at Victoria's Secret Catalog, managers track the cost of returns, what items customers are returning and why, the return percentage, and the percentage of the garments that may be resold. This analysis of returns, in an industry that traditionally has high returns costs, has resulted in a more effective system. For catalog retailers, returns can be a key driver of profitability.

Key metrics should be developed in conjunction with the customer relationship

management and supplier relationship management processes, and be included in the PSAs. These agreements might include policies and procedures for handling returns from the customers. Returns management can impact critical firm metrics such as economic value added (EVA). Figure 4 depicts the relationship between returns management and EVA. EVA considers not only revenues, costs and profit, but also the cost of assets required to earn stated profits [24].

For example, better returns management can increase sales through removing risk from the customer and transferring it back to the firm. This will increase customer loyalty and the probability of obtaining repeat business. Also, sales are increased by the sale of returned products through secondary channels. Returns management improves product freshness by moving slow selling items off of the sales floor and keeping the channel clear. Through avoidance efforts, policies that load the trade will be questioned which also leads to lower markdowns, as well as reduced demand variability which is an objective of the demand management process. Cost of goods sold can be reduced through recycling. The use of remanufactured

Key metrics should be developed in conjunction with the customer relationship management and supplier relationship management processes...



and refurbished product also reduces the cost of materials. Duty drawback derived from imported product that is returned reduces the cost of goods sold for many firms.

Expenses can be reduced through better management of packaging or products with less negative environmental impact and lower waste disposal costs. Using better returns management can reduce customer service costs, freight and handling costs, documentation and credit processing, and the costs of returns related to poor quality.

Better management of returns can lead to reduction of obsolete inventory both within the firm and throughout the supply chain. Sometimes recycled materials can be used in place of new raw materials so that the value of raw materials inventories can be reduced. Accounts receivable can be improved through better credit management. Better returns management can result in lower fixed assets for investments such as buildings and equipment, particularly if the volume of returns is significantly reduced or third-party providers are used.

The returns management process can have a significant impact on the profitability of customers. For this reason, every attempt should be made to identify and report the

revenue, cost, and asset implications of returns management on the profitability of key customers and segments of customers. Changes in assets can be reflected in customer profitability reports by incorporating a charge for assets employed.

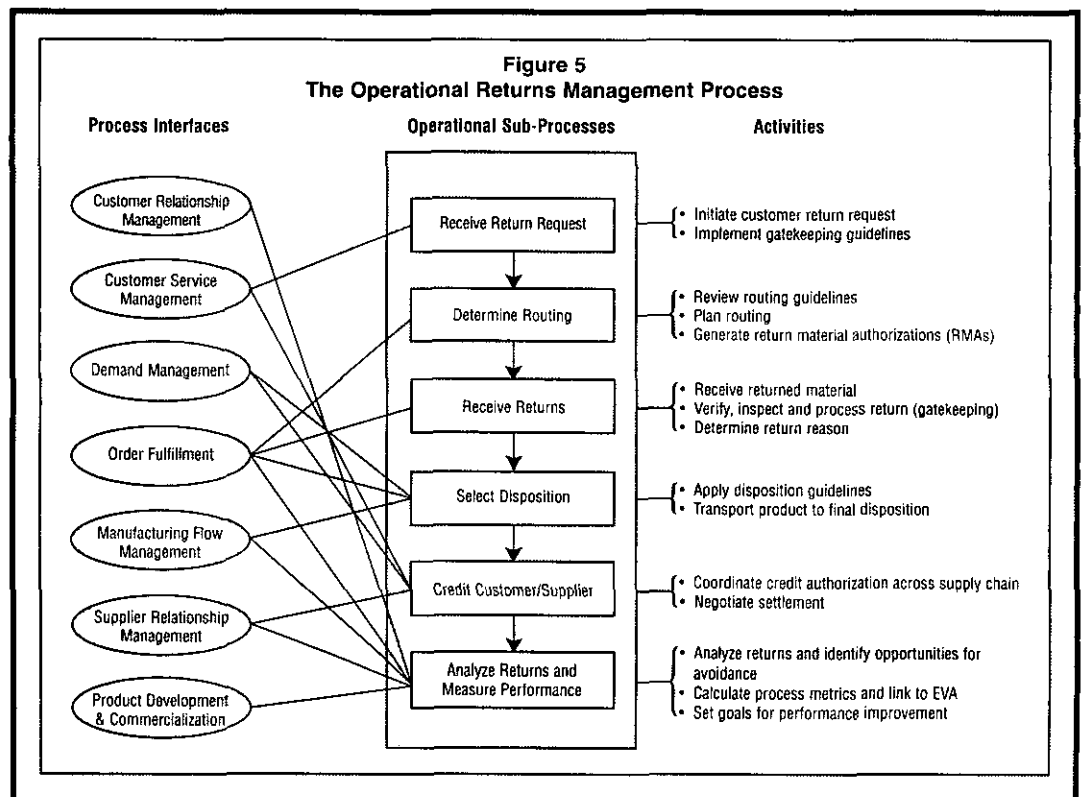
The Operational Returns Management Process

The operational portion of returns management is the realization of the process developed at the strategic level. For returns management, the operational portion is a template for managing returns transactions. It consists of six sub-processes, as shown in Figure 5.

Receive Return Request

The process is initiated when a return request is received from the customer who could either be a consumer or another firm downstream in the supply chain. Returns may originate from consumers bringing an item back to the store, or they may be marketing returns from retailers or distributors due to slow sales, clearing credit lines, or stock rotation. In some cases, these return requests will come through the customer service management process. For firms with

The operational portion of returns management is the realization of the process developed at the strategic level.



catalog business such as Victoria's Secret, the consumer can submit a return request through the Internet, over the phone, or simply return the item through the mail.

At Hewlett-Packard, when a customer needs to replace a used printer toner cartridge, the returns management process begins when a customer calls a local phone number for collection of their boxed, empty toner cartridges. In some cases, a third-party firm handles the customer's calls and picks up the used cartridges from the customer's site. Hewlett-Packard has a 16 percent worldwide return rate on used toner cartridges and 31 percent in the United States. Since 1991, over 47 million toner cartridges have been recycled.

The first gatekeeping should occur when the return requests are received in order to identify items that should not be returned. When a customer calls seeking authorization for a return, the employees can work with the customer to determine if an option other than return may be acceptable. For example, a direct computer retailer may require the customer to speak with a technical support person to assist in determining whether the computer is defective before granting authorization for the return. Most retail stores do not perform this technical support gatekeeping function. For the manufacturer, it is much more difficult to implement gatekeeping when the consumer can bring an item back to the retail store without having to talk to a technical support person that can analyze the problem.

Determine Routing

Once a return request is received, routing is determined based on the guidelines and policies established in the strategic portion of the process. The routing activity is primarily a planning function. During this stage of the process, return material authorizations (RMA) derived from the return requests are generated and advanced ship notices are sent signaling to the receiving location that the returns are on their way. The order fulfillment process may assist in determining the routing.

In many cases, a third party performs this service. Genco, a third-party provider that specializes in reverse logistics and returns management, runs centralized return centers for several customer firms. As part of their

end-to-end returns management service offerings, they can manage both the inbound and outbound transportation of the reverse flow. For a few of their large customers, Genco coordinates with carriers to pick up returned merchandise at the retail stores in consolidated milk-run shipments, and then deliver the consolidated loads to the return center at a lower cost than if the store shipped back returned products independently.

Receive Returns

If the return item is sent to a warehouse or central return center, products need to be verified, inspected, and processed. It may be that the order fulfillment process assists in managing the return flow. Generally this is a manual process that should be completed as quickly as possible to improve cash flow. Although gatekeeping is performed at the point of entry to the reverse flow, a thorough evaluation of returned goods must be performed at the warehouse or central return center.

The process team determines the reason codes for the returns. Typical reason codes developed by the Reverse Logistics Executive Council fall into the categories of repair/service codes, order processing errors, damaged/defective product, and contractual issues [25]. Returns should be tracked by reason codes to develop more meaningful performance metrics that can provide valuable information both within the firm and to suppliers and customers. In some cases, it is not cost effective to track return reasons in great detail because it is costly to examine and track every return. However, failure to examine products carefully and establish reasons for returns may lead to even higher costs.

Select Disposition

The next sub-process in the operational returns management process is to examine each return and select the appropriate disposition. Rules developed in the strategic returns management process and contained in a database that is available to workers processing returns are used to determine the final disposition. The dispositioning of the product can include refurbish, remanufacture, recycle, resell as is, resell through a secondary market, or send the product to a landfill. The

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order fulfillment and manufacturing flow management processes can assist returns management in determining how and where the disposition is executed. In addition, information about where recoverable product is in the system needs to be communicated with the demand management process.

Short disposition cycle times are a critical element of good returns management, so the speed of disposition should be measured. For electronic items such as computers, product value decreases quickly with time, so it is imperative that the product move quickly into the returns channel. Equally important is that the disposition guidelines are clear and the employees are well-trained to assure that the correct disposition is made.

It is often less expensive to refurbish returned product than it is to manufacture items from new materials. With the growth of the Internet, secondary markets for refurbished products, such as Internet-enabled auctions, have developed. Companies such as Hewlett-Packard utilize the Internet to sell remanufactured and refurbished product to derive revenues from returned items.

Credit Customer/Supplier

Once the returns have been processed, credit needs to be given to the appropriate customer, consumer or supplier. This process can be difficult and requires negotiation between members of the supply chain. The clearer the rules are in the PSAs, the easier it will be to determine the appropriate credit. Credit authorization guidelines that were developed in the strategic returns sub-processes are implemented. This portion of the process can involve the customer relationship management and supplier relationship management processes and several functions within the firm and across company boundaries.

Financial issues related to credit to customers and suppliers can impact the efficiency of the returns management process. Much like the push to increase sales near the end of the quarter, some retailers try to shift the ownership of their returned goods and slow moving inventory back to suppliers.

Some downstream supply chain members use chargebacks to get credited by

the supplier more quickly. Chargebacks are deductions, discounts or short payments from a supplier's invoice. A retailer may deduct from a supplier's current invoice the amount of the item that they have returned or are planning to return.

Analyze Returns and Measure Performance

The final step in the operational process is to analyze the returns and measure performance. An important component of this step is to use the data on returns to identify opportunities for avoidance in order to make improvements to the product and the other processes. This analysis might result in feedback to order fulfillment, demand management, manufacturing flow management, product development and commercialization, or supplier relationship management. It should also be used in the ongoing strategic returns process to help develop avoidance guidelines.

The rates of defective products can be given to supplier relationship management so that quality can be improved and/or to the product development and commercialization process so that product designers can quickly identify problems with their designs. Other key measures are return rates and disposition cycle time. Costs related to returned product and the recovery of value derived from resale or recycling are also critical metrics.

Every effort should be made to document the impact of the returns management process on the financial performance of the firm as measured by EVA (see Figure 4). While measuring the sales implications will be more difficult than measuring cost and asset implications, potential sales increases should not be ignored since they may have the greatest impact on profitability. Cost reductions and asset reductions are usually much easier to measure and for this reason they are often the only areas where financial performance is measured.

The final activity of the sub-process is to set goals for performance improvement. Following a thorough analysis of firm performance, objectives for improvement are established and communicated within the firm and to relevant portions of the supply chain. These communications with other members of the supply chain are coordinated through the customer relationship management and supplier relationship management processes.

While measuring the sales implications will be more difficult than measuring cost and asset implications, potential sales increases should not be ignored since they may have the greatest impact on profitability.

Research Opportunities

In this article, we provide a more detailed explanation of the returns management process that was identified as one of the eight supply chain management processes in prior research supported by The Global Supply Chain Forum. However, there are still several research opportunities which include:

- Measuring the impact of quality programs and product development and commercialization initiatives on return avoidance.
- Determining the costs and benefits to the supply chain derived from improved returns management.
- Measuring the effect of tighter returns policies on cost and customer service levels throughout the supply chain.
- Determining which methods of gatekeeping are most effective in managing the tradeoffs between costs and customer service.
- Identifying the information technology and types of systems that are needed to fully support returns management.
- Developing metrics that can be used to evaluate returns management performance beyond the borders of the firm.
- Implementing the returns management process in a supply chain, documenting implementation issues and how obstacles were overcome.

Conclusions

Returns management as a supply chain management process includes several features that can make an individual firm more effective and efficient. However, the process will provide the most benefits when implemented across members of the supply chain. The returns management process can reduce costs, increase revenues and increase customer satisfaction.

Returns management includes the implementation of avoidance, gatekeeping, disposition guidelines, and the measurement of the financial aspects of returns. Avoidance of unnecessary returns through improved policies and better understanding of the sources and reasons behind returns can reduce the number of return requests which will reduce costs and increase customer satisfaction. Gatekeeping can reduce the cost of doing business by identifying as early as possible the products that should not be returned. Developing disposition guidelines and implementing them across the

supply chain will reduce costs by increasing the speed in the reverse flow and assisting in the selection of the destination of the returned product. Linking the performance of the process with the firm's financial measures will help in the appropriate identification of the benefits from returns management which can be used internally to reward managers and, in the supply chain, to reward customers and suppliers.

Measuring the benefits from returns management may be used to justify investments for future improvements to the process. Returns management can be used strategically to increase switching costs and reduce risk to the customer. Overall, the returns management process can increase customer satisfaction by avoiding returns, and in the case of unavoidable or desirable returns, by handling returns quickly and effectively.

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