

# Reverse Logistics – the least used differentiator



UPS Supply Chain Solutions<sup>SM</sup>

## Can the return/repair cycle of products remain as an extension of the process and infrastructure devoted to product creation, or should manufacturers follow those who have moved beyond a “fix/respond” mode to a “value added” servicing model?

Increasingly, reverse logistics must be considered part of a successful growth strategy.

An opportunity to generate additional revenue, differentiate market position, and support original product demand is sitting right in front of many companies. It is estimated that reverse logistics costs account for almost one percent of the total United States GDP. Therefore, reverse logistics is rapidly becoming an integral component of retailers’ and manufacturers’ profitability and competitive position.<sup>1</sup>

Product returns are the most common aspect of reverse logistics. Yet, most companies do not handle returns well not because they are part of their core competencies.<sup>2</sup>

As a result, many companies are working closely with third-party logistics (3PL) providers, while others are still considering the best way to handle reverse logistics. A primary reason for this is the massive shift in revenue opportunity that now follows each product sale. Customers will spend 5 to 20 times the initial sales price on subsequent services and consumables.<sup>3</sup>

This leaves some companies seriously considering a “closed loop” approach to the supply chain that includes product returns, service contract returns, product recalls, used equipment and replacement parts for refurbishment, as well as reuse or sale as raw material.

Increasingly, reverse logistics must be considered part of a successful growth strategy. Today, having a solid disposition logic is an essential aspect of an asset-recovery strategy. Returns, repairs, and used items can also have branding implications. For some companies, brand protection is paramount, and they want to ensure their goods are not sold in secondary markets and do not end up being sold in discount stores.<sup>4</sup>

Historically, companies have focused on the efficiencies of internal operations and then evolved toward improving outbound logistics. “The best estimate for typical return rates associated with e-business

<sup>1</sup> <http://www.rlec.org/>

<sup>2</sup> [http://www.ebizq.net/topics/int\\_arch/features/2589.html](http://www.ebizq.net/topics/int_arch/features/2589.html)

<sup>3</sup> McCluskey, Marc; Bijesse, Judy; Sodano, Lindsey, Service Lifecycle Management (Part 1) The Approaches and Technologies to build Sustainable Competitive Advantages for Services,” *AMR Research Report*, August 27, 2002.

<sup>4</sup> [http://www.ebizq.net/topics/int\\_arch/features/2589.html](http://www.ebizq.net/topics/int_arch/features/2589.html)

is offered by the Center for Logistics Management at the University of Nevada. Its conservative estimate is that 6 percent of all goods may be returned, but it concedes that the true number may be closer to 8 percent. ... Dell Computer Corp. says about 5 percent of its online computer purchases are returned, versus CompUSA's 10 percent return rate."<sup>5</sup>

Companies often mistakenly believe that outbound operations can also handle returns by running everything in reverse. However, reverse operations must manage a number of unique functions that are not included in outbound operations, e.g., collection of outdated, unwanted or damaged products as well as packaging. It is also the case that the more complex the product, the higher the percentage of returns due to several factors including more variables that can go wrong, greater numbers of unqualified operators, and often regulated end-of-life disposition.

...reverse logistics can serve as the foundation for establishing customer loyalties.

While many companies have begun to recognize the need to address reverse logistics, few have strategically examined the opportunity or established explicit contribution objectives and formal processes/metrics for asset refurbishment, resale or disposal. In a recent survey of 125 product manufacturing firms, one research firm estimated that 50-70 percent of companies' total potential revenue from the average product lifecycle is unserved.<sup>6</sup>

With the proper strategies and metrics in place, reverse logistics should be part of the larger product and customer lifecycle strategies and can serve as a foundation for establishing customer loyalties and increasing market share.

On April 2, 2004, the Digital Product Division of Toshiba America Information Systems, Inc. and UPS announced a new laptop computer repair process designed to reduce turnaround time for customers to four days or less. The move is part of a wide-ranging customer service initiative by Toshiba designed to raise the bar in the highly competitive PC market. Toshiba expects to build customer loyalty, improve customer satisfaction, and save millions of dollars by streamlining its service operations and gaining better inventory visibility.<sup>7</sup>

As of 2003, annual global service parts logistics (SPL) spending was estimated to be \$21 billion, increasing at a rate of 7 percent per year. Post-sales service has even greater Wall Street implications. Forrester Research notes that aftermarket quality issues have a direct

<sup>5</sup> [http://www.ebizq.net/topics/int\\_arch/features/2589.html?page=2](http://www.ebizq.net/topics/int_arch/features/2589.html?page=2)

<sup>6</sup> McCluskey, Marc; Bijesse, Judy; Sodano, Lindsey, Service Lifecycle Management (Part 1) The Approaches and Technologies to build Sustainable Competitive Advantages for Services," *AMR Research Report*, August 27, 2002.

<sup>7</sup> "Toshiba and UPS Join to Set New Standard for Laptop Repair," UPS Press Release, April 27, 2004

correlation to stock value. “The very day a manufacturer unveils a product quality issue to Wall Street, its market cap drops almost 10 percent and doesn’t recover for at least three months.”<sup>8</sup>

## Difficulties of reverse logistics

Many companies do not have an awareness of the current costs associated with reverse logistics. Reasons for this may include poorly defined processes and lack of system support. Due to the variable nature of returns, both processes and systems must maintain a degree of flexibility to manage the returns process.

Reverse logistics programs are typically complicated by a number of factors.

Most products are engineered to incorporate manufacturing efficiencies (e.g. postponement manufacturing and modularization), but few product designs take into account the impediments to disposition that a product’s lifecycle should incorporate. And while business partners often play key roles in the disposition of a product, all parties need to be well informed about true costs and possible revenue opportunities, so when entering into an agreement the financial and marketing goals are clearly understood. In the case of the UPS and Toshiba agreement, Toshiba recognized that by using The UPS Store retail network for packaging and return of laptops, the company could eliminate multiple transportation steps, centralize parts and repairs, and reduce costs.

If they are not trained or encouraged to manage the reverse logistics of their customers, corporate representatives such as sales and customer service personnel can become impediments to the process. But, if properly motivated, they can become gatekeepers for the reverse logistics process. This is exemplified by Dell, where no computer can be returned unless a phone call has been placed to a technical customer service representative. The agents can often walk consumers through set-up and early usage issues and, in effect, talk them out of returning the machines. In fact, the gatekeeping function can actually provide an opportunity to up-sell and cross-sell.<sup>9</sup> Company policies and employee incentives must be reviewed to ensure they are not acting as barriers to otherwise advantageous reverse logistics programs.

Reverse logistics programs are typically complicated by a number of factors. Paperwork and poor workflow processes tend to plague reverse logistics operations. This is exacerbated by the multiple entities – customer, manufacturer, reseller and disposer – that need to partner to develop a smooth reverse logistics program.

<sup>8</sup> Forest Research: Unleashing the Aftermarket’s Hidden Value, September 2002, citing T.S. Becker, Georgia Tech Research, December 2000.

<sup>9</sup> [http://www.ebizq.net/topics/int\\_arch/features/2589.html?page=2](http://www.ebizq.net/topics/int_arch/features/2589.html?page=2)

## Improving reverse logistics operations

As is often the case in complex business systems, the starting point for reverse logistics operations' improvement is not within the operational processes. It must happen well before operations and even before a product reaches production. Marketing should define:

1. How the secondary market affects original equipment demand
2. What customer experience is sought.

Once these numbers are derived, a manufacturer can focus on the operational improvements needed to achieve these numbers.

An often overlooked strategic aspect of reverse logistics is that it “clears the channel” for future purchases. By working with customers to trade up to replacement or new products, companies are able to elude inefficiencies and costs by avoiding product obsolescence. This also releases capital and space for replacement products. Of course, customers may buy replacement products, but what happens to the existing products that were displaced? The older products could very easily find their way into secondary markets and lessen the demand for newer products.

VCR manufacturers present a good example of an industry that failed to provide reverse logistics. With the growing popularity of DVDs, have any of the VCR manufacturers tried to retain customer loyalty by offering a reverse logistics program for old VCRs? Or are the margins so thin on VCRs and DVD players that the products do not warrant a reverse logistics strategy? Consider the lost opportunities for the manufacturers to gain customer loyalty by helping dispose of old technology while up-selling and/or cross-selling some of its newer products. Time and again, new technologies are introduced to customers without reverse logistics strategies or market penetration goals in place.

The computer industry is another example where solid reverse logistics strategies and goals can help a company end the lifecycle of one of its old products while introducing newer technology to its customers. The key is to dispose of the old product, but keep the customer. A good reverse logistics strategy should be as much about the lifecycle of the customer, as the lifecycle of the product.

An Internet search of “used computers” warrants over 11,500,000 hits. One company, which disposes of used computers, processes more computer equipment in a single month than it did in an entire year just several years ago. Its expected volumes will quadruple in the next 12 months to more than 100,000 units annually or about 3 million pounds of computers.

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It is important that a company control the availability of its products even in secondary markets.

According to the International Association of Electronic Recyclers (IAER) 2003 industry report, “There are more than 500 million units of computer equipment – CPUs, monitors, printers – currently installed in the USA from all sectors, including consumer, that will be obsolete in less than five years.” IAER also cites a U.S. Environmental Protection Agency report from 2002 stating, “91 percent of consumer electronics are discarded.”<sup>10</sup>

This recycling statistic says nothing about the generations of used computers being sold in emerging countries or secondary markets. Without providing any type of customer experience or knowing the name and contact information of the buyer/user, any opportunity to up-sell, cross-sell, or try and maintain customer loyalty is lost.

“Many companies are struggling with how to properly handle used and obsolete electronic goods and their components. They know that managing these goods within regulatory guidelines is critical to their post-sales supply chain to increase operational efficiencies and control costs, as well as contribute to a safer environment.”<sup>11</sup>

It is important that a company control the availability of its products even in the secondary market. Reverse logistics can be used as a differentiator to distinguish one company from another, which further increases “switching costs” to competitors. A well-defined reverse logistics program can also be used to capture customer opinions and needs that can deepen the collaborative relationship.

### Defining the parts

Once the “context” of demand management and customer experience are defined, an operational improvement agenda can be pursued. A well-executed improvement program is likely to have many parts including:

**Process Definition:** As paths of returns lead to varied ends as well as revenue streams, it is of paramount importance to direct return products into the appropriate stream early. As products enter inappropriate processes, inefficiencies such as corrective actions begin to arise. Not only are companies paying for removal of assets, but they also pay for activities that the contractor is performing such as sorting and redistribution of materials prior to recycling or disposal. When companies begin to redesign internal processes to manage the receipt of materials, the sorting and testing of items is

<sup>10</sup> “UPS to Help Companies Manage Unwanted Electronics,” UPS Press Release, May 11, 2004

<sup>11</sup> “UPS to Help Companies Manage Unwanted Electronics,” UPS Press Release, May 11, 2004

performed internally before anyone outside handles them, and the contractors only get what they are supposed to get. Typically, the cost and duration of the disposition cycle are directly related. A key element of accelerated disposition is accurately directing the returns through the appropriate process. To this point, the verification of the correct path should occur when the return material authorization (RMA) is issued.

**Network analysis** also is critical when redesigning reverse logistics operations. The network might best be configured with multiple, strategically located centers worldwide. Each processing center should be logistically positioned to accommodate the existing transportation network, optimizing the routes of current supply trucks that might have backhaul opportunities.

Countless benefits can result from an effective reverse logistics program.

**Centralized return centers** can operate much more efficiently. In fact, there are opportunities to reduce the cost of reverse logistics throughout specific lanes such as consolidating early to reduce transportation costs. Other benefits of early consolidation include understanding the complete picture of returns, and gaining economies of scale when negotiating with business partners (e.g. secondary market resellers).

**Re-use/Salvage.** Some companies refer to returned materials as “surplus assets,” including by-products, used equipment and waste streams, because they have value in the marketplace. A company can re-use virtually anything that can be recycled for internal use, amounting to significant dollars worth of material annually. Additional annual income can be generated from the sale of equipment and materials to entities outside the company. Increasing numbers of companies now capitalize on recyclers and other secondary markets to sell excess or obsolete equipment as well as by-products of their production processes. Salvaged materials might be used as service inventory. Also, companies may be able to reduce their raw material costs through creative use of salvaged materials. And companies should continue to look for new opportunities as product lines and processes change.

**Intangible benefits.** Countless benefits can result from an effective reverse logistics program. For instance, through the use of pollution prevention, a company can coordinate and market an effort that incorporates product refurbishment, process modification, equipment redesign and reuse of waste materials to minimize the introduction of non-usable waste into the environment. Companies can reduce the generation of waste with the prioritization of waste prevention, re-use and recycling.

## Key incentives for reverse logistics

- Customer retention/satisfaction
- Container reuse
- Recycling programs (Transport packaging)
- Damaged material returns
- Asset recovery/restock
- Downstream excess inventory (Seasonality)
- Hazardous material programs
- Obsolete equipment disposition
- Recalls

## Making it profitable

Returning goods into the supply chain is equally important as moving goods to market, so assigning key executives to centralize, manage and improve the asset-recovery program is fundamental to achieving profitable results. These processing centers should be managed as individual businesses. Center managers should be empowered to adopt ideas and implement processes to trim expenses and return greater value to the corporation. As managers communicate objectives and introduce new projects, the company needs to recognize the value of its operations and define metrics for success. Can the ROI be tracked fiscally and in terms of the customers' lifecycles with the company?

Each center should have an executive team to handle administrative functions relating to facility management, material flow and marketing efforts, while contract labor could be used to perform the sorting functions. A company might find it more beneficial to outsource the post-production environment completely. Materials being returned from customers and distributors might be handled by various contractors with assigned territories while the product disposition is coordinated with a network of decision matrices set forth by the central outsourcing company.

When developing a reverse logistics program, process responsibilities should be clearly defined. While a company's logistics division may coordinate the product return operation, the production department may manage asset recovery. Therefore the production department would handle the material that has fallen out of the system prior to reaching the customers. Well documented approaches benefit both consistency and traceability – which lead to greater efficiencies.

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...revenue generating opportunities exist in Reverse Logistics programs.

Resource recovery and disposal on secondary markets can get complicated when the refurbished items begin competing with new items and offerings. When comparable resource recovery products end up on the market, not only are companies competing against themselves, they also risk damage to the corporate image and unhappiness with the buyer. Resource recovery executives must collaborate closely with the marketing department to ensure that the by-product does not interfere with key marketing efforts.

As discussed earlier, revenue generating opportunities exist in reverse logistics programs, i.e. resale, recycle, etc. Returned products may even be donated for tax and public relations benefits. When these other options have been exhausted, the company may choose or be forced via regulatory purposes to dispose of returned product. When this is the case, the primary principle for businesses is to dispose adequately at minimum cost. While regulatory controls are becoming more stringent on proper disposal of products, the cost of dispensing waste continues to rise.

### High-level example of an effective reverse logistics program

Each point represents a step in one of many configurations of reverse logistics programs. It is important that each company defines how an effective reverse logistics program will affect customer experience and original equipment demand while contributing to revenue. Each step requires more detailed characteristics to be defined.

1. At the installation site, authorized personnel complete the appropriate forms and attach them to the items being funneled to the recovery operation. *(Customer, service, and logistics processes must be defined and communicated.)*
2. Supply trucks bringing new products and materials to near-by sites can backhaul the older parts and materials to the local supply location. *(Schedules, transportation, networks must be established and effectively managed.)*
3. Dedicated staging locations at all supply locations as well as at some customer locations specifically for materials bound for the processing centers. *(Customer processes and expectations must be clearly defined and communicated.)*
4. An intranet connection facilitates communications between the processing centers, supply centers and customer locations. *(Communication processes and infrastructure must be established.)*
5. A database of buyers categorized by certain classes of materials should be maintained. *(New processes must be developed to support new revenue streams.)*

...proven solutions exist that can improve customer retention and reverse logistics programs.

6. When the trucks arrive at the processing centers, sort the material, categorize it according to buyer, then notify the appropriate buyers that the material will be placed for silent bid. Processing centers may also include company stores, where customers can shop among the items that make the journey through the processing center and are determined by site managers to have purchase appeal. *(Processing center network, operations, and organization established and managed for on-going improvement.)*
7. Each lot of material is described and placed for auction on a medium such as the company's web site. The lots generally remain up for bid for a specified time, e.g., five days *(Sales techniques and mediums must be identified as well as processes, business rules, and metrics.)*
8. The winning bidder typically gets a specified time, e.g., an additional five days to pay for and pick up the material. Buyers are responsible for transport. *(Expectations and business rules must be developed and communicated.)*
9. Track materials inbound and through the sorting, bid, sale and release processes with a central accounting system. All cash collected from sales should be sent by the buyer to a central clearinghouse, which authorizes release of the material and performs all the reporting, accounting and reconciliation activity. *(Central tracking system should be developed and analyzed.)*

#### Possible options for reclaimed product

- Refurbish (Improve product beyond original specs)
- Recondition (Return product to original specs)
- Salvage (Separate components for reuse)
- Repair (Prepare for sale as a used product)
- Sell to 3rd Party
- Recycle
- Discard/Liquidation (Landfill)

#### Solutions to reverse logistics obstacles

Depending on the nature of your current situation, proven solutions exist that can improve customer retention through reverse logistics programs. These answers could be strategic in nature from process development and expansion to improvement portfolio development. Your company might need more tactical solutions to specific issues such as implementing RFID (Radio Frequency Identification) that would provide visibility to products within a reverse logistics process.

Treat reverse logistics as another business. It is not the returns department.

## Conclusion

First, develop strong reverse logistics strategies. Second, clearly outline financial, corporate, branding, marketing and other objectives. Treat it as another business; it is not the returns department, it is an operation. Give it goals, give it objectives, give it resources, give it executives and let it be part of the “Lifecycle” design for your products and your customers.

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### About the Author

Rodney Moore is a principal at UPS Supply Chain Solutions and is based in San Francisco, CA. He can be reached at [rmoore@ups-scs.com](mailto:rmoore@ups-scs.com).

To learn more about how our experience in supply chains and consulting can help your business, please contact us:

1.800.742.5727 U.S.  
1.678.746.4365 International  
Visit us at [ups-scs.com](http://ups-scs.com)

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