Traditionally, reverse flows were not viewed as adding value for customers or revenue for the manufacturer or producer.

Information and financials (cash) are also an important dimension of reverse logistics and closed loop supply chains.

Global supply chains present challenges and opportunities for reverse flows (e.g. difficulty in returning goods to distant manufacturing locations).
Importance and Magnitude of Reverse Flows

- Transportation cost of returns is very high due to uneven sizes, damages and generally poorer condition of packaging.

- Retailers lose 3 to 5% of gross sales to returns.

- Internet returns are about double the store sale returns.
Eight categories of reverse flows:

□ Products that have failed; are unwanted, damaged, or defective; but can be repaired or remanufactured and resold

□ Products that are old, obsolete, or near the end of their shelf life but still have some value for salvage or resale

□ Products that are unsold from retailers, usually referred to as overstocks that have resale value

□ Products being recalled due to a safety or quality defect that may be repaired or salvaged
Eight categories of reverse flows:

- Products needing “pull and replace” repair before being put back in service
- Products that can be recycled such as pallets, containers, computer inkjet cartridges, etc.
- Products or parts that can be remanufactured and resold
- Scrap metal that can be recovered and used as a raw material for further manufacturing
Reverse Logistics Systems versus Closed Loops

- **Reverse logistics**—The process of transporting goods from their final destination for the purpose of capturing value or for proper disposal.
  - Reserve logistics involves the processes for sending new or used products “back up stream” for repair, reuse, refurbishing, resale, recycling, or scrap/salvage (e.g. recalled food & drugs, damaged printer, malfunction TV)

- **Closed loop supply chains**—Designed and managed to explicitly consider both forward and reverse flows activities in a supply chain.
  - Explicitly designed from the start for both forward and reverse flows (e.g. empty cartridges, beverage bottles, retread truck tires)
Figure 15-1  A Closed Loop Supply Chain for Cartridge Reuse

Supplier

Manufacturer

Retailers

Customers

Prepaid mailers

— Forward Flows  —— Reverse Flows
Figure 15-3  A Closed Loop Supply Chain for Commercial Tire Retreading

- Supplier
- Manufacturer
- Retailers
- Customers
  - Trucking Fleets
- Retreader

--- Forward Flows  ---- Reverse Flows  --- Remanufactured Flows
Reverse Logistics System
Reverse Logistics

- **Customer Returns**
  - Reasons for customer returns include defective or unwanted items, warranty problems, recalls, and miss-shipments.

- **Environmental Challenges**
  - Recycling and environmental concerns are frequently associated with regulatory policy. Increasingly a focus of firms in supply chain design.

- **Economic Value**
  - Corporations increasingly view reverse flows as a value stream instead of a waste stream.

- **Making reverse flows profitable is a challenge as well as an opportunity.**
Achieving a Value Stream for Reverse Flows

- The barriers below may be internal or external:
  - Priority relative to other issues and potential projects or programs in the organization
  - Lack of attention from top management in the organization
  - Financial resources necessary for operations and asset infrastructure
  - Personnel resources required to develop and implement the reverse flows program
  - Adequacy of material and information systems to support the returns program
  - Local, state, and federal restrictions and/or regulations

- 3PL can add economic value in managing reverse logistics.
Recommendations for Managing Reverse Flows:

- **Avoidance**—Producing high-quality products and developing processes to minimize or eliminate returns

- **Gatekeeping**—Checking and screening merchandise at the entry point into the reverse flows process to eliminate unnecessary returns or minimize handling

- **Reducing reverse cycle times**—Analyzing processes to enable and facilitate compression of time for returns to enhance value recapture

- **Information systems**—Developing effective information systems to improve product visibility, reduce uncertainty, and maximize economies of scale.

- **Returns centers**—Developing optimum locations and facility layouts for returns centers to facilitate network flow
Recommendations for Managing Reverse Flows:

- **Asset recovery**—Classifying and disposing of returned items, surplus, scrap, and obsolete items to maximize returns and minimize cost
- **Pricing**—Negotiating the best price for products being returned and resold
- **Outsourcing**—Considering a relationship with a third-party organization to handle and manage reverse flows in cases where existing personnel, infrastructure, experience, and/or capital may not be adequate to implement a successful program
- **Zero returns**—Developing a policy to exclude returns by giving a returns allowance and/or “destroying” the product in the field
- **Financial management**—Developing guidelines and financial procedures to properly account for charges against sales and related financial issues when items are returned by customers