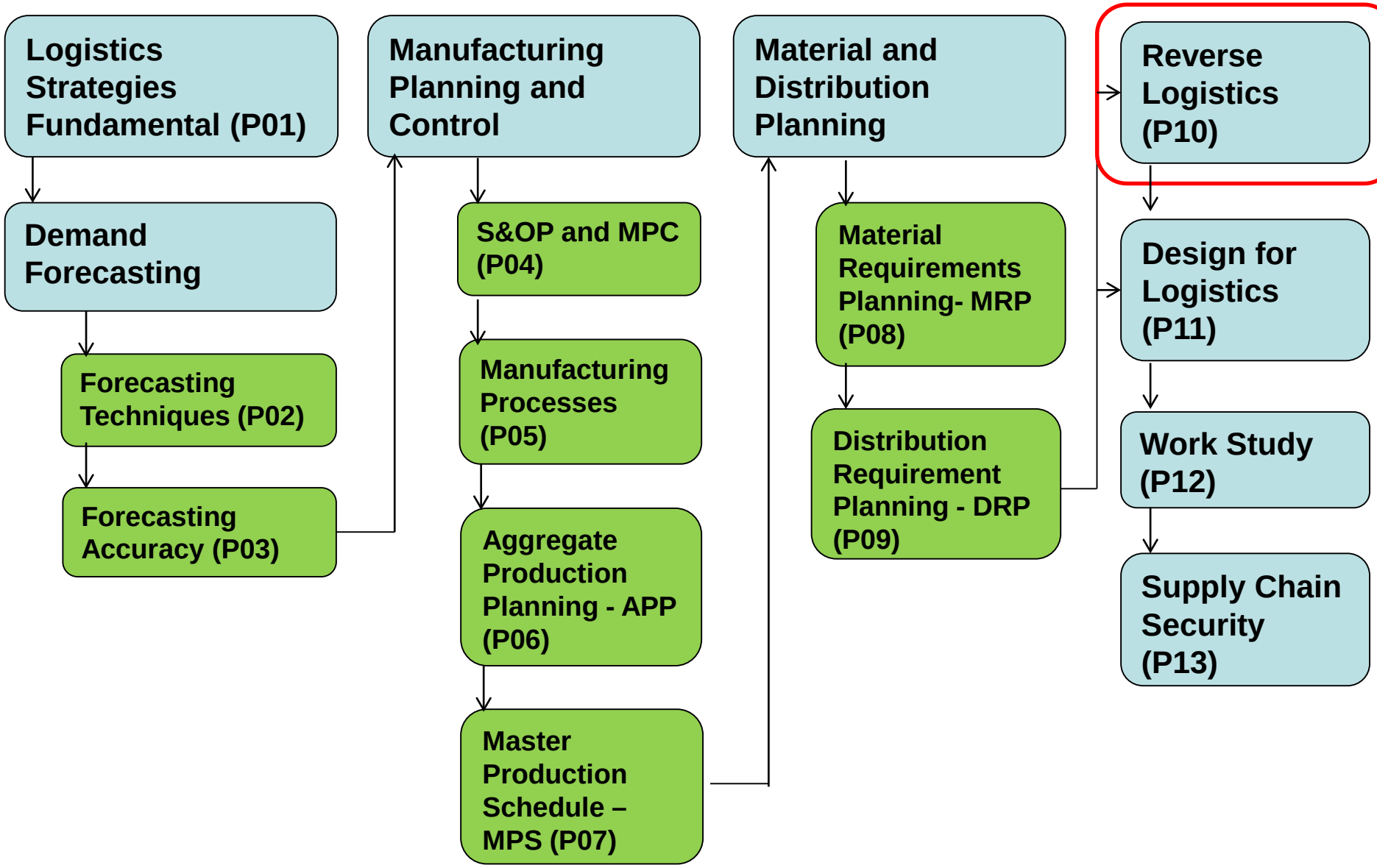
Problem 10

Efficient Reverse Logistics

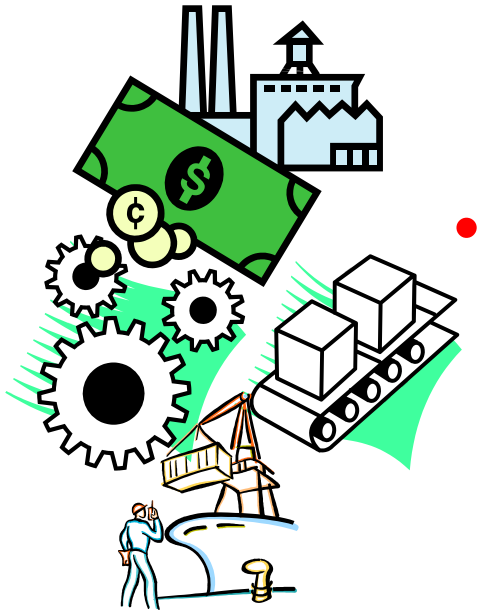
SCHOOL OF ENGINEERING

E222 – Logistics Planning and Control

E222 Logistics Planning and Control – Topic Tree

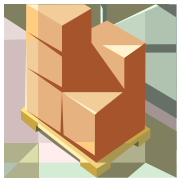


P10 – Efficient Reverse Logistics



- Explain the role and importance of Reverse Logistics as an additional aspects of logistics management.
- Explain the Reasons and motivations for Reverse Logistics System
- Elaborate key considerations of Reverse Logistics

Reverse Logistics



Typical Materials/Goods Flow

1	2	3	4	5	6
Raw materials suppliers	Manufacturer	Distributor	Wholesaler	Retailer	End-User

Obtain

Produce

Distribute

Reverse Logistics

Reasons For Reverse Logistics

- **Return of goods for credit**
  - ✓ IT products
- **Rental or lease returns**
  - ✓ Material handling equipment
- **Warranty returns**
  - ✓ Printers, MP3 players, consumer electronic products
- **Reusable containers**
  - ✓ Milk crates, Pallets
- **Consignment agreement returns**
  - ✓ Fashion, leather products
- **Online purchase returns**
  - ✓ Arts and crafts
- **Disposal**
- **Trade-ins**
  - ✓ Old PCs
- **Take-backs**
  - ✓ Old clothes
- **Universal product recalls**
  - ✓ Contact lens solutions
- **Units for inspection or recalibration**
  - ✓ Microscope
- **Products not meeting guarantees**
  - ✓ Lowest price by Carrefour
- **Product/Component reuse, recycle and retrieve residual value**
  - ✓ Electronic chips, plastics, batteries, paper, tin cans

Motivation for Reverse Logistics System

- Savings In The After-Market
  - Sometimes there is literally gold in the reverse supply chain, not to mention platinum, silver, copper and a whole range of commercial metals
- Competitive Edge
  - Consumers can be wooed and won with products that promise good service.
  - Ease of return, repair & recycling may add to a product's value in the consumer's mind

Motivation for Reverse Logistics System

- Consumer & Shareholder Pressure
  - Shareholder groups may propose various “green” policies
- Growing Market For Environmentally Safe Products
  - Some customers will pay a premium for products that protect themselves and the earth
- Environmental Awareness & Regulations

Key Considerations in Reverse Logistics

- Prevention
- Data Tracking
- Customer Service
- Using 3rd Party Logistics Specialist
- Consolidation
- Cost Savings
- Generating Revenue

Prevention

- “The best way to handle a return is never have to handle it in the first place”

But if it happens;

- Establish clear procedures to handle returns effectively
- To ensure returns are inherent in product and not due to usage
- Clear guidance on website/helpline/manuals for troubleshooting, to segregate faulty product from product fault caused by usage

Data Tracking

- Companies need to learn more about why their consumers are returning goods. The data they collect is a way for them to
  - ✓ Reduce returns & improve product and/or production and/or operating instructions and/or distribution process
  - ✓ Identify trends (if any)
  - ✓ Eliminate certain type of goods
  - ✓ Quickly redistribute the goods
  - ✓ Product design improvement

- Data should be entered uniformly and consistently for tracking

Customer Service

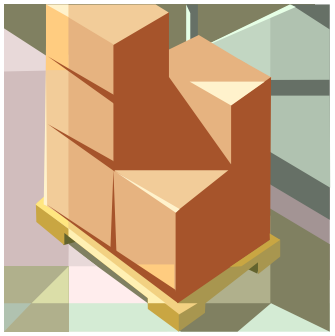
- Short cycle time between customer calling to report, collection of faulty product and return of repaired/new/ substituted product
- Helpful hotlines, websites and instructions sheets to report faults and activate technical support/collection
- Bring new product/repaired/substitute product to exchange as soon as possible
  - ✓ E.g. provide ready-to-mail-back envelopes
- Quick to collect faulty product from customer through use of couriers or set up collection centers

Third-Party Logistics Specialist

- A growing number of retailers/e-tailers outsource to a reverse-logistics specialist.
  - ✓ For fees typically ranging from US $1 to $5 per returned item (plus shipping), companies such as Newgistics, UPS E-Logistics, and Genco can take over every aspect of a returns process or just a part of it
  - ✓ After contracting with Newgistics, one company closed the area of its warehouse devoted to returns, lowering its handling costs
- Email updates to inform them the status of their return
- Efficient collection, consolidation, sorting, reuse, repair and return products process
  - ✓ E.g. Intermec products are repaired in UPS warehouse instead of at designated product service centers

Consolidation

- Consolidation (Aggregation) allows returned products to be
  - ✓Sorted
  - ✓Tested
  - ✓Data Collected
  - ✓Transported
  - ✓Product requirements consolidated and ordered more economically



Cost Savings

- Cost-savings for reverse logistics are achieved through:
  - Data collection
  - Redistribution of goods
  - Effective reporting
  - Remedial actions

Generating Revenue

- Minor product faults can be repaired quickly and sold at reduced prices to generate revenues rather than disposing it
- Take advantage of actual value that can be derived versus perceived value from person discarding the product

Performance Measurement

- Defining metrics to measure the success of reverse logistics activities is important
- Not too different from forward logistics/supply chain measurements
  - ✓ Total cost of Reverse Logistics
  - ✓ Reliability
  - ✓ Flexibility
  - ✓ Asset Management
  - ✓ Responsiveness/Cycle Time

Key Benefits

- Improved control and asset recovery
- Income generation through recycling, reuse, repackage rather than unsold inventory
- Efficient route planning – returns collections matched with outbound deliveries
- Reduced inventory and obsolescence

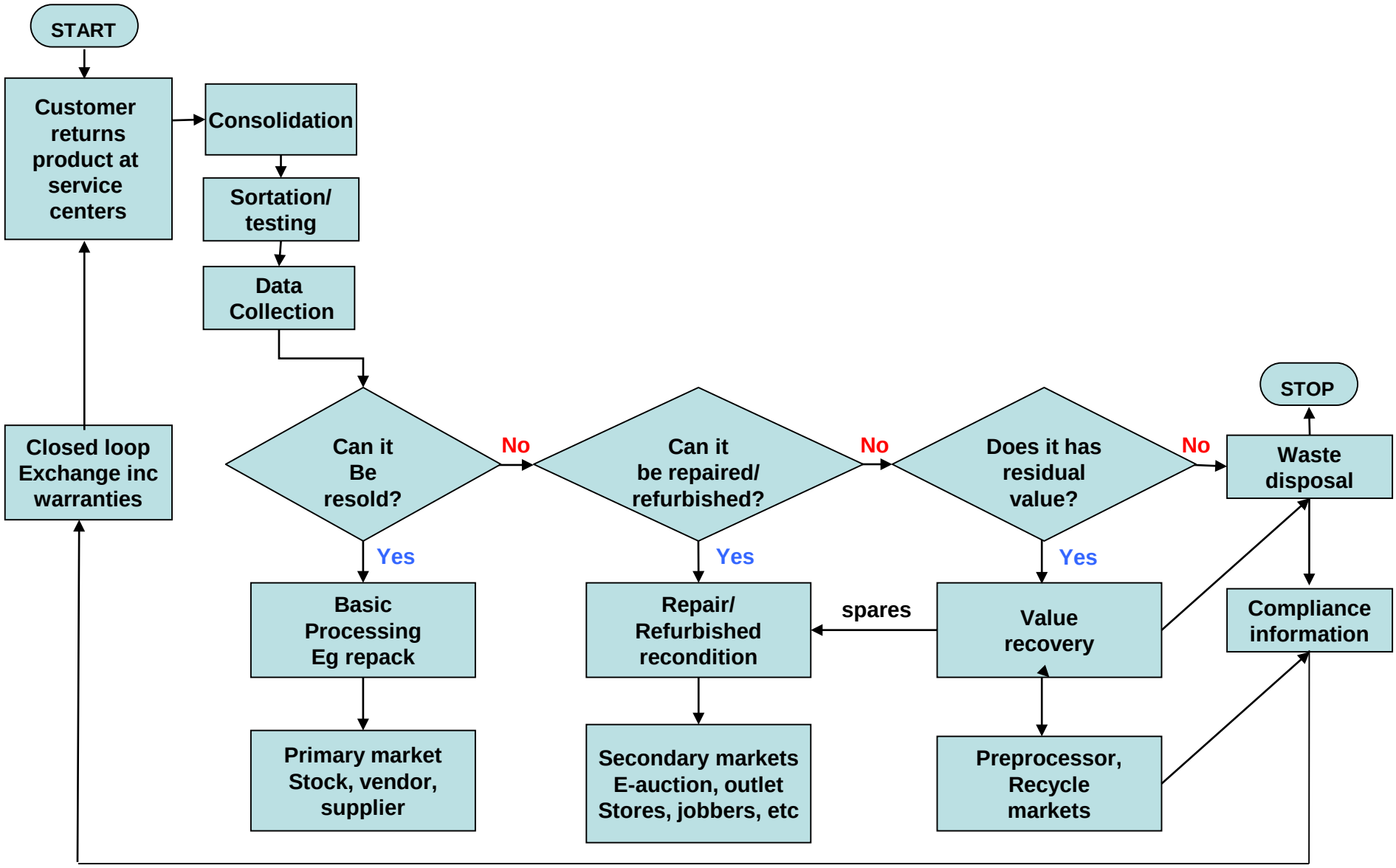
Challenges in Reverse Logistics

- Many channels to one collection points, more complex than forward logistics
- Tracking of defects
- Transit losses and damages
- Poor screening and repair process
- Inefficient time management
- Warehousing – allocation of resources

Suggested Solution

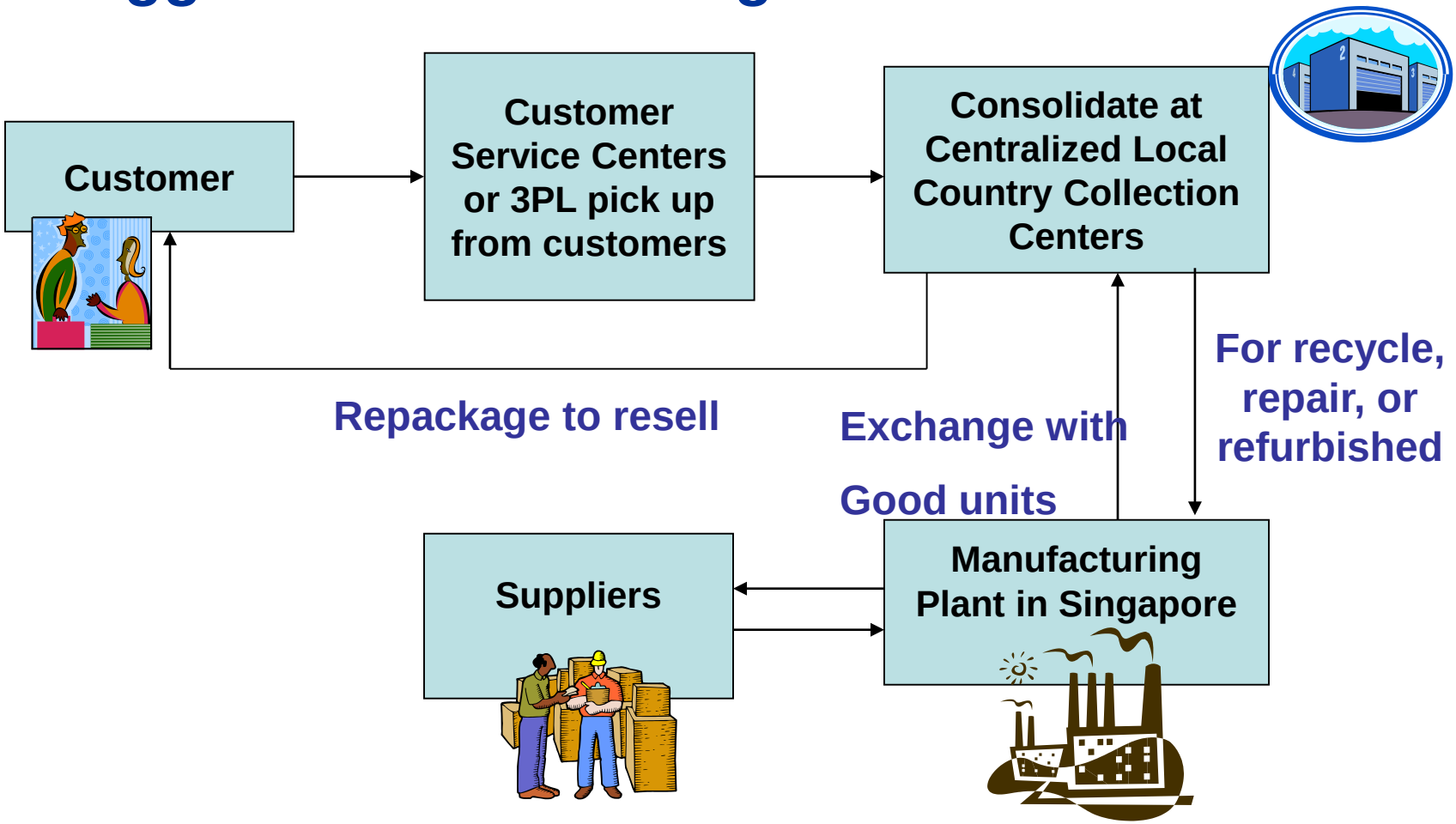
- Reason why customers are returning their laptops. **(Data Tracking and Prevention)**
  - ✓Identify trends (if any) and for future design improvement
  - ✓To establish clear procedures to handle returns effectively
- Set up customer service centers and outsource to 3PL (e.g. DHL, UPS) to pick up and handle the returns within the country, consolidations & repackaging. **(Cost Savings)**
- Sell returned / repaired laptops at reduced prices. **(Generate Revenue)**
- Consolidation for shipment back to manufacturing in Singapore if there is no repair centers. **(Cost Savings)**

Reverse Logistics Processes



Suggested Implementation

Suggested Reverse Logistics Process



Going Further…

With conservation of the environment in mind, manufacturer can design/manufacture their products for reverse logistics (Reduce, Reuse, Recycle)

- Make products recyclable
- Use recycled materials
- Use less-harmful ingredients
- Use lighter components
- Use less energy
- Use less material
  - ✓ E.g. Singapore Packaging Agreement

    http://app2.nea.gov.sg/docs/default-source/energy-waste/2nd-singapore-packaging-agreement.pdf?sfvrsn=2

Environmental Issues are becoming more important!

Learning Outcome

- Explain the role and importance of Reverse Logistics as an additional aspects of logistics management.
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