Measuring logistics costs and performance (Part c)

CH # 3

Estd. 1990

Main Title Goes Here….

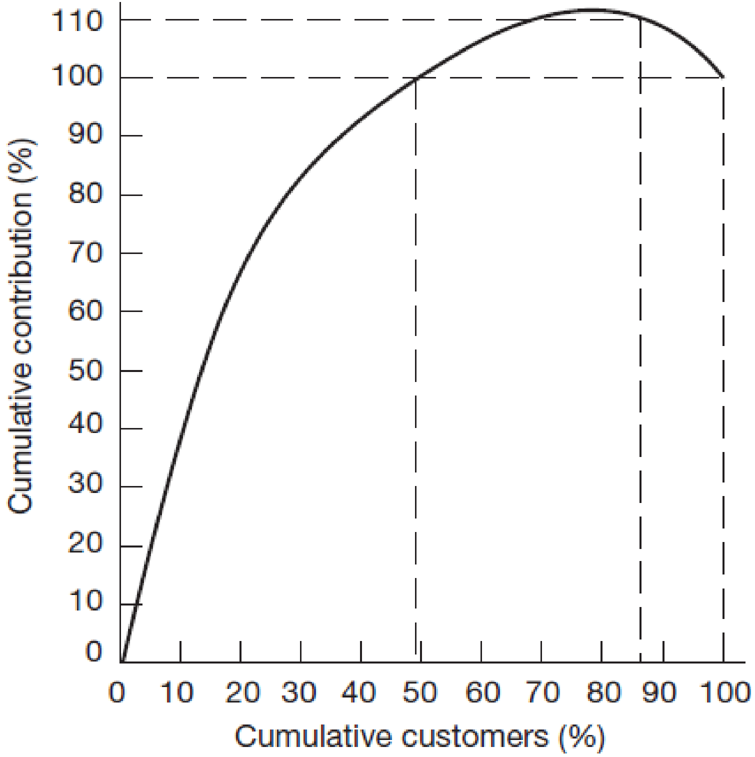
- Logistics and the bottom line
- Logistics and shareholder value
- Logistics cost analysis
- The concept of total cost analysis
- Principles of logistics costing (Understanding the cost-to-serve)
- **Customer profitability analysis**
- **Direct product profitability**
- **Cost drivers and activity-based costing**

Customer profitability analysis

Table 3.1 The customer profit and loss account

Revenues *Less*	• Net sales value
Costs (attributable costs only)	• Cost of sales (actual product mix) • Commissions • Sales calls • Key account management time • Trade bonuses and special discount • Order processing costs • Promotional costs (visible and hidden) • Merchandising costs • Non-standard packaging/unitisation • Dedicated inventory holding costs • Dedicated warehouse space • Materials handling costs • Transport costs • Documentation/communications costs • Returns/refusals • Trade credit (actual payment period)

Customer profitability analysis



1. **Limitation of Conventional Accounting**
   - Traditional accounting methods cannot accurately answer: *"How profitable is one customer compared to another?"*
   - Profitability is usually calculated only at the **gross profit** level (sales revenue minus cost of goods sold).
2. **Gross Profit Is Not Enough**
   - Many additional costs related to servicing customers are **not included** in conventional profitability calculations.
   - These hidden service costs must be considered to understand true customer profitability.
3. **Application to Market Segments and Channels**
   - The same issue arises when comparing the profitability of market segments or distribution channels.
4. **Importance for Logistics Strategy**
   - The costs involved in serving customers significantly influence how **logistics strategies** should be designed.
   - Inefficient logistics may increase the cost-to-serve for certain customers.
     - (Details in Separate case study file)
5. **Negative Contribution Customers (Figure 3.10)**
   - Customer profitability analysis often shows that **some customers make a negative contribution** to overall profit.
   - **Figure 3.10** illustrates this pattern, showing the distribution of profitable and unprofitable customers.
6. **Reason for Negative Contribution**
   - The main reason is the **variation in cost-to-serve**, even between customers purchasing similar quantities.
   - Some customers require more service effort, resources, or special handling, increasing costs.

7. **Order-to-Cash Costs Vary Widely**
    - From capturing an order to collecting payment, the **total servicing cost** can be very high.
    - This total cost varies significantly **from customer to customer**.
8. **Impact of Product Mix**
    - Different customers buy different **product mixes**, leading to different gross margins.
9. **Multiple Cost Elements (Table 3.1)**
    - **Table 3.1** lists the many cost components that must be identified to measure customer profitability accurately.
    - These include logistics, order handling, delivery, customer service, and other supporting activities.
10. **Best Measure of Customer Profitability**
    - The most accurate way to evaluate a customer's profitability is to ask: **"What costs would I avoid, and what revenue would I lose, if I no longer served this customer?"**
    - This concept focuses on **avoidable costs** and **incremental revenue**, which gives a realistic profitability picture.
11. **Avoiding Fixed-Cost Allocation Problems**
    - This method helps avoid errors caused by allocating **fixed costs** to individual customers, which often distorts profitability results.

Table 3.2 **Analysis of revenue and cost for a specific customer**

	£	£
Gross sales value		100,000
Less Discount	10,000	
Net sales value		90,000
Less Direct cost of goods sold	20,000	
Gross contribution		70,000
Less Sales and marketing costs:		
Sales calls	3,000	
Co-operative promotions	1,000	
Merchandising	3,000	
	7,000	
		63,000
Less Distribution costs:		
Order processing	500	
Storage and handling	600	
Inventory financing	700	
Transport	2,000	
Packaging	300	
Refusals	500	
	4,600	
Customer gross contribution		58,400
Less Other customer-related costs:		
Credit financing	1,500	
Returns	500	
	2,000	
Customer net contribution		56,400

The average customer A study by the consulting company A.T. Kearney suggested that the significance of customer-oriented costs is not their average value, but specifically how they vary by customer, by order size, by type of order and other key factors. Whilst the average cost per customer may be easily calculated, there may be no customer that incurs the average cost to serve. The need is to be aware of the customers at the extremes of the cost range because, on the one hand, profits may be eroded by serving them and, on the other, although high profit is being generated, the business is vulnerable to competitive price-cutting. The table below shows an example of the range of values of some customer-oriented costs expressed as a percentage of net sales. This illustrates how misleading the use of averages can be.

Customer costs as a percentage of net sales

	Low	*Average*	*High*
Order processing	0.2	2.6	7.4
Inventory carrying	1.1	2.6	10.2
Picking and shipping	0.3	0.7	2.5
Outbound freight	2.8	7.1	14.1
Commissions	2.4	3.1	4.4

Source: Hill, G.V. and Harland, D.V., 'The customer profit centre', *Focus*, Institute of Logistics and Distribution Management, Vol. 2, No. 2, 1983

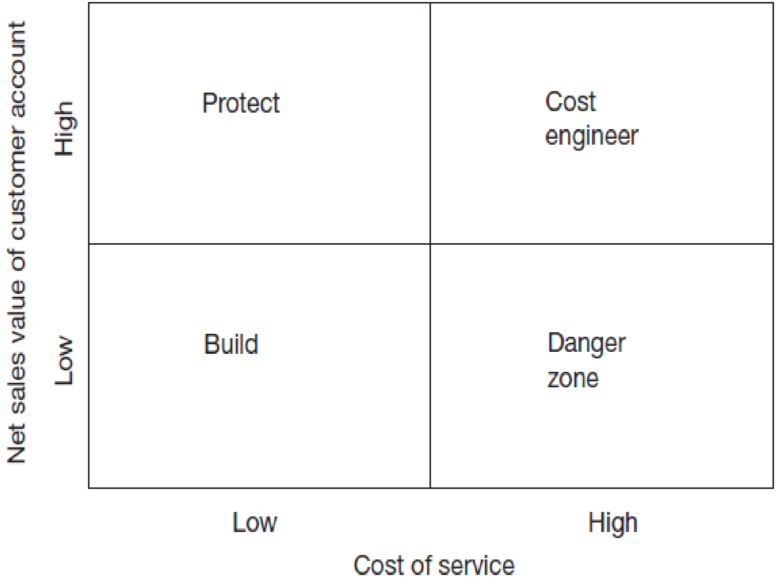
1. **Start with Gross Sales Value**
   The total amount the customer buys.
2. **Subtract Discounts**
   Gives the **Net Sales Value**.
3. **Subtract Direct Production Costs (COGS)**
   Only costs directly linked to making the product.
4. **Remove Customer-Specific Distribution Costs**
   Delivery, special handling, packaging, etc.
5. **Subtract Other Customer-Related Costs**
   Credit terms, returns, extra service, complaints handling.
6. **Avoid allocating general overheads**
   They are shared and not tied to one customer.
7. **Net Contribution = Real profitability**
   If positive, the customer is worth keeping (unless a better opportunity is lost).

Customer Profitability Matrix

Categorizes customers along two dimensions: net sales value and cost-to-serve.

Quadrants & Strategies:

1. **Build** (Low sales, low cost)
    1. Can volume be increased without raising service costs?
    2. Direct sales efforts to influence purchases toward more profitable products.
2. **Danger Zone** (Low sales, high cost)
    1. Assess medium- to long-term potential to improve sales or reduce service costs.
    2. Consider strategic reasons for retaining them (volume, market presence).
3. **Cost Engineer** (High sales, high cost)
    1. Explore ways to reduce service costs (consolidate deliveries, larger order sizes, online orders).
    2. Develop nearby accounts to improve delivery efficiency.
4. **Protect** (High sales, low cost)
    1. Maintain strong relationships to reduce switching risk.
    2. Increase business volume while controlling costs.



Direct product profitability

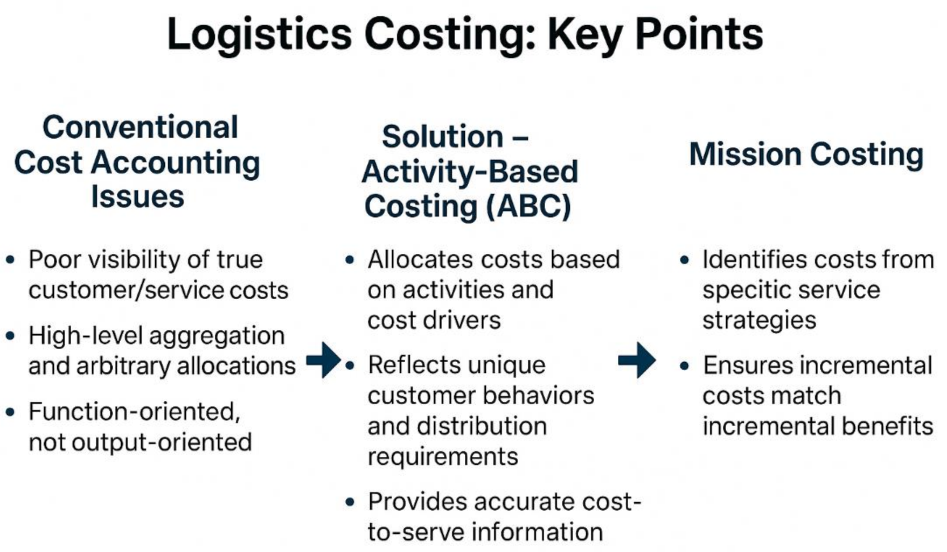
- **Definition:** A logistics cost analysis technique that identifies all costs associated with a product or order as it moves through the distribution channel.
- **Analogy:** Similar to **customer profitability analysis**, but focuses on products instead of customers.
- **Purpose:** Reveals the **total cost of ownership** beyond the purchase price, including hidden or indirect costs.
- **Significance:** Hidden costs can be substantial, potentially reducing or even eliminating the net profit of an item.
- **Application:** Widely used in the **retail industry** to make informed product and pricing decisions.
- **Importance:** Understanding DPP helps suppliers assess their ability to be **low-cost providers**.
- **Influence:** Costs incurred along the logistics chain directly affect DPP and competitive positioning.

Table 3.3 Direct product profit (DPP)

The net profit contribution from the sales of a product after allowances are added and all costs that can be rationally allocated or assigned to an individual product are subtracted = direct product profit	
	Sales
–	Cost of goods sold
=	Gross margin
+	Allowances and discounts
=	Adjusted gross margin
–	Warehouse costs Labour (labour model – case, cube, weight) Occupancy (space and cube) Inventory (average inventory)
–	Transportation costs (cube)
–	Retail costs Stocking labour Front end labour Occupancy Inventory
=	Direct product profit

Cost drivers and activity-based costing

- **Conventional Cost Accounting Issues:**
  - Poor visibility of true customer/service costs
  - High-level aggregation and arbitrary allocations
  - Function-oriented, not output-oriented
- **Solution – Activity-Based Costing (ABC):**
  - Allocates costs based on **activities and cost drivers**
  - Reflects **unique customer behaviors** and distribution requirements
  - Provides **accurate cost-to-serve information**
- **Mission Costing:**
  - Identifies costs from **specific service strategies**
  - Ensures **incremental costs match incremental benefits**



- There are four stages in the implementation of an effective mission costing process:

1 Define the customer service segment

Use the methodology described in Chapter 2 to identify the different service needs of different customer types. The basic principle is that because not all customers share the same service requirements and characteristics they should be treated differently.

2 Identify the factors that produce variations in the cost of service

This step involves the determination of the service elements that will directly or indirectly impact upon the costs of service, e.g. the product mix, the delivery characteristics such as drop size and frequency or incidence of direct deliveries, merchandising support, special packs and so on.

3 Identify the specific resources used to support customer segments

This is the point at which the principles of activity-based costing and mission costing coincide. The basic tenet of ABC is that the activities that generate cost should be defined and the specific cost drivers involved identified. These may be the number of lines on an order, the people involved, the inventory support or the delivery frequency.

4 Attribute activity costs by customer type or segment

Using the principle of avoidability the incremental costs incurred through the application of a specific resource to meeting service needs are attributed to customers. It must be emphasised that this is not cost allocation but cost attribution. In other words it is because customers use resources that the appropriate share of cost is attributed to them.