Measuring logistics performance

12 lecture

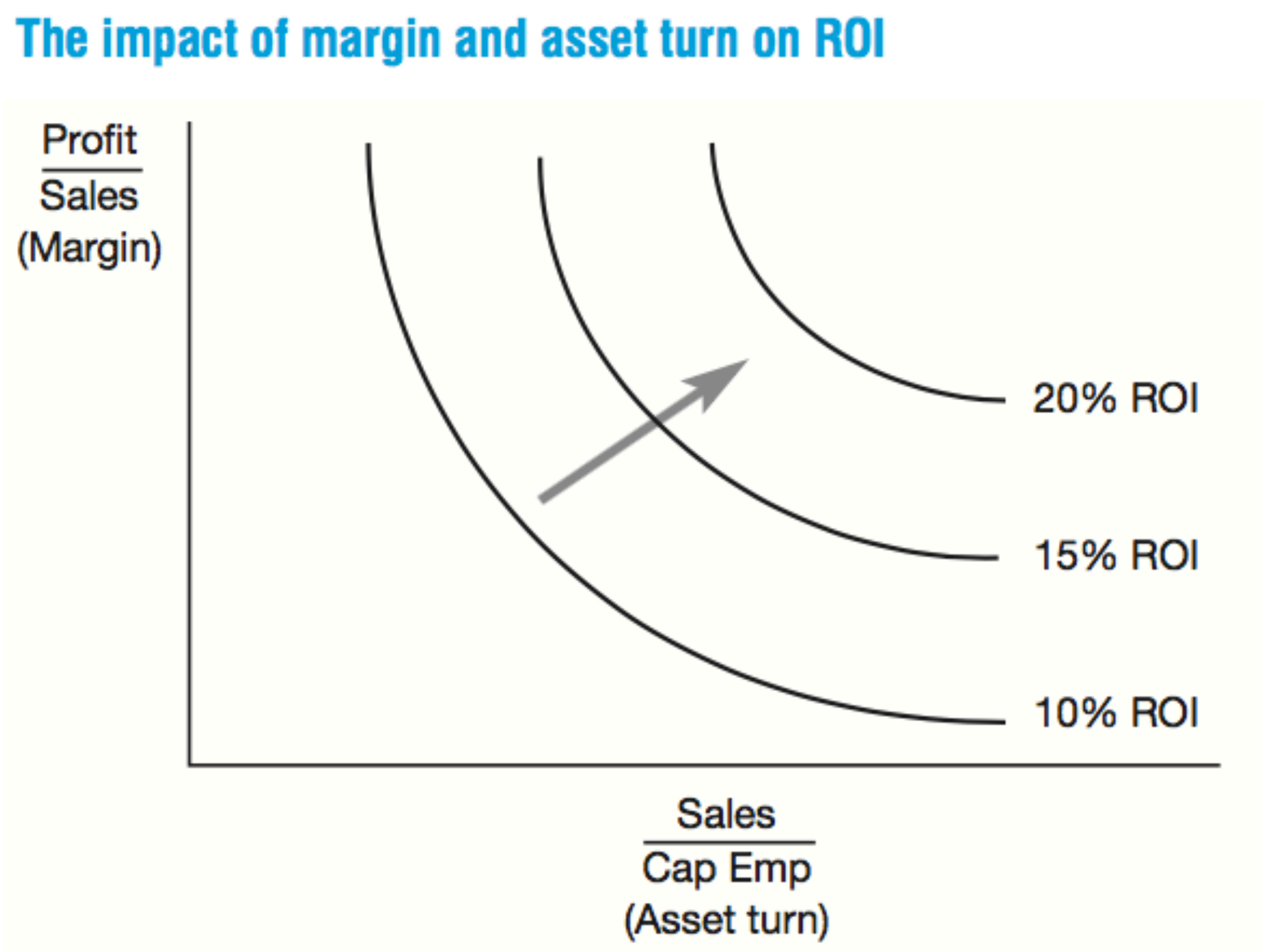
Logistics and the bottom line

$$\text{ROI} = \frac{\text{Profit}}{\text{Capital employed}}$$

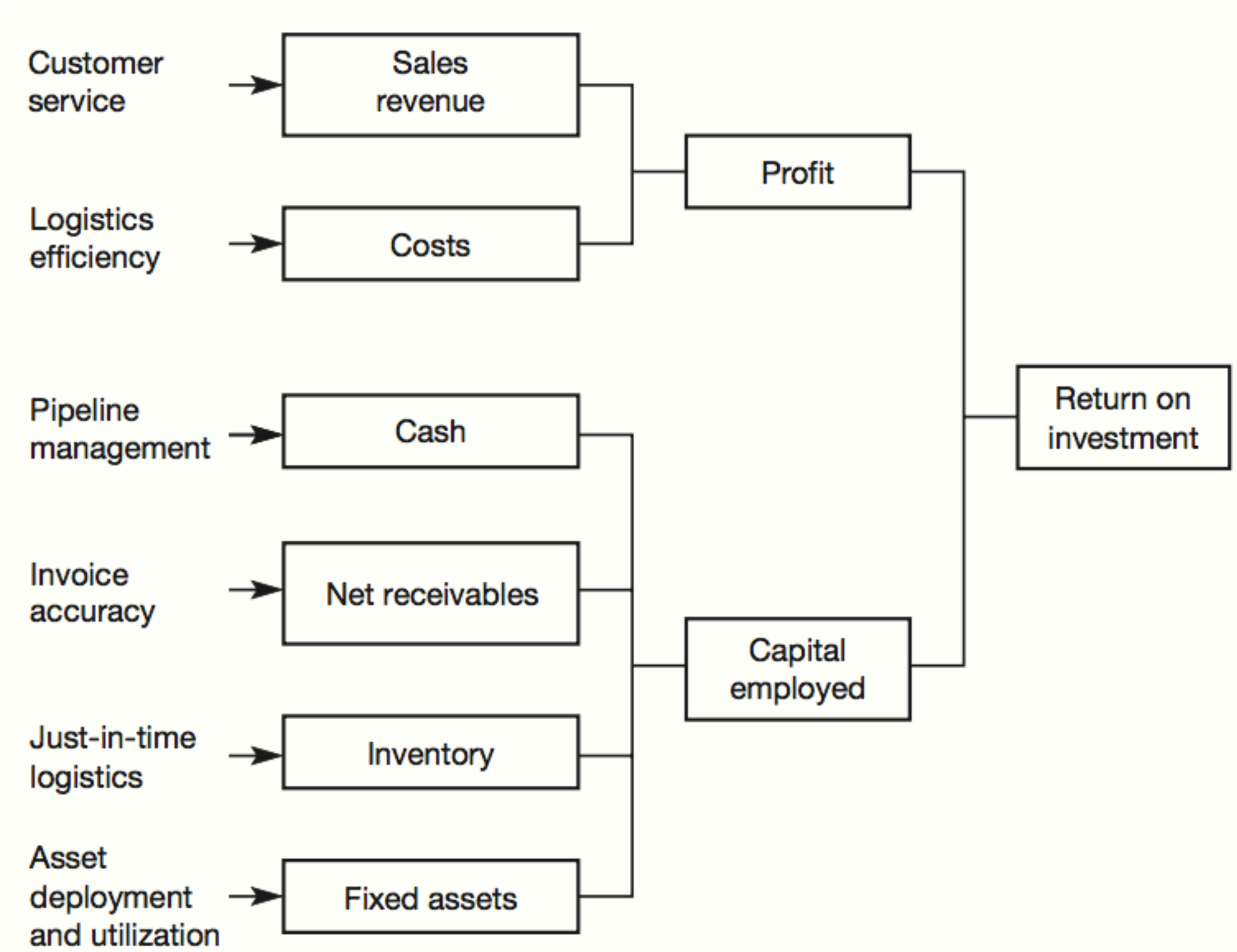
Logistics and the bottom line

$$\text{ROI} = \frac{\text{Profit}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Capital employed}}$$

Logistics and the bottom line



Logistics impact on ROI



Logistics and the balance sheet

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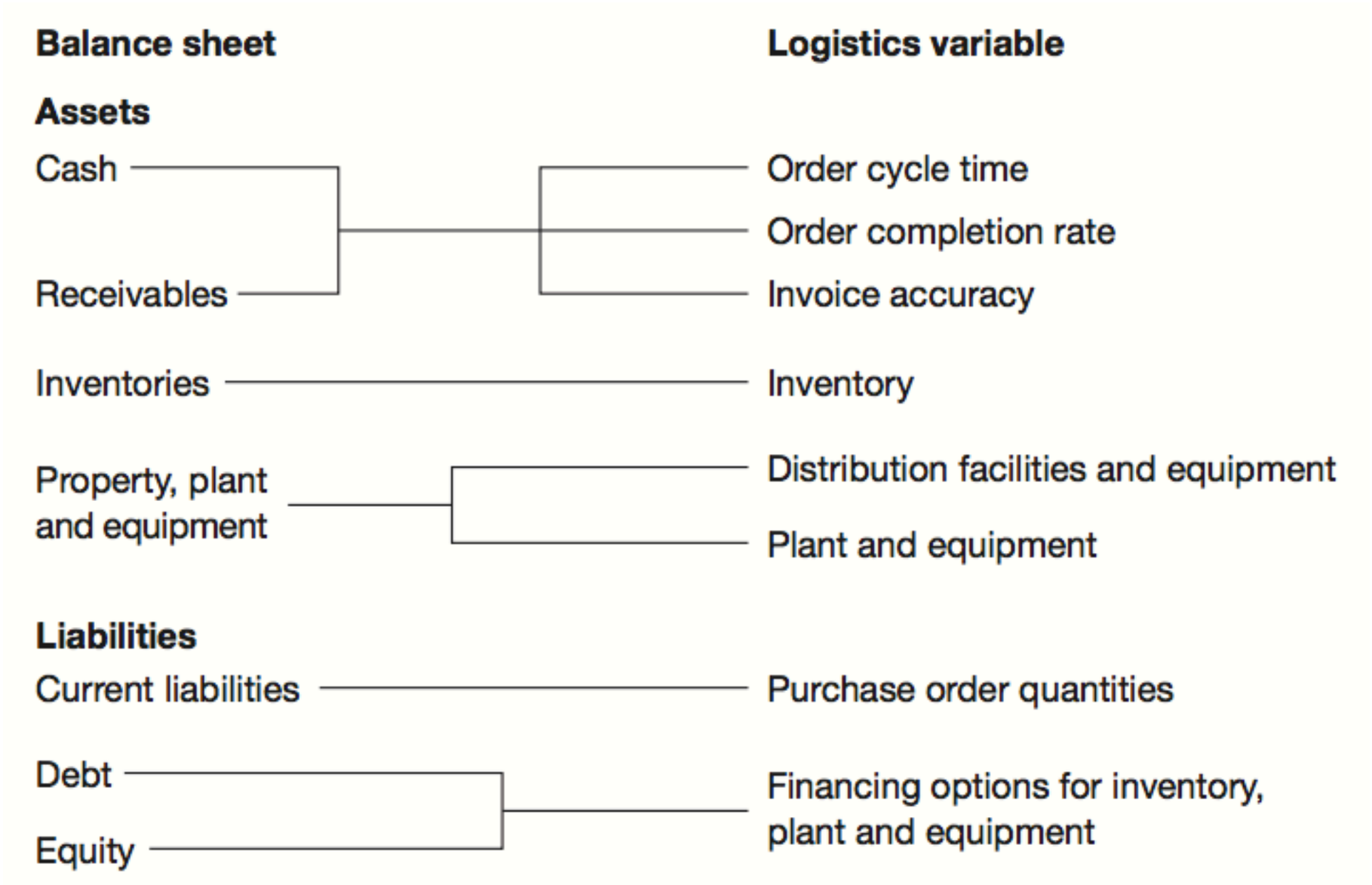


Cash and receivables

Inventories

Property, plant and equipment

Current liabilities

Debt/equity

Logistics and shareholder value

Net operating income

less

Taxes

less

Working capital investment

less

Fixed capital investment

=

After-tax free cash flow

Logistics and shareholder value

Economic value added (EVA)

= Profit after tax − True cost of capital employed

Logistics and shareholder value

Stock price × Issued shares

less

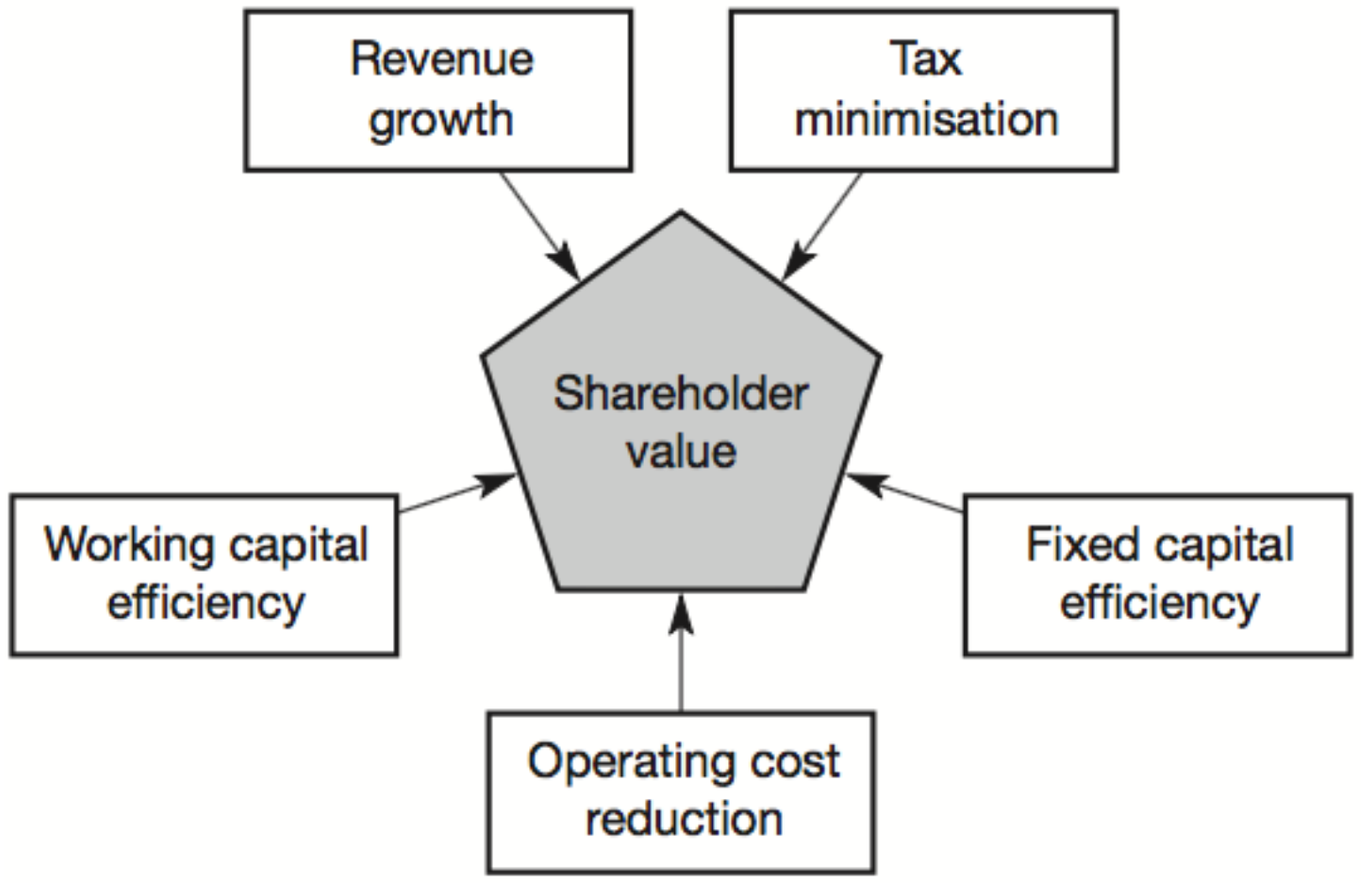
Book value of total capital invested

=

Market value added

MVA = Net present value of expected future EVA

The drivers of shareholder value



Revenue growth

Operating cost reduction

Fixed capital efficiency

Working capital efficiency

Tax minimization

Role of cash flow in creating shareholder value

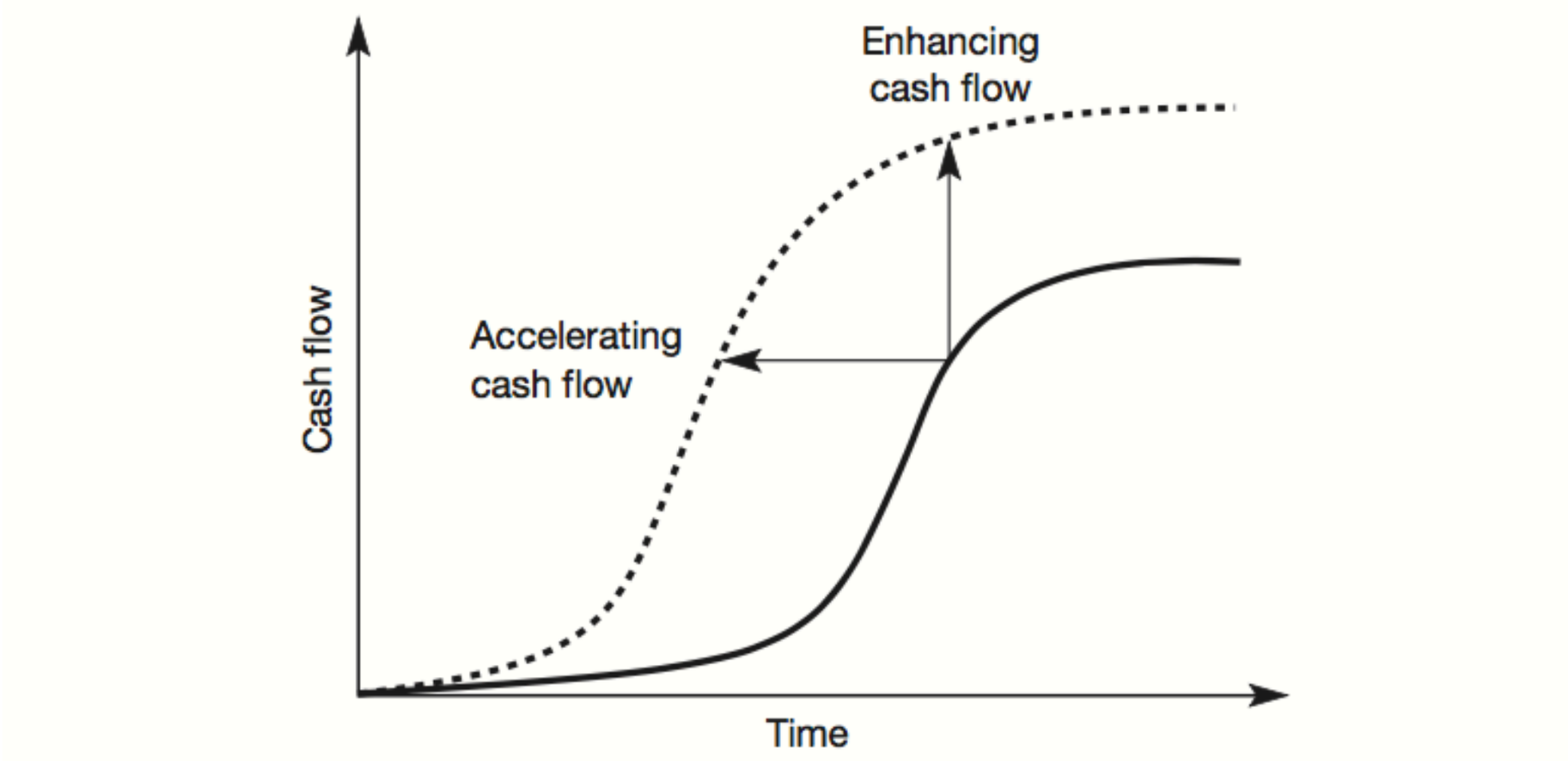
- an acceleration of cash flows because risk and time adjustments reduce the value of later cash flows;

- an increase in the level of cash flows (e.g. higher revenues and/or lower costs, working capital and fixed investment);

- a reduction in risk associated with cash flows (e.g. through reduction in both volatility and vulnerability of future cash flows) and hence, indirectly, the firm's cost of capital;

- the residual value of the business (long-term value can be enhanced, for example, by increasing the size of the customer base)

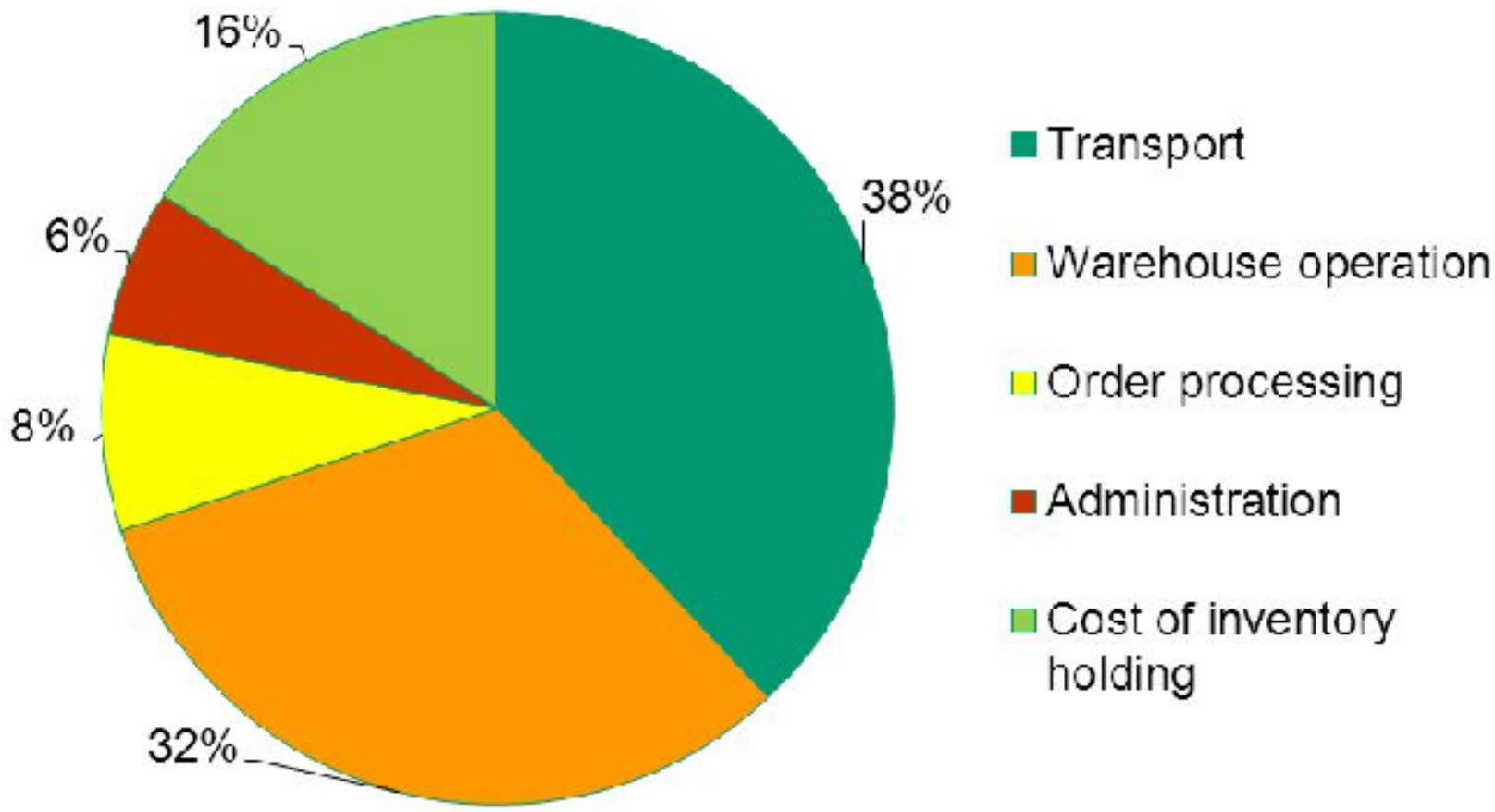
Changing the cash flow profile



Source: Srivastava, R. *et al*., 'Market-based assets and shareholder value: a framework for analysis', *Journal of Marketing*, Vol. 62, No.1, January 1998

Logistics cost analysis

Logistics – Cost factors

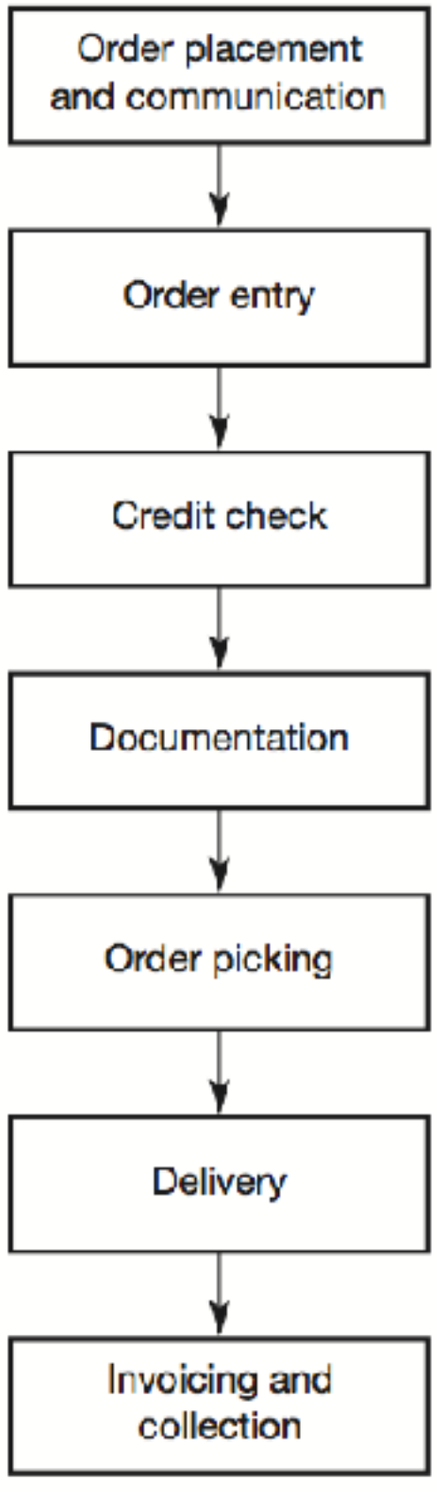


Holding cost includes loss, obsolescence, interest, insurance and depreciation

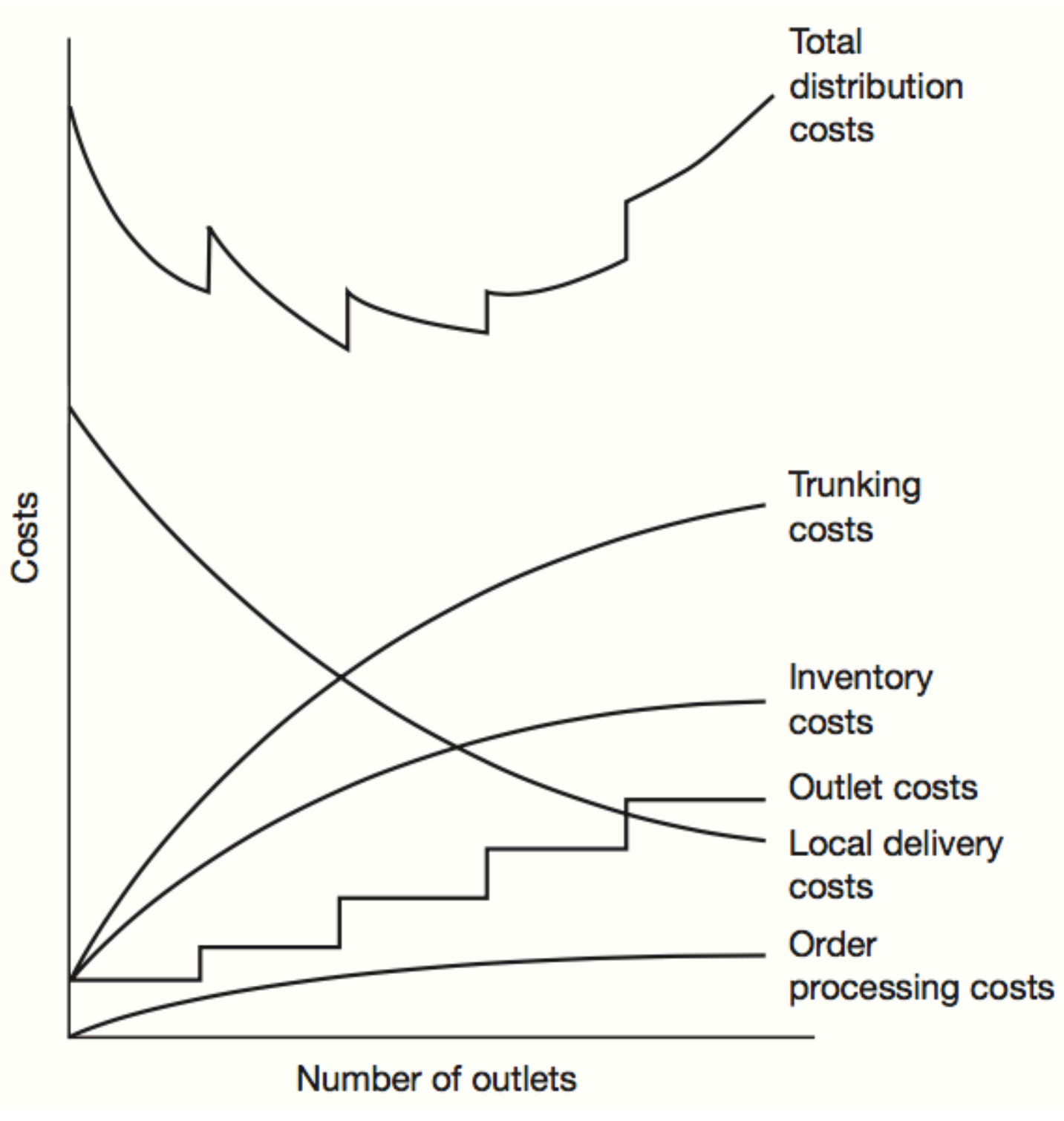
Because logistics management is a flow-oriented concept with the objective of integrating resources across a pipeline which extends from suppliers to final customers, it is desirable to have a means whereby costs and performance of that pipeline flow can be assessed.

Concept of total cost analysis

Stages in the order-to-collection cycle



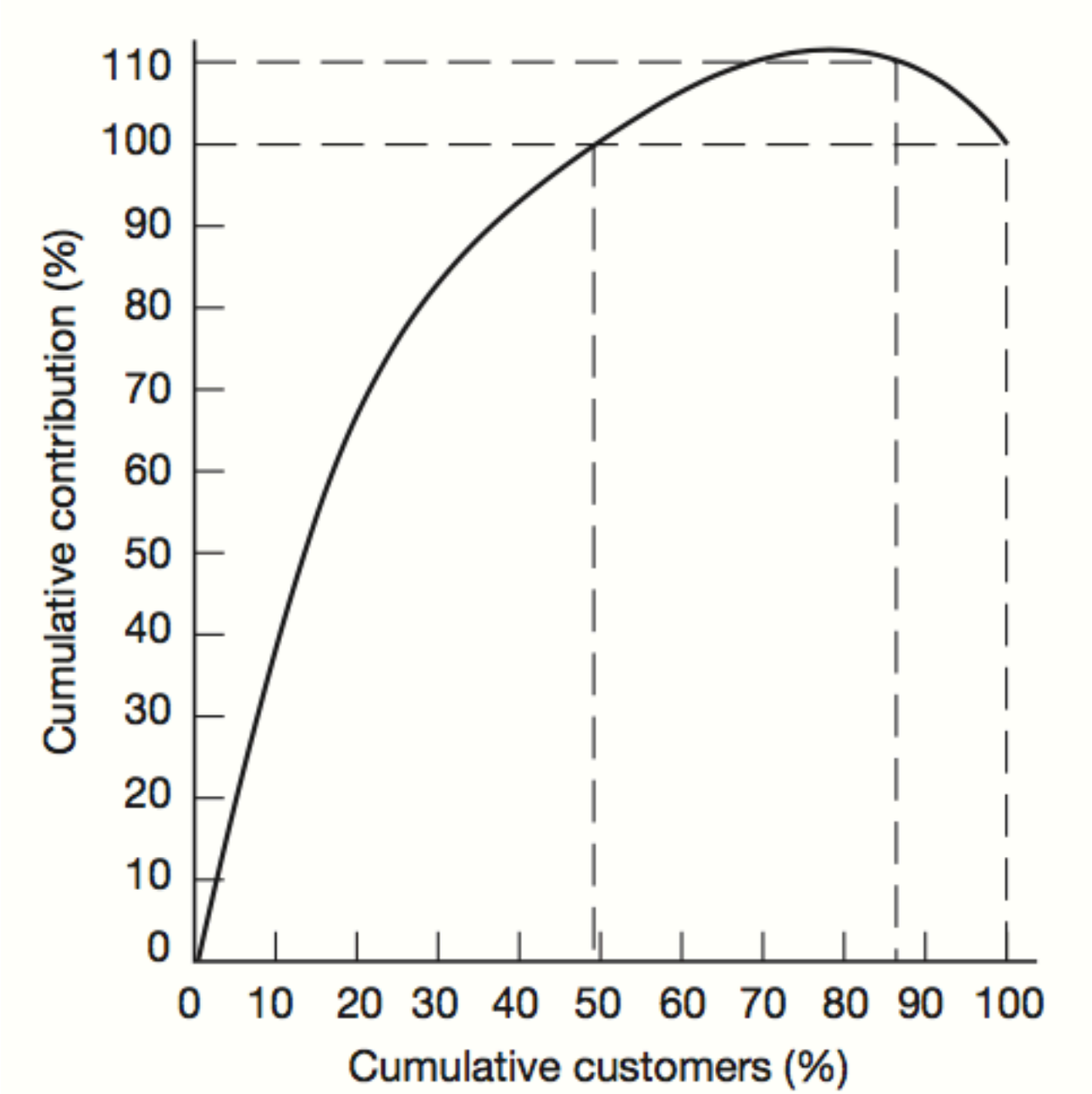
Total cost of a distribution network



Total cost of a distribution network

- Cost of capital
- Storage and handling
- Obsolescence
- Damage and deterioration
- Pilferage/shrinkage
- Insurance
- Management costs

Customer profitability analysis

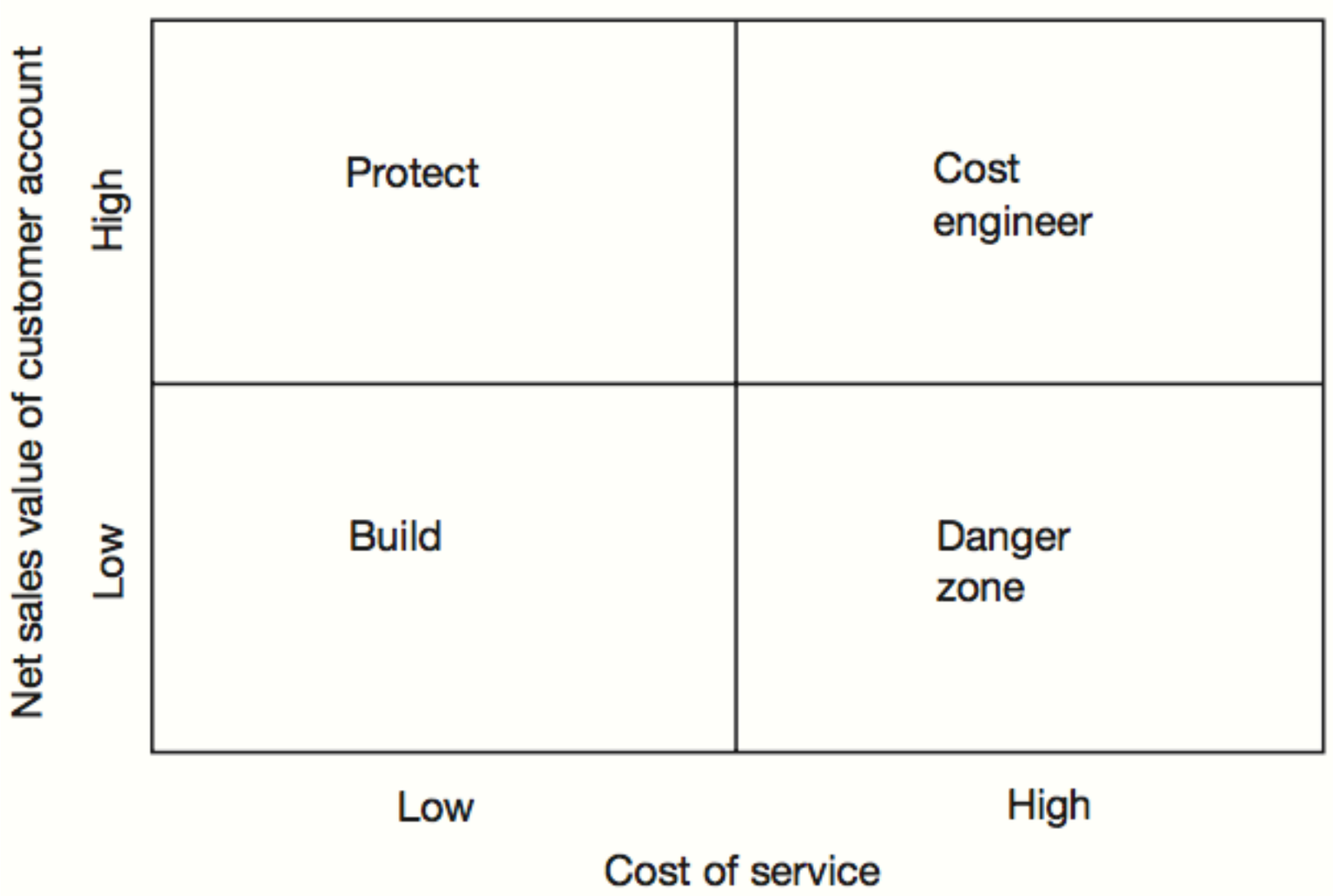


Source: Hill, G.V., Logistics – The Battleground of the 1990s, A.T. Kearney

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 matrix



Customer profitability matrix

- Build
- Danger zone
- Cost engineer
- Protect

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

- Problems:
    - General ignorance of the true cost of servicing different customer
    - Costs are captured at too high a level go aggregation
    - Full cost allocation still reigns supreme
    - Accounting systems are not output oriented
    - Companies don’t understand customer costs

Implementation of an effective mission costing process

- Define the customer service segment
- Identify the factors that produce variations in the cost of service
- Identify the specific resources used to support customer segments
- Attribute activity costs by customer type or segment

- the end