

# Unit-2

- Measuring logistics costs and performance:  
The concept of Total Cost analysis – Principles of logistics costing – Logistics and the bottom-line – Impact of Logistics on shareholder value.

# How to Measure Logistic Cost & Performance:

- Logistics costs relate to the charges for various transportation methods, including train travel, trucks, air travel and ocean transport.
- Additional logistics costs include fuel, warehousing space, packaging, security, materials handling, tariffs and duties.
- Businesses are work hard to reduce logistic costs associated with production.

**MODE****FIXED & CAPITAL COSTS****OPERATING COSTS****Road**

- Land, Roads, Parking, Ramps, Bridges, Tunnels, Signalization
- Vehicles and trailers

- Maintenance, Labor, Fuel

**Rail**

- Land, Tracks, Bridges, Tunnels, Signalization
- Locomotives and Wagons
- Rail yards and Terminals

- Maintenance, Labor, Fuel

**Pipeline**

- Land, Pipes
- Pumping stations and Tanks

- Maintenance, Energy

**Air**

- Land, Field, Terminal
- Aircraft

- Maintenance, Fuel, Labor, Airport charges

**Maritime**

- Land for port terminals
- Cargo handling equipment
- Ships

- Maintenance, Fuel, Labor, Port Charges

**Telecommunications**

- Towers, Hubs, Poles, Cables
- Exchanges, Servers

- Maintenance, Energy

# Costs in Logistics

<b>Fixed</b>	<b>Variable</b>
Equipment Lease costs (trucks, trailers,)	Labour (drivers)
Depreciation	Fuel
Office Leases or rent	Maintenance -parts and labour
Garage Leases or rent and/or Property tax	Roadway tolls
Interest on vehicles	Insurance,
Management costs (salaries)	License, Registrations

# The concept of Total Cost analysis

- The foundation of the integrated logistics management concept is total cost analysis, which we have defined as minimizing the cost of transportation, warehousing, inventory, order processing and information systems, and lot quantity cost, while achieving a desired customer service level.

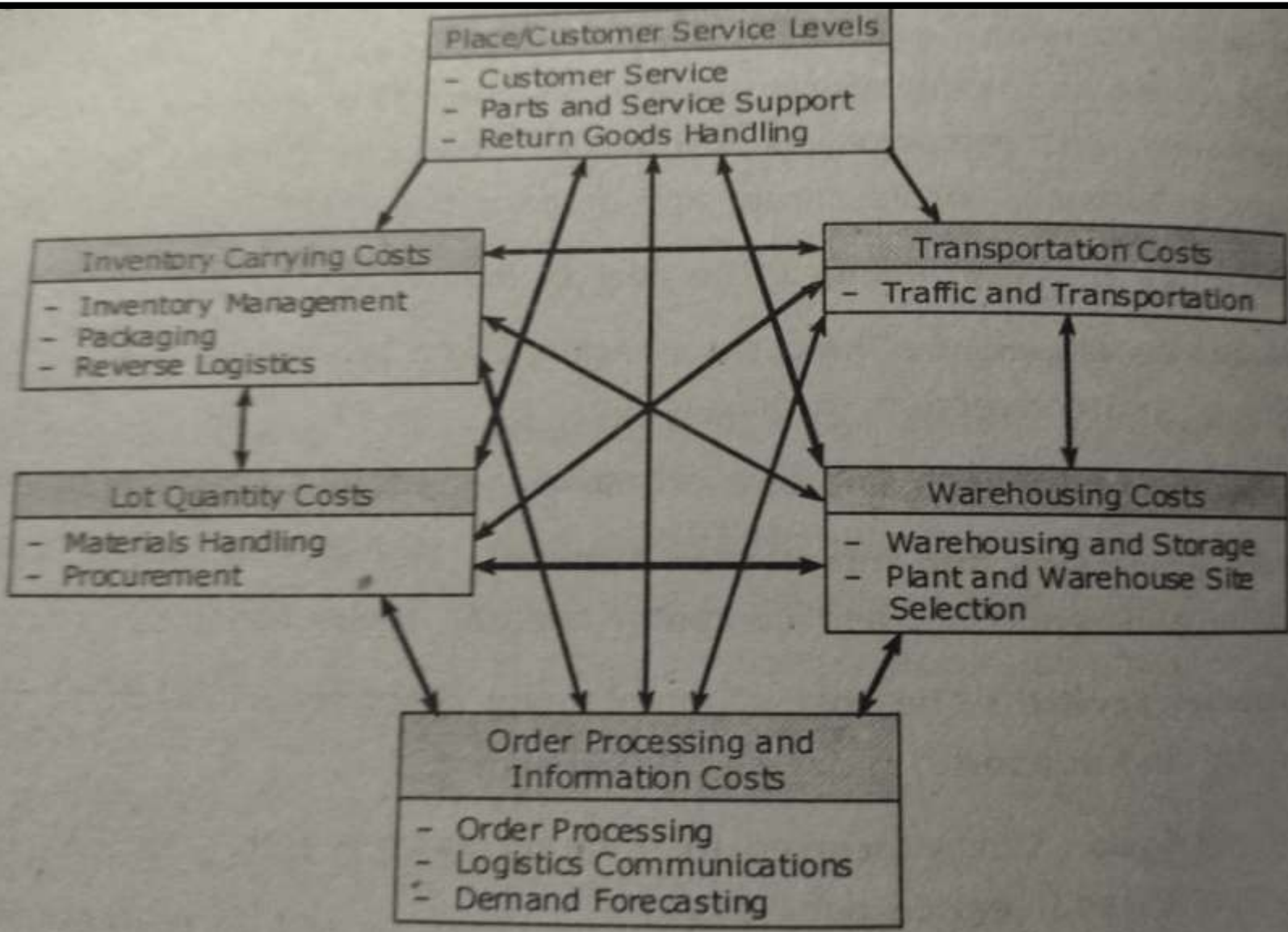
# The concept of total cost analysis

- Decisions taken in logistics
  - Can lead to unforeseen results in other areas
  - The effects of specific policies spread beyond their immediate area of impact
- Conventional accounting systems
  - Do not assist in the identification of these company-wide impacts; budgets tend to be set on a functional basis
  - Absorbing logistics-related costs in other cost elements
- Total system impact of decision
  - Identify the change in costs brought about by these decisions
  - Cost viewed in incremental terms – the change in total costs caused by the change to the system

# Total Cost Perspective

- Cost of logistics means cost of performing various logistic activities including cost of planning and managing a range of logistic activities such as distribution of finished goods, receiving, inspecting and storing of goods etc.

**TC = Transport cost + Facilities cost +  
Communication cost + Inventory cost+ Protective  
packaging cost + Distribution cost**



**Fig. 3.1.2** Total Cost Concept



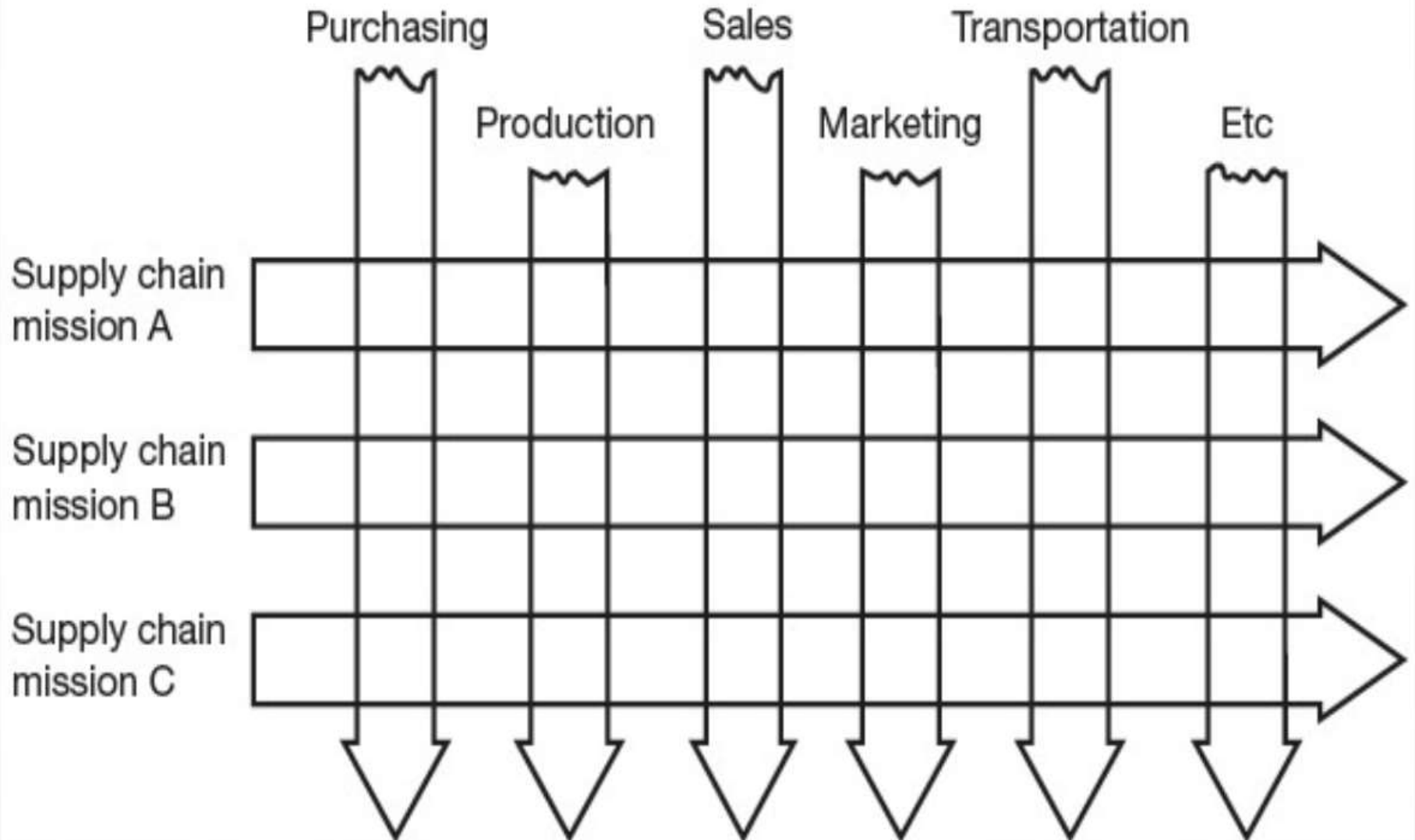
# Principles of Logistics Costing

- **Developing an appropriate logistics-oriented costing system:**
- The ability to focus upon the output of the distribution system, in essence the provision of customer service
- To identify the unique costs associated with that output

- **Principles of logistics costing:**
- System should be capable of identifying the costs that result from providing customer service in the market
- It should be capable of enabling separate cost and revenue analyses to be made by customer type and by market segment or distribution channel

- **Operationalization**
- An 'output' orientation to costing
- First define the desired outputs of the logistics system
- Then seek to identify the costs associated with providing those outputs
- **Mission**
- A set of customer service goals to be achieved by the system within a specific product/market context
- Can be defined in terms of the type of market served, by which products and within what constraints of service and cost

# Principles of logistics costing



	Functional area/ Activity centre 1	Functional area/ Activity centre 2	Functional area/ Activity centre 3	Functional area/ Activity centre 4	Total mission cost
Mission A	100	90	20	80	290
Mission B	50	70	200	20	340
Mission C	70	30	50	70	220
Activity centre inputs	220	190	270	170	850

**Fig. 3.3.2** The Programme Budget (£'000)

# Logistics and the bottom-line

- Bottom line is **the total profit or loss of the business for a particular reporting period.**
- It is one of the critical factors that reflect the true business progress and position.
- It can be improved by increasing revenue, decreasing costs and expenses via various strategies, and improving efficiency in operations.

# Bottom Line

## Methods to Improve Bottom Line

1. Increase the Top-line (Revenue)

2. Manage cost and expenses at minimal

3. Identifying and implementing best practices

4. Try to reduce the interest expenses

5. Explore new business opportunities

6. Revenue and Expenses need to be budgeted and planned

# Example of Bottom Line

Particulars	Amount in \$	
Total Revenue		20000
Cost of goods sold		8000
<b>Gross profit</b>		<b>12000</b>
Operating Expenses		
- Salaries	2000	
- Rent	2000	
- Other Expenses	1000	
- Depreciation	1000	6000
Interest Expense		1000
Taxes		1000
<b>Bottom Line/ Net Income</b>		<b>4000</b>



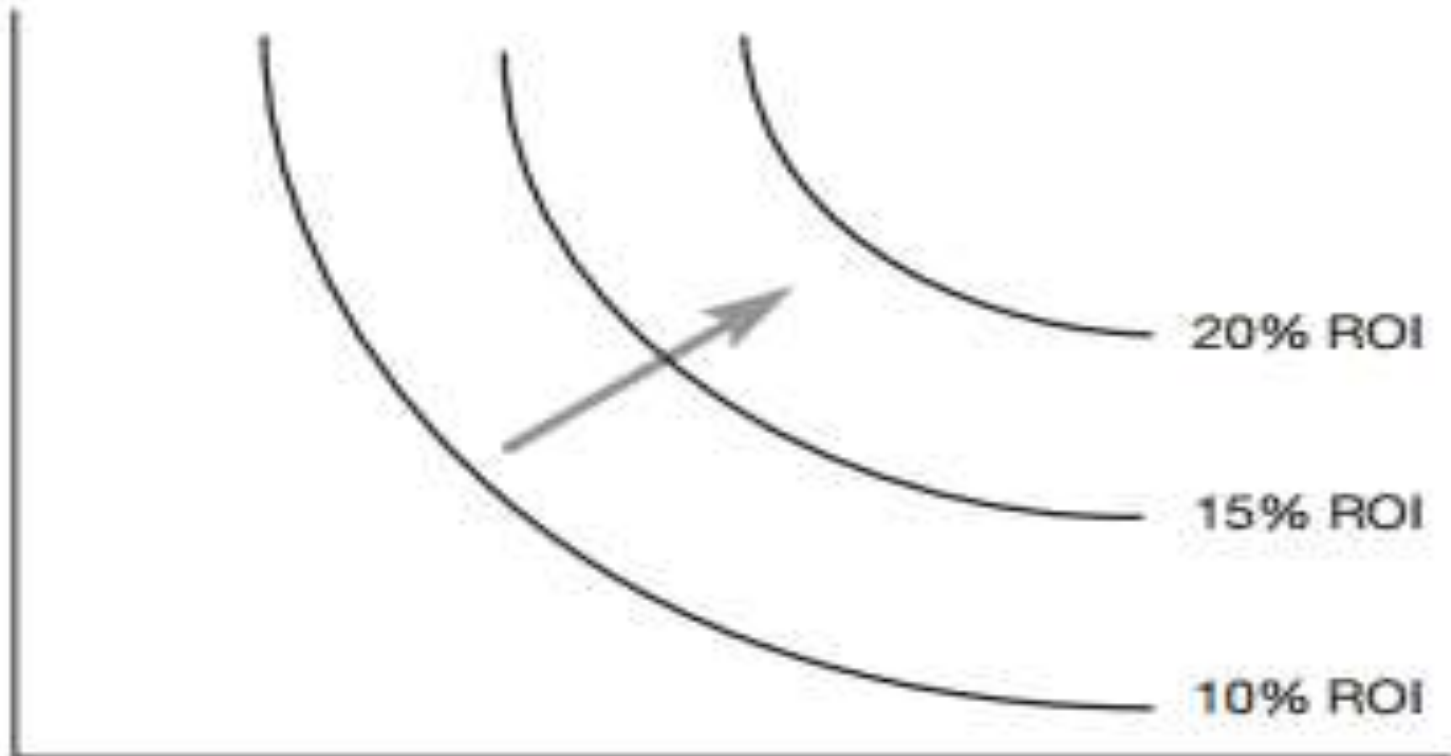
## Logistics & Bottom Line

- Improved Productivity of Capital

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

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

$\frac{\text{Profit}}{\text{Sales}}$   
(Margin)



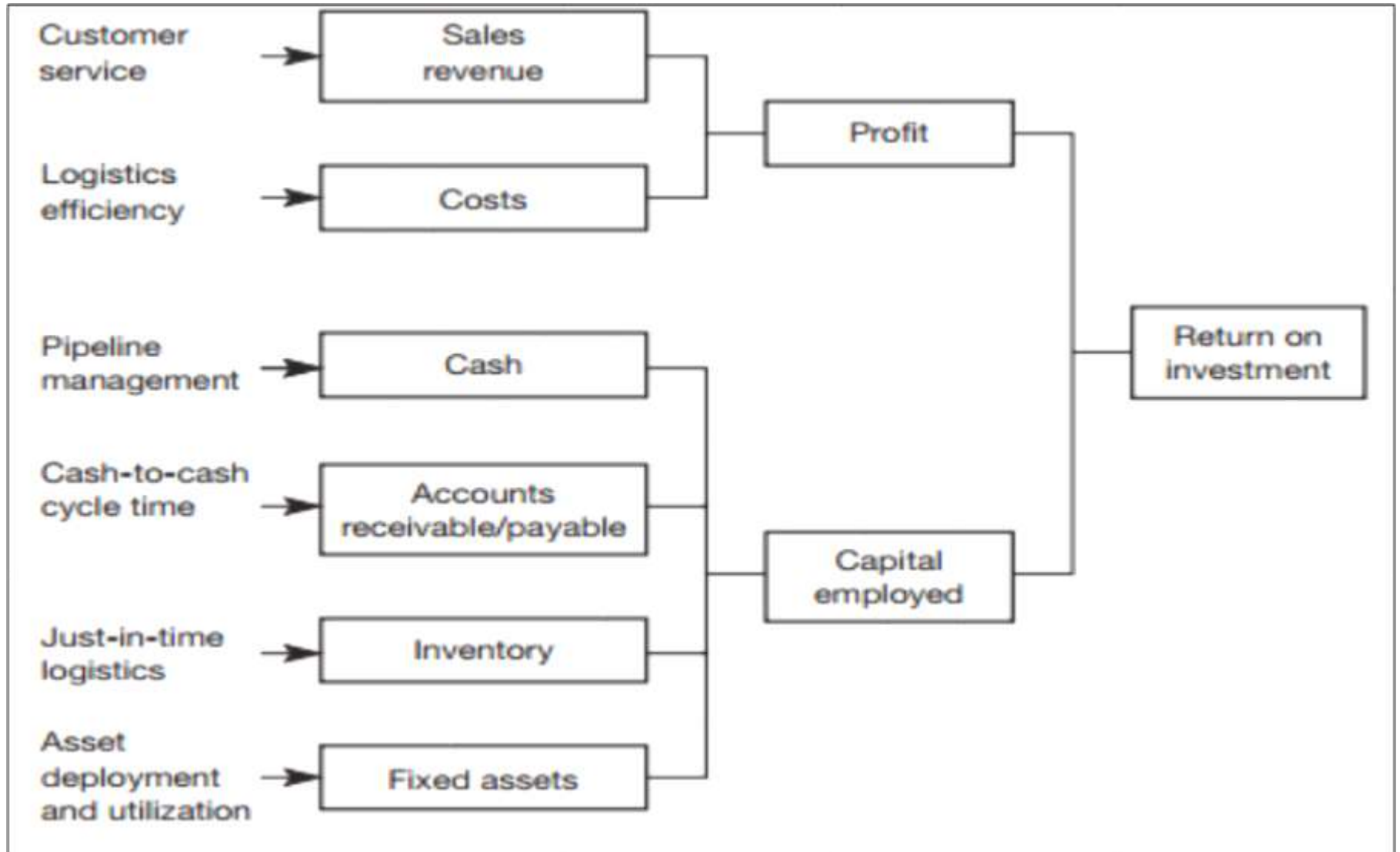
20% ROI

15% ROI

10% ROI

$\frac{\text{Sales}}{\text{Cap Emp}}$   
(Asset turn)

# Impact of Logistics on ROI



## Advantages & Disadvantages of Bottom Line

- The bottom line consists of both good and bad points influencing a business. So, let us have a look at some of the major ones:

Pros	Cons
Tracks business performance	Many factors missed; hence no clear picture on business performance can be obtained
Helps in financial planning	Non-cash expenditures can misguide the income statement's last line
Assists stakeholders in making decisions	May be assumption-based
Improved net income makes obtaining credits easier	
Easy competitor analysis	

# Impact of Logistics on shareholder value

