SCM: Integrated Perspective

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- **Situations of Competitive Advantage**
- What is Supply Chain?
- Motivation for Improvement through Supply Chain Reengineering: 5 Reasons
- Decision Areas
- Issues for Aspiring Supply Chains

Situations of Competitive Advantage

- A comprehensive example of supply chain integration with focus on quality is the case of NDDB.
  - Began with just milk procurement and processing.
  - Over 50 years, they have forward integrated the chain to include distribution, value added products, and retailing.
  - They have backward integrated into animal husbandry, animal feed, and packaging.

Cash logistics, quality assessment, developments of key inputs

Situations of Competitive Advantage

- By acquiring a technology that enabled mixing of colors and base paints to get the appropriate shade in a few minutes, Asian Paints obtained a competitive edge by delaying their differentiation.
  - Retail inventory costs have come down, while at the same time, product availability has gone up.

Delayed differentiation (postponement), technology development

Situations of Competitive Advantage

- HLL has generally sought competitive advantage through a continuous reengineering of the supply chain. Major market segments have driven their supply chain response.
  - Recently, for their food and FMCG products, the Modern Trade (read “organized retail”) segment is driving a supply chain that is adding value by cutting down lead times.

Horizontal differentiation and vertical integration, non departmentalised management cadre

Situations of Competitive Advantage

- The concept of the supply chain has changed significantly for a bicycle company.
  - It started from a factory that sourced raw materials, made components, assembled bicycles, warehousing, and delivery to dealer.
  - And changed to sourcing, kitting, warehousing, delivery to dealer, and assembly.
  - The factory has lost its significance and the supply chain is leaner and more “straight”. The bicycle company focusses more on marketing, design, and quality control.

Sourcing, kitting, dealer development, focus on costs

Situations of Competitive Advantage

- Tata Motors Ltd has improved its inventory levels and inbound logistics costs by using a third party logistics service provider to source, kit, and deliver components.

Third party logistics, kitting

Situations of Competitive Advantage

- The cement industry has changed its production structure to enable greater flexibility in transportation (use of open wagons instead of only covered wagons, coastal transportation) by making cement in two stages, first as clinker near the raw material source, then grinding, blending and bagging near the market.

Flexibility, postponement

Situations of Competitive Advantage

- Benetton used to follow the traditional way of making hosiery: dye the yarn (fixing the colour) and then knit the fabric (fixing the style)
  - Understanding customer behaviour showed that it was easier to predict style choices than colour choices.
  - Consequently, they evolved a technology to change the production sequence for their single colour fabrics to first knit and then dye.
  - This enabled the supply chain to be aligned with the market behaviour choice.

Postponement, technology development

Situations of Competitive Advantage

- Dell Computers was a pioneer by recognizing the market segment which was (i) computer aware, (ii) customization sensitive, and (iii) price sensitive, and designing a channel for this.
- The channel offered mass customization and two-day delivery at a low price by leveraging online (remote) ordering, assembling to order, and express parcel delivery.

Mass customisation, focus on costs

Situations of Competitive Advantage

- Amazon was a pioneer by recognizing the non-browser market segment which knew the book it wanted or had the leads that would enable search for the book.
- The channel offered online (remote) ordering, and ship to order using express parcel delivery. As a significant value add, it also offered recommendations on books based on a profiling of the customer.
- When large brick and mortar outlets like Barnes & Noble also started offering electronic ordering, then Amazon had to rethink its strategy of not having such outlets.

Customer profiling: CRM, value addition

Situations of Competitive Advantage

- Pizza Hut traditionally had eat-in and take-out channels. Domino's entered the market with delivery and take-out channels, providing more convenience at a lower price.
- Pizza Hut was forced to respond with a delivery channel. Correspondingly, to stay in the mind space of their customers, Domino's also opened eat-in restaurants at many locations.

Value addition:

Product + service to Product + service

Situations of Competitive Advantage

- IT Hardware manufacturers are continuously restructuring their distribution network to enable a responsive supply chain for products, spare parts, and repair and return. Third party logistics service providers have played a significant role here.

Spare parts logistics, reverse logistics, third party logistics

Situations of Competitive Advantage

- Zara, the new role model in fashion retailing from Spain, manages high levels of supply effectiveness (reduced inventory costs and post season discount sales) by
  - Monitoring early season retail sales to forecast
  - Quick response in manufacturing
  - Continued monitoring of retail sales and
  - Dispatch from warehouses on replenishment basis

Retail monitoring, coordinated and quick response supply chain

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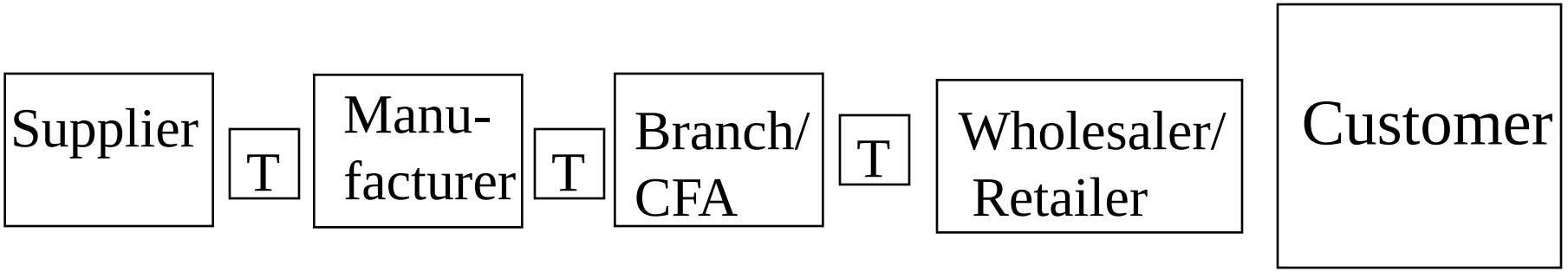
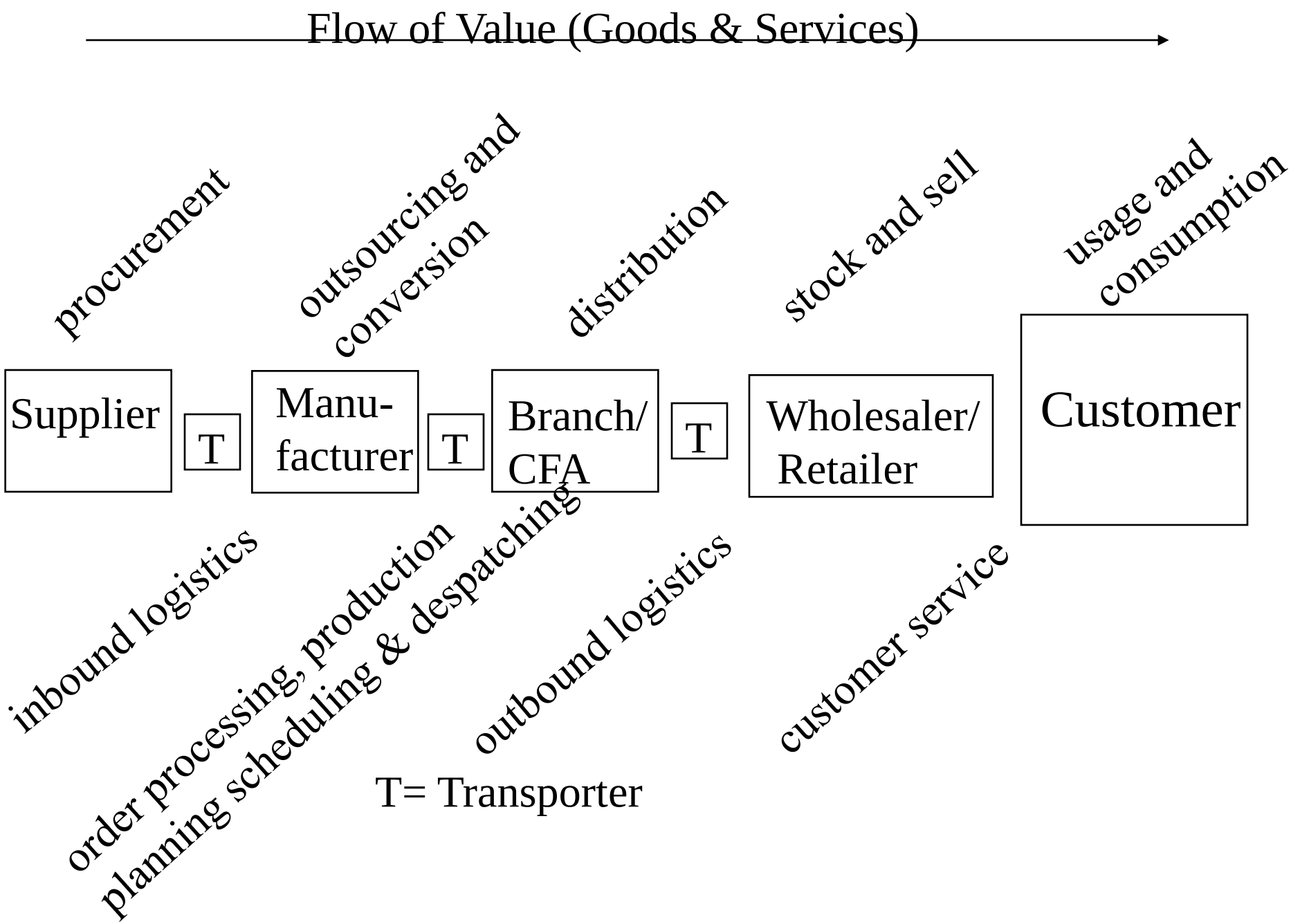
Flow of Value (Goods & Services)



T= Transporter


Flow of Value (Goods & Services)
procurement
outsourcing and conversion
distribution
stock and sell
usage and consumption
Supplier
T
Manu-facturer
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inbound logistics
order processing, production planning scheduling & despatching
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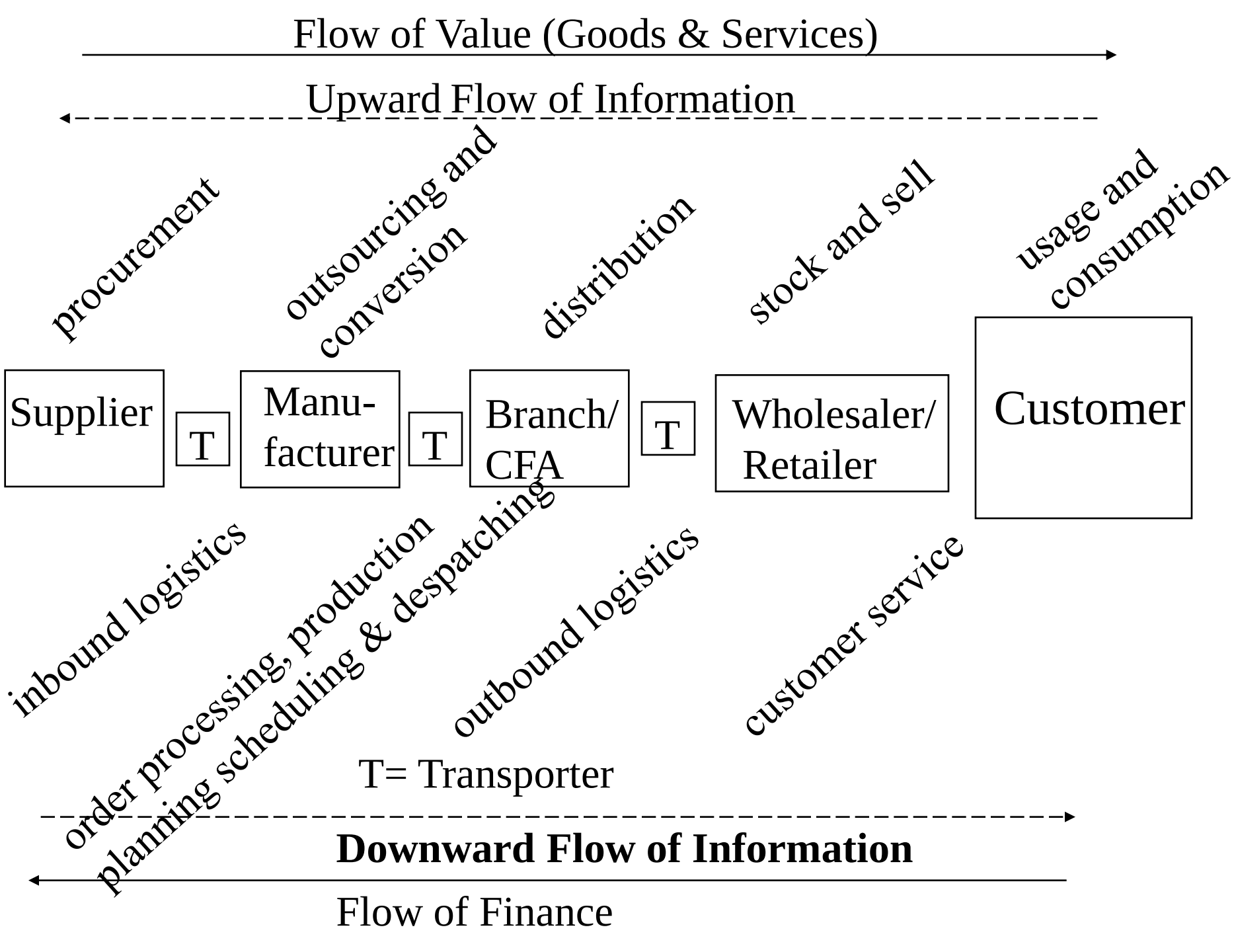
Flow of Value (Goods & Services)
Upward Flow of Information
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Downward Flow of Information
Flow of Finance

Supply Chain Management

Design and Operation of the

Physical, Managerial, Informational and Financial Systems

Needed to Transfer Goods and Services from

VENDOR TO CUSTOMER (point of production to point of consumption) in an

Efficient and Effective manner

EFFICIENT : Doing things right

Productivity

Cost minimization

Supply driven

EFFECTIVE: Doing right things

Quality, Flexibility, Service level

Profit maximization

Customer (demand) driven

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1 Customer Profile

- Value addition in the product (more vs less)
- Order size (retail vs bulk/industrial)
- Response time (immediate vs wait)
- Timeliness (at a specific time vs during a bandwidth)
- Delivery location (at customer location vs further upstream)
- Service need involving reverse logistics (drop and pick (bottled soft drinks, returns) vs pick and drop (repair and return))
- Need for reliability
- Cost sensitivity

2 Inventory Management

- Companies have more inventory than they need to (in their own perception)
- Lead times for procurement, manufacture and distribution significantly more than technological minimum
- Companies focusing attention on inventories could not only reduce inventory costs, but also stockouts due to faster access to market
- Inventory decisions are usually ‘local’ in the supply chain (functional, process based departments)

3 Supply Chain Costs

Nature of Costs

- Direct (transportation and handling)
- Indirect (inventory, losses within a system)
- Hidden (costs borne by other systems like infrastructure wear and tear, safety, pollution, distortions due to side payments, losses outside a system)
- Opportunity (foregone sales transactions)

4 Facilitating Technologies

- Information Technology
- Flexible Manufacturing Technology

5 Facilitating Attitudes

- Partnership
- Integration
- Continuous Improvement

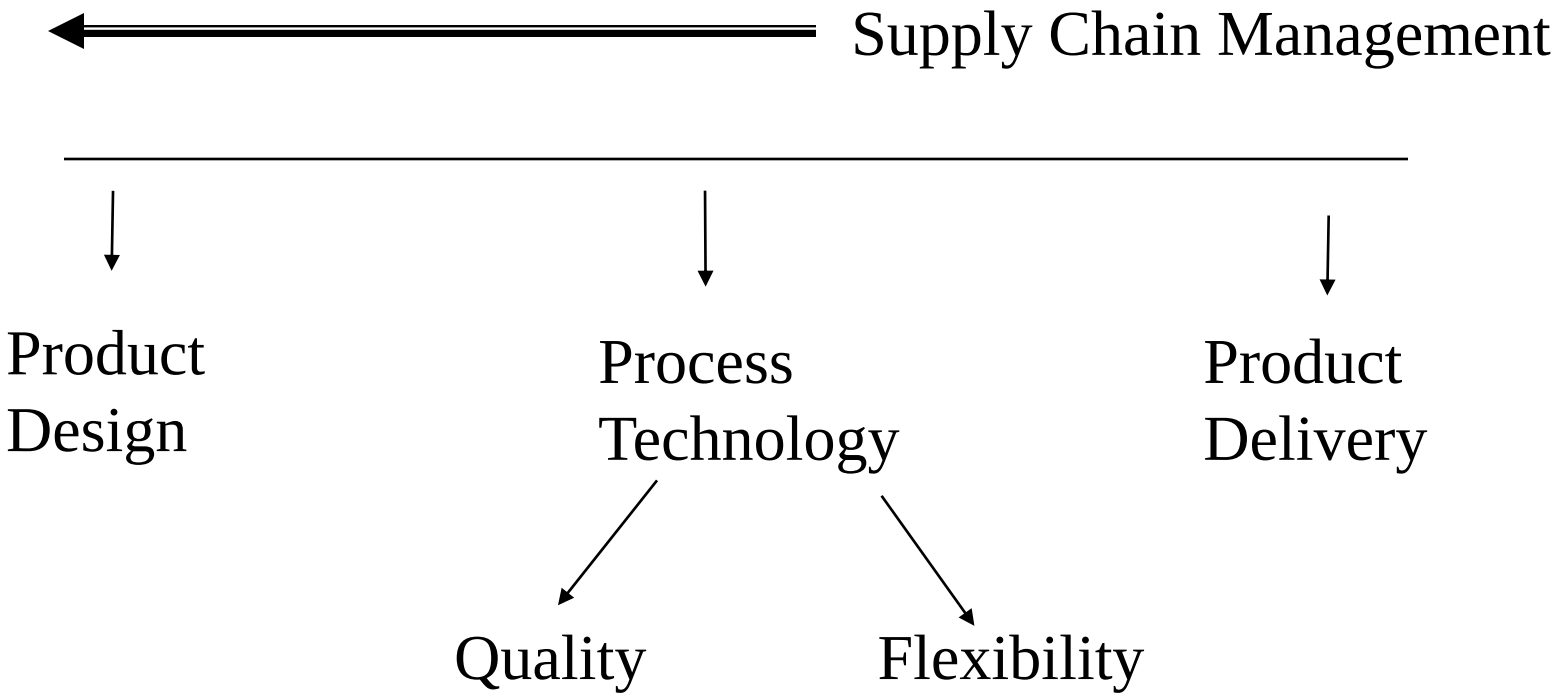
Result:

- Competitive Advantage

  not at Firm Level,

  but at Supply Chain Level

Value Chain of SCM

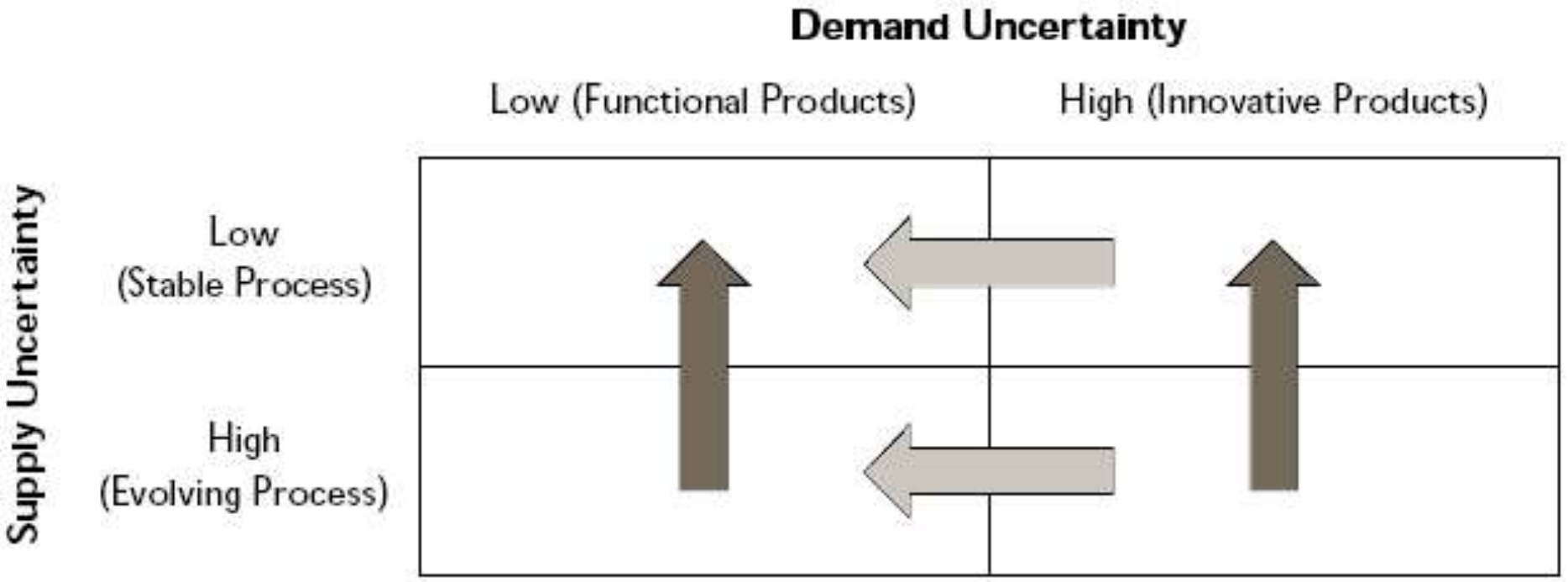


Matched Strategies

Supply Uncertainty	Demand Uncertainty: Low (Functional Products)	Demand Uncertainty: High (Innovative Products)
Low (Stable Process)	Efficient supply chains	Responsive supply chains
High (Evolving Process)	Risk-hedging supply chains	Agile supply chains

Source: Lee Hau, 2002. Aligning Supply Chain Strategies with Product Uncertainties

Uncertainty Reduction Strategies



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- **Decision Areas**
- Issues for Aspiring Supply Chains

Key Actors

1. **Shippers**
2. **Industry**
3. **Infrastructure and Service Providers**
4. **Government**

Shippers – Decision Areas

- Visualization and strategic design of a seamless delivery process
- Planned seamless delivery operations
- Tracking during transit/storage/handling

Strategic Decision Areas

1. Product design
2. Packaging
3. Choice of markets/sources
4. Production structure
   - Clustering of production activities
   - Outsourcing decisions
   - Sequencing of activities
5. Plant location and layout
6. Distribution/procurement network design

Tactical Decision Areas

7. Marketing/despatch/production/purchase: planning horizon and process (inventory norms)
8. Out/in sourcing logistics
9. Plant level logistics
10. Warehouse location
11. Materials handling
12. Transportation: mode choice and contracting

Operational Decision Areas

13. Marketing/despatch/production/purchase: batch sizes and scheduling (inventory levels)
14. Allocation decisions
15. Transportation: shipment size and routing
16. Warehouse operations
17. Performance monitoring

Industry Initiatives

- Focus on Supply Chain Inventory rather than Firm Level ‘Zero Working Capital’ Goal
- Organise People Sector
  - Vendors
  - C&FAs
  - Truckers
  - Warehousing
  - Retail
- Lobby for Laws and Regulation (E Commerce, Interstate Sales, VAT)
- Develop Standards

Opportunities

- Some verticals
  - Agriculture and food
  - Pharmaceuticals and health
  - Electronics
  - Construction
- Emerging domains
  - Exports
  - Projects
  - e-Procurement and e-Marketing

Infrastructure and Service Providers

- Determine the importance of your role in the overall supply chain of your customers
- Identify the important factors of your supply effecting your customers' customer service
- Work on the important areas of your supply and service, in coordination with your customers, thereby reducing costs and improving value. Information technology is a big help here.

Market Place Orientation

- The Production Concept
- The Product Concept
- The Selling Concept
- The Marketing Concept
- The Societal Marketing Concept

Opportunities for Marketing Oriented Service Providers

Distinguishing Characteristics	**Sales-Oriented Carrier**	**Marketing-Oriented Carrier**
Perception of what business the carrier is in	Transportation	Marketing Support
Perception of function	Main concern is the performance of transportation tasks Sees transportation as an end Focuses on operations	Main concern is the distribution network. Sees transportation as a means to an end Focuses on marketing
Strategic Approach	Main concern are facilities and services Emphasizes production concept Focuses on customers' transportation needs	Main concern is the whole marketing support system Emphasizes marketing concept Focuses on marketing and distribution needs

Government

- Infrastructure development
- Facilitating laws and taxation
- Development thrust with supply chain focus (cluster focus)

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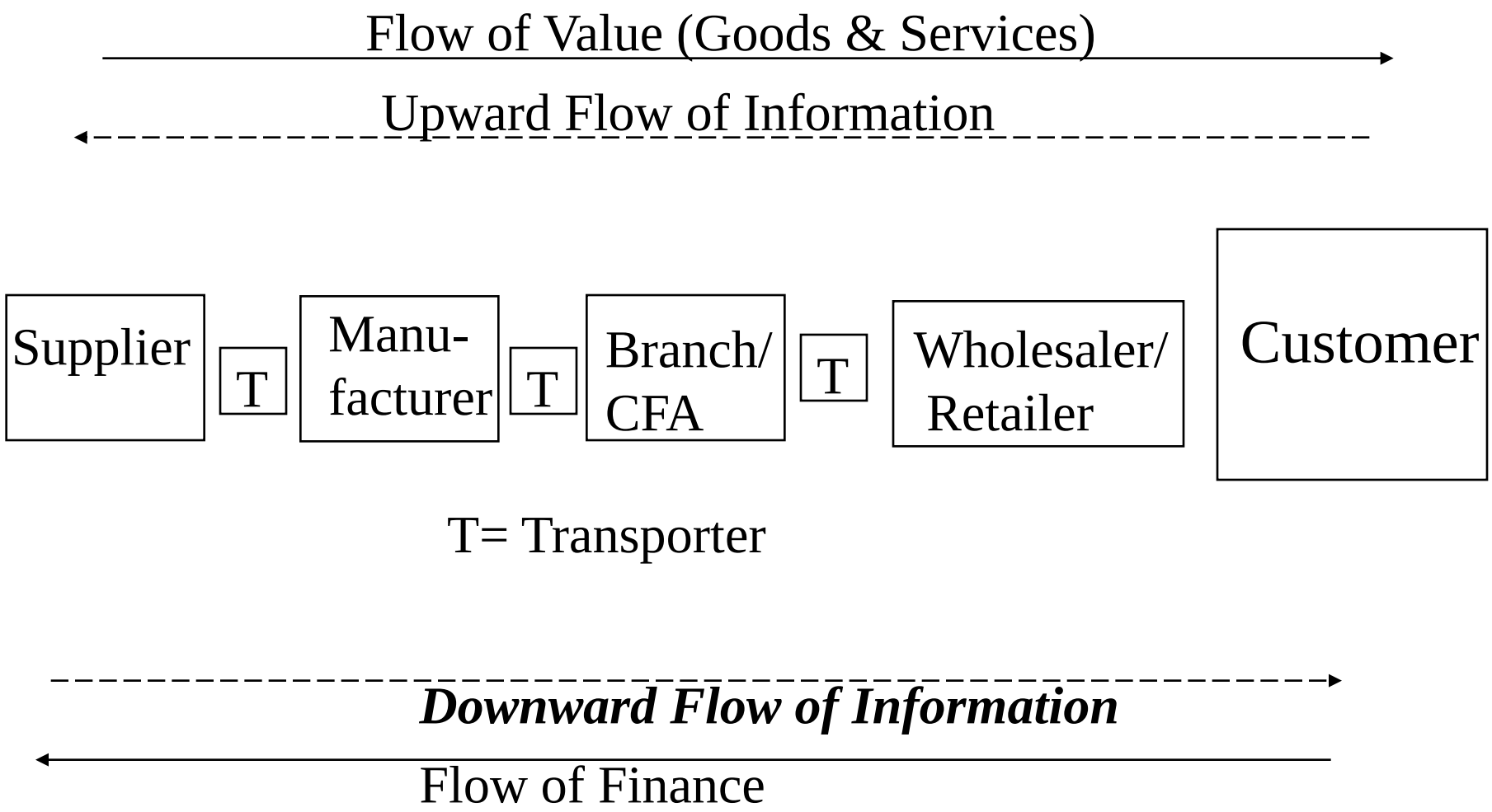
Issues for Aspiring Supply Chains

- Downward flow of information
- Time versus event based planning
- Managing variety
- Marginal redundancy in capacity
- Performance measures
- Multi functional, non departmentalised management cadre

Downward Flow of Information



Time versus Event Based Planning

- Sharp Seasonality: Diwali and other festivals
- Culture of timeliness: project approach
- Reduced time bucket planning
- Coordinate based on retail sales

Managing Variety

- Conscious review process to “withdraw” skuls and skus

Marginal Redundancy in Capacity

- Reduces stock outs
- Improves lead times
- Gives better psychological space for planning

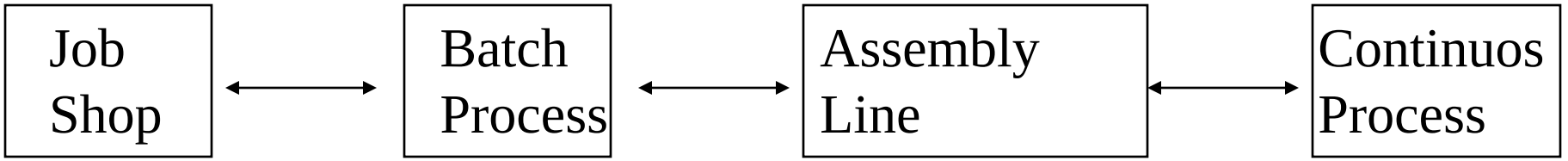
Performance Measures

- Move from those which focus on *one actor to two actors*
- Measure *outputs rather than inputs*
- Focus on *distributions rather than averages*
- Focus on *service measures in addition to product measures*

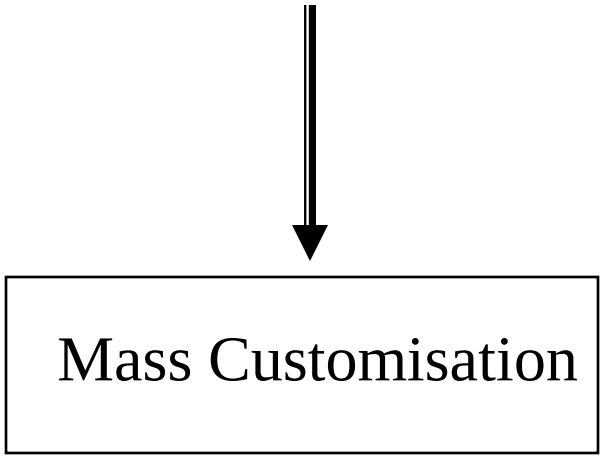
Multi Functional, Non Departmentalised Management Cadre

- Recruitment of well qualified management trainees
- Inculcating a professional “learning” culture

Operations Process Perspective of SCM



Supply chain management is making the above processes similar to one another. The end result would be



(Kamadhenu)

Thank You