

**Ecosystem Aware  
Global Supply Chain Management**



## Governance

N. Viswanadham

INAE Distinguished Professor

Computer Science and Automation

Indian Institute of Science

Bangalore- 560012

[n.viswanadham@gmail.com](mailto:n.viswanadham@gmail.com)

ISBN 978-981-4508-16-2



9 789814 508162

**World Scientific**

# Contents

- Integrated Supply Chain Networks
  - Vertically Integrated Supply Chains
  - Networked Organizations
- Manufacturing Scenario
- The Basic Ecosystem
- GSCNs and Inter-organizational Social Networks
- Multilayer Governance, Coordination & Execution
- The Orchestration model
- Conclusions

## Vertically Integrated and Networked Organizations

- Until the early 1980s, Firms such as IBM, GM, Ford are Vertically Integrated multi-divisional firms: design, production and commercials remained internal to the firm.
- Now, We have Globally Networked Modular Organizations

## The Supply Chain Governance Function

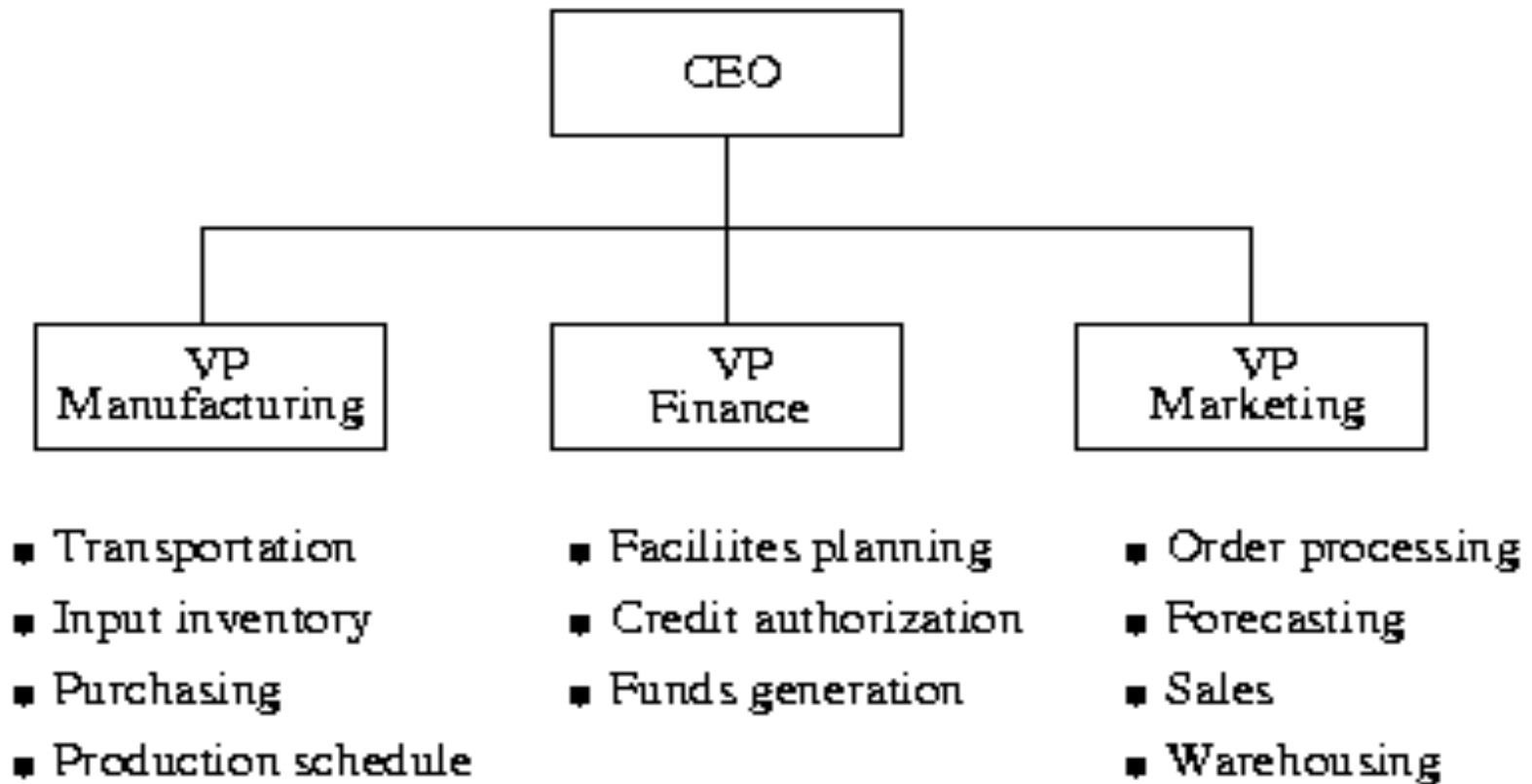
- In Global supply Chains, components visit several countries, organizations such as ports, customs, distribution centres and the facilities of suppliers, contract manufacturers, logistics providers before reaching retail shops & customers.
- These diverse interest groups need to align themselves to create a competitive supply chain.
- The movement of goods, information and finances need to be facilitated by one of the partners or a broker outside.
- Procurement, Planning & Coordination, Supply Chain Execution are important functions of Governance.

# Vertically Integrated Supply Chains

## Vertically Integrated Companies

- Coordination and control of activities along the value chain is managed through ownership and direct managerial oversight and sometimes they may stretch across borders.
- Governance Structures in vertically integrated supply chain
  - **Functional Structure** : People and activities are grouped by resources such as finance, marketing, engineering, R &D , HR, etc.
  - **Product structure**: The product or multidivisional form is structured according outputs such as products, services, programs, and projects
  - **Customer-based structure** : GE was organized into aerospace, appliance, construction & power generation. Hong Kong-based Li & Fung is also organized according to customer groups.
  - **Matrix structure** provides both technological expertise within functions and horizontal coordination of the product line for the same departments.

## FUNCTIONAL ORGANIZATION STRUCTURE

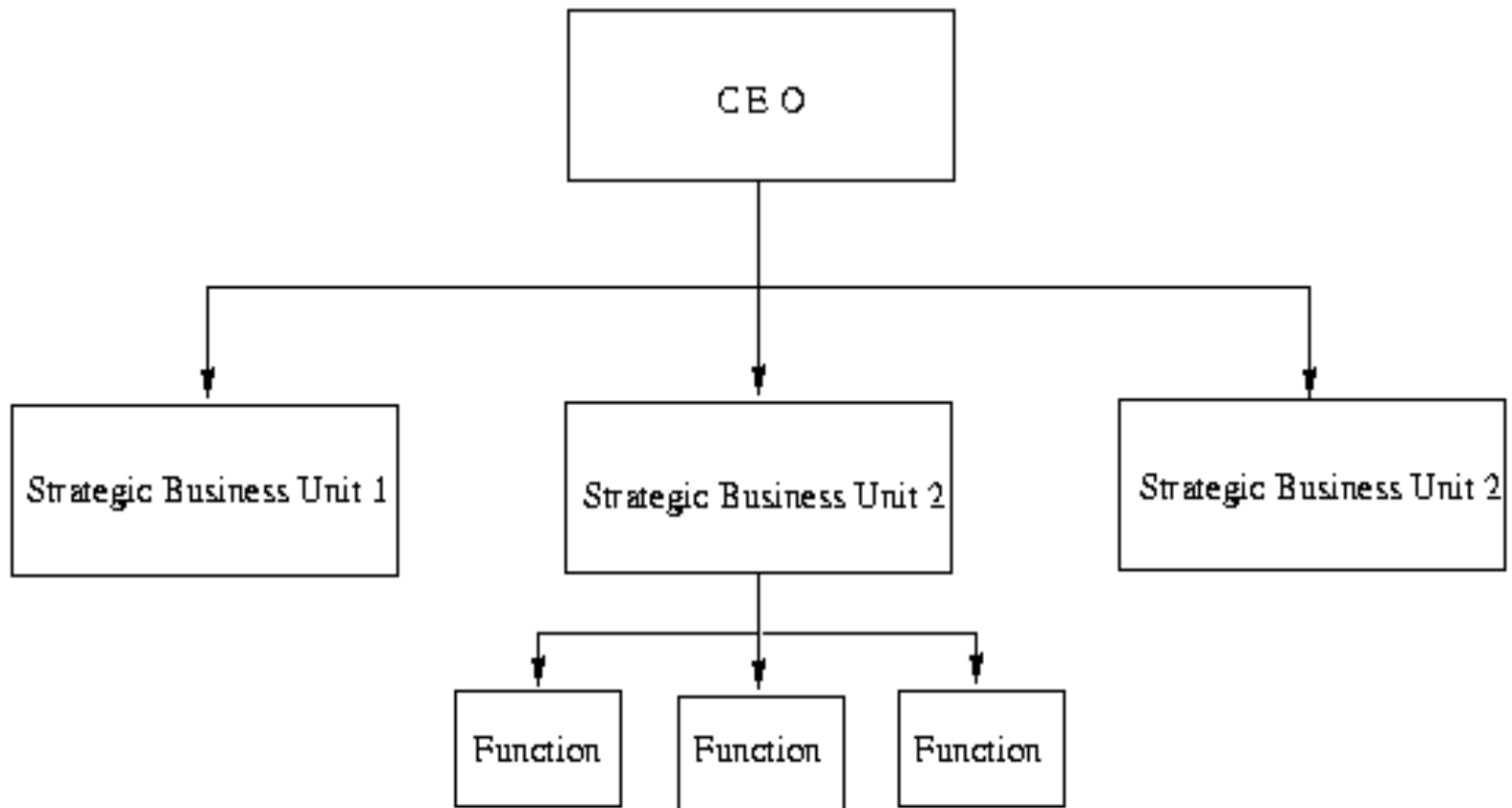


## Customer Based Structure

- Departments are organised around customer groups
- GE is organised as Aerospace , Appliance, Construction ,Industrial and Power generation groups.
- Popular because big (super stores) customers insist on dedicated units to serve their needs.
- Advantage of superior knowledge about the customer preferences and buying habits using POS information, Internet and databases.
- Structure is in line with the current day emphasis
  - Increasing customer focus
  - Outsourcing based on core competencies
  - Competitive advantage through market knowledge
- Service industries such as Banks , Hotels, Telecom firms follow this structure



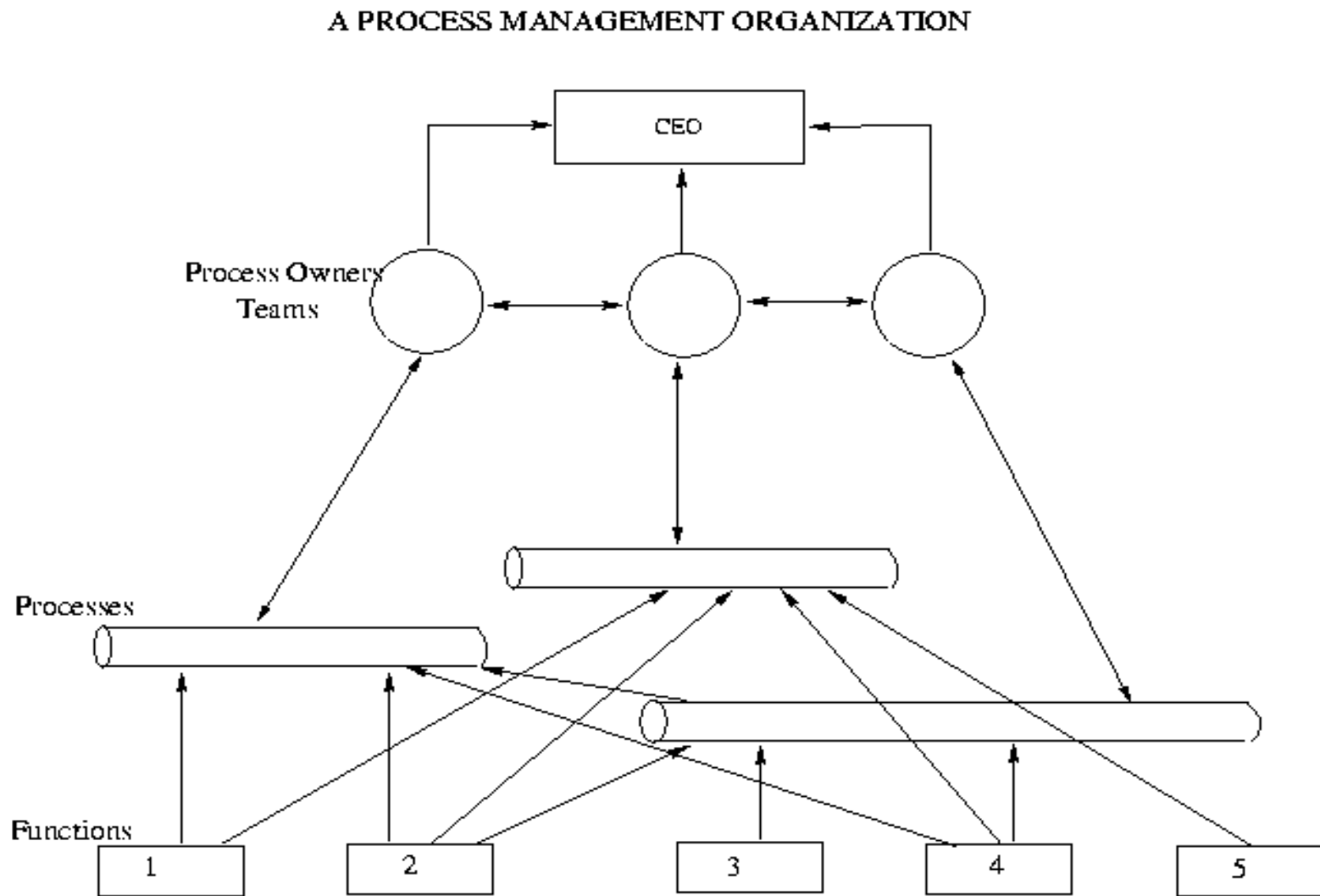
## PRODUCT ORGANIZATION STRUCTURE



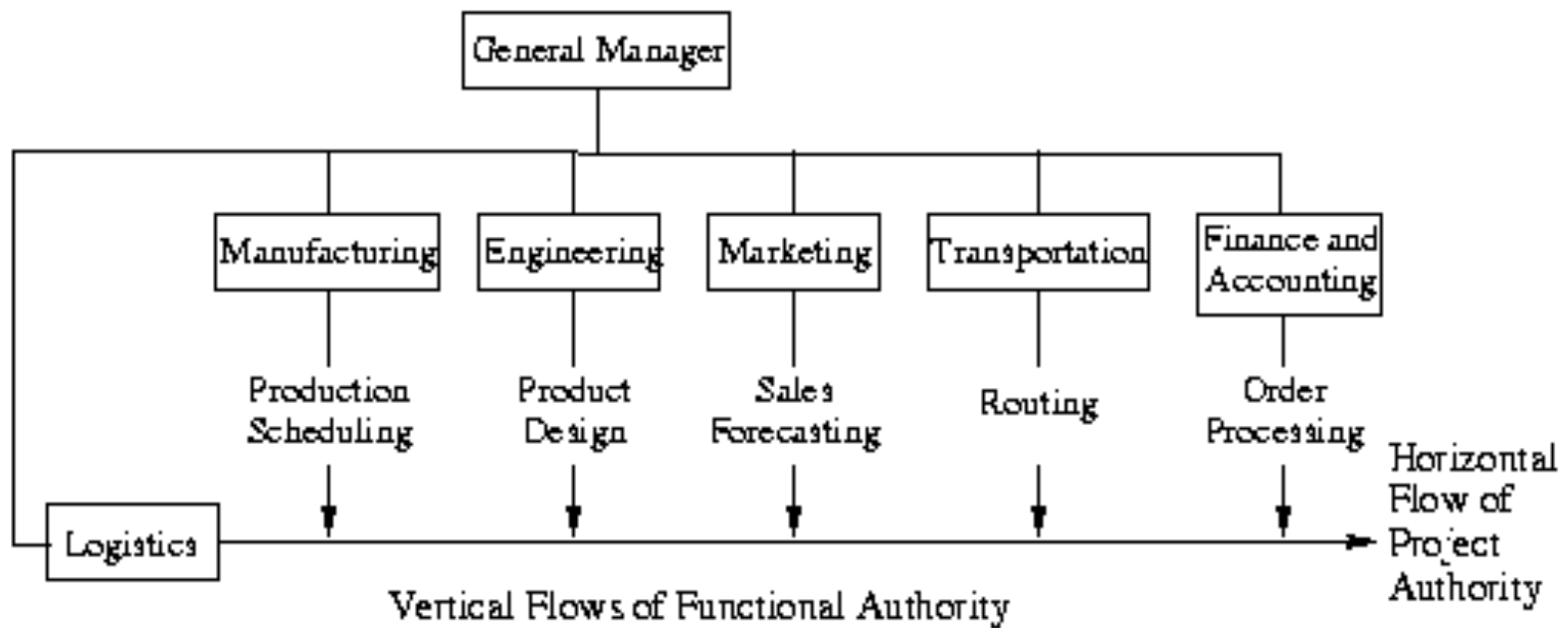
## Business Process

- A business process is a structured set of activities, ordered across time and space, with clearly defined inputs and outputs, to produce a specified output for a particular customer or market.
- Emphasis on how work is done in the organization rather than what products are delivered.

Ecosystem Aware  
Global Supply Chain Management



### MATRIX STRUCTURE FOR LOGISTICS



Ecosystem Aware  
Global Supply Chain Management

Zara

## Zara Supply Chain- Highly Unconventional

- Zara defies most of the current conventional wisdom about how supply chains should be run. Some of Zara's practices may seem questionable, if not crazy, when taken individually.
- While its peers outsource, Zara keeps almost half of its production in-house.
- Zara intentionally leaves extra capacity.
- Zara manufactures and distributes products in small batches.
- Zara manages all design, warehousing, distribution, and logistics functions itself.

## Zara Why is it What it is

- *We invest in prime locations. We place great care in the presentation of our storefronts. That is how we project our image.*
- *We want our clients to enter a beautiful store, where they are offered the latest fashions. But most important, we want our customers to understand that **if they like something, they must buy it now, because it won't be in the shops the following week.***
- *It is all about creating a climate of **scarcity and opportunity.***

Ecosystem Aware  
Global Supply Chain Management

Four critical information-related areas that give Zara its speed include:

Close watch on trends & buying behaviour



Market research on university campuses, discos & other venues



Feedback from the stores  
• Sales report  
• Qualitative comments

Quick decisions

A HQ regional managers collect and analyse the feedback.



Commercial team sits with designers to use the information to create new lines and tweak existing ones -deciding with the commercial team on the fabric, cut, and price points of a new garment

Inventory Control



Fabrics from stock



Dyeing/Finishing (if required)



Production



Line in Stores



Fleet to stores

Distribution



# ZARA Supply Chain

- Zara removed value design the traditional fashion industry business model. Instead, Zara would scan for the best designs by following the world's leading fashion shows and scanning promising designs of others.
- The designs are shared with a network of Zara factories, which produce required quantities just-in-time.
- All items are priced and tagged before delivery to the stores.
- Zara can react swiftly to changing market trends and quickly distribute new products throughout its system.
- While other companies in the industry take up to nine months to get new product lines into their shops, Zara takes only two to three weeks.

## Comparing ZARA with GAP & H&M

- Zara's business model differs from that at H&M.
  - H&M Outsources all of its production, Prices lower, Spends more on advertising, and its Stores less upscale.
  - Zara's retained many production activities in house and kept all internal and external activities under its strict control
- Both GAP and H&M relied on a traditional “push” approach, devoting substantial resources to advertising. Zara used a “pull” approach, attracting shoppers with small collections and new weekly offerings in reaction to customers.
- At GAP, design preceded manufacturing and commercial activity, while **Zara takes a team approach to the design-manufacturing-commercialization activities**

## The Management Team

- The key governance team for managing internal activities for each product line is a trio consisting of
  - the (final) designer (using CAD-CAM technology)
  - the commercial person (talking to the store managers and analyzing previous sales)
  - the supply chain person who ensures that the agreement to deliver the new fashion collection to the shops every week and also change collections in seventy percent of the stores could actually be made.

## Risk of failure of the Zara business model

- The explicit, public, and general nature of a business model makes replicating another firm's business model trivial. **All evidence is to the contrary.**
  - The multiple failures of established airlines – Delta, Continental, and so forth – to replicate the business model of Southwest Airlines suggest the challenge of copying a model that is explicit, public, and general.
- Attempts to replicate best-practice operations typically disappoint. Replicators often fail to appreciate the complex interconnections of multiple activities that constitute a “best practice.”

CEMEX builds and deals  
with entire Ecosystem rather  
than just Cement

## Customers need Construction Solutions (Service) not Cement

*We need to supply not only Cement but also a broad range of other building materials leveraging our world class logistics and distribution capabilities to help our customers succeed.*

*Lorenzo Zambrano- Cemex CEO 2001.*

## CEMEX Customers

- CEMEX Designs and manages specific supply chains for each customer segment
  - Distributors
  - Small house constructors
  - Ready mix concrete dealers
  - Value added transformation companies: slabs, pre-fabricated concrete blocks
  - Large infrastructure projects: airports, roads, housing complexes, etc.

# CEMEX: Governance Structure

