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Business Process Reengineering

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Learning Objectives

- Explain the role of Business Process Reengineering (BPR) within the organization
- Understand the origins and key characteristics of BPR
- Identify and be able to use core BPR Symbols

Learning Objectives

- Understand and be able to implement a BPR Strategy
- Understand the main challenges in implementing a BPR Strategy

BPR & The Organization

What is BPR?

- Reengineering is the fundamental rethinking and redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance, such as cost, quality, service and speed.

(Hammer & Champy, 1993)

BPR is Not?

- Automation
- Downsizing
- Outsourcing

BPR Versus Process Simplification

Process Simplification

Incremental Change
Process-Led
Assume Attitudes & Behaviors
Management-Led
Various Simultaneous Projects

Process Reengineering

Radical Transformation
Vision-Led
Change Attitudes & Behaviors
Director-Led
Limited Number of Initiatives

(Source Coulson-Thomas, 1992)

BPR Versus Continuous Improvement

Continuous Improvement

Incremental Change
People Focus
Low Investment
Improve Existing
Work Unit Driven

Process Reengineering

Radical Transformation
People & Technology Focus
High Investment
Rebuild
Champion Driven

What is a Process?

- A specific ordering of work activities across time and space, with a beginning, an end, and clearly identified inputs and outputs: a structure for action.

(Davenport, 1993)

What is a Business Process?

- A group of logically related tasks that use the firm's resources to provide customer-oriented results in support of the organization's objectives

Why Reengineer?

- Customers
 - Demanding
 - Sophistication
 - Changing Needs

- Competition
 - Local
 - Global

Why Reengineer?

- Change
 - Technology
 - Customer Preferences

Why Organizations Don't Reengineer?

- Complacency
- Political Resistance
- New Developments
- Fear of Unknown and Failure

Performance

- BPR seeks improvements of
 - Cost
 - Quality
 - Service
 - Speed

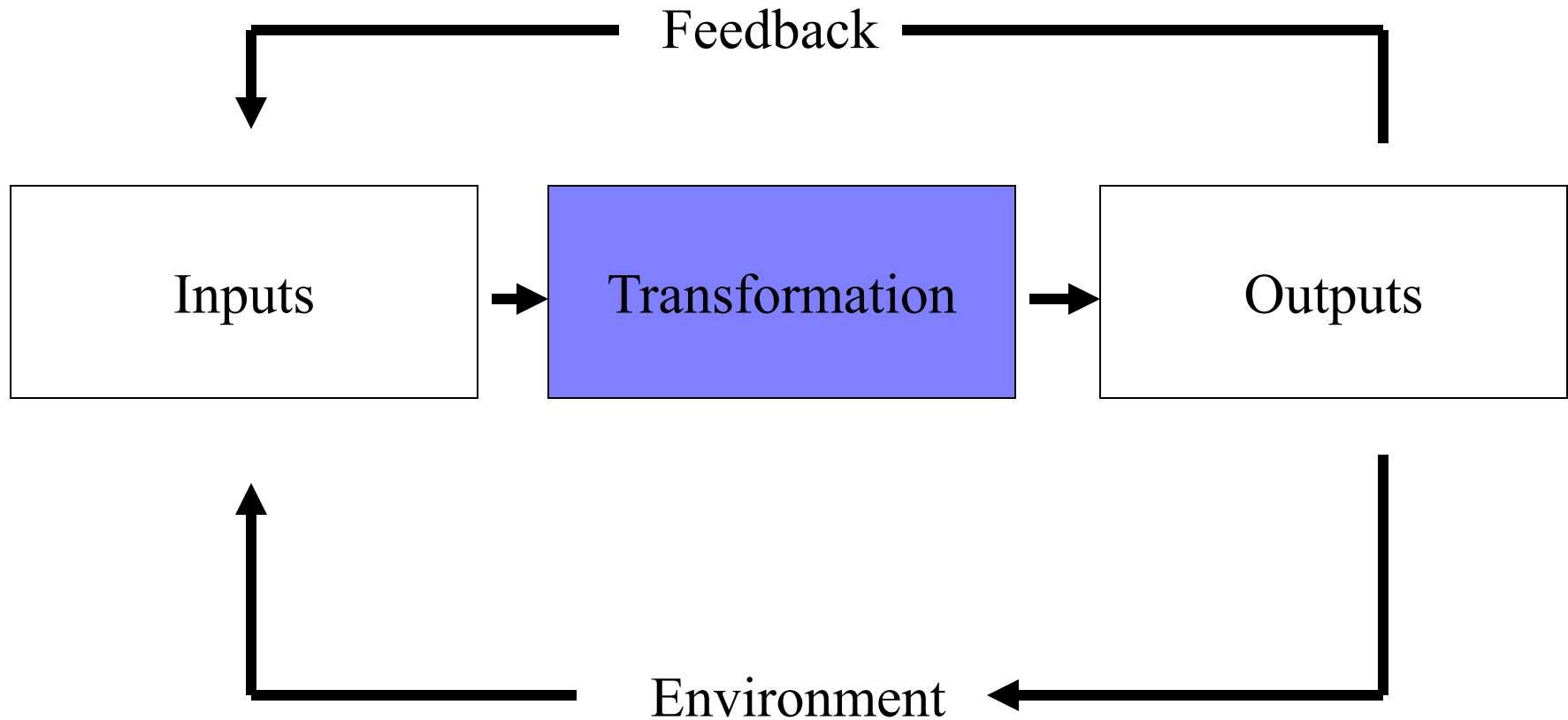
Origins

- Scientific Management. FW Taylor (1856-1915).
- Frederick Herzberg - Job Enrichment
- Deming et al - Total Quality Management and Kaizen
- In Search of Excellence (Peters and Waterman)
- Value-Added Analysis (Porter).

Key Characteristics

- Systems Philosophy
- Global Perspective on Business Processes
- Radical Improvement
- Integrated Change
- People Centred
- Focus on End-Customers
- Process-Based

Systems Perspective



Process Based

- Added Value
 - BPR Initiatives must add-value over and above the existing process
- Customer-Led
 - BPR Initiatives must meet the needs of the customer

Radical Improvement

- Sustainable
 - Process improvements need to become firmly rooted within the organization
- Stepped Approach
 - Process improvements will not happen over night they need to be gradually introduced
 - Also assists the acceptance by staff of the change

Integrated Change

- Viable Solutions
 - Process improvements must be viable and practical
- Balanced Improvements
 - Process improvements must be realistic

People-Centred

- Business Understanding
- Empowerment & Participation
- Organizational Culture

Focus on End-Customers

- Process improvements must relate to the needs of the organization and be relevant to the end-customers to which they are designed to serve

BPR Symbols

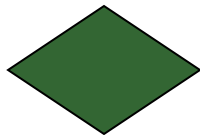
Business Process Flowchart Symbols



An Activity



A Document

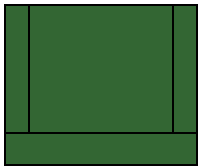


A Decision



Data (input as outputs)

Business Process Flowchart Symbols



A Predefined Process



The Start of a Process



The End of a Process



Representing a Relation

Business Process Flowchart Symbols



Continuation of the process at the same page at an equal symbol with the same number. Used when a relation arrow crosses another relation arrow



Off-Page Connector - Process will continue on the next page

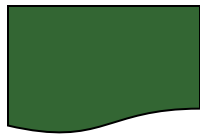


Integration Relation - A relation to another module is identified and described

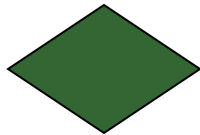
Data Flowchart Symbols



An Activity



A Document

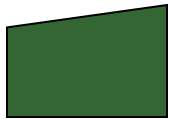


A Decision

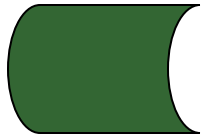


Flat Data File (input as outputs)

Data Flowchart Symbols



Manual Data Item



A Database File



Representing a Relation



Continuation



Off-Page Connector

Rules For Data Symbols

Rules For Data Symbols



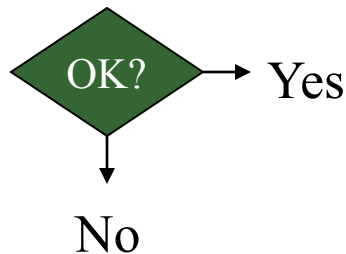
Start

Symbol used to identify the start of a business process



Generate
Purchase
Order

Activities must be described as a verb



Decisions have *only* two possibilities (Yes & No)



Crossing lines are not allowed



End

If one side of the decision has no further processes defined this symbol has to be used

Rules For Data Symbols



Continuation symbol within the same number must be present twice on the same page



Name the document

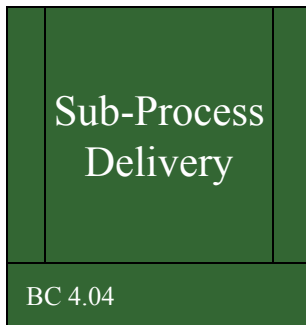


Off- Page Connector is used to continue a process at the next page or to let the process to flow over at the previous to the next page. If more than one is needed use A, B, C, D ...



Name the data

Rules For Data Symbols



Predefined Processes always have a relation to level and stream by a number in the line below a sub-process description

A predefined process must be described in a different flowchart. To make the relation clear between the predefined process and the belonging flowchart a unique alpha numeric number should be assigned to this predefined process.

Version Management

- For different versions of a business process or data flow some mandatory information must be on the flowchart.
 - Name of the business process
 - Unique number of the business process
 - Revision number
 - Date of last change
 - Author
 - Page number with total pages

Implementing a BPR Strategy

Key Steps

Select The Process & Appoint Process Team

Understand The Current Process

Develop & Communicate Vision Of Improved Process

Identify Action Plan

Execute Plan

Select the Process & Appoint Process Team

- Two Crucial Tasks
 - Select The Process to be Reengineered
 - Appoint the Process Team to Lead the Reengineering Initiative

Select the Process

- Review Business Strategy and Customer Requirements
- Select Core Processes
- Understand Customer Needs
- Don't Assume Anything

Select the Process

- Select Correct Path for Change
- Remember Assumptions can Hide Failures
- Competition and Choice to Go Elsewhere
- Ask - Questionnaires, Meetings, Focus Groups

Appoint the Process Team

- Appoint BPR Champion
- Identify Process Owners
- Establish Executive Improvement Team
- Provide Training to Executive Team

Core Skills Required

- Capacity to view the organization as a whole
- Ability to focus on end-customers
- Ability to challenge fundamental assumptions
- Courage to deliver and venture into unknown areas

Core Skills Required

- Ability to assume individual and collective responsibility
- Employ ‘Bridge Builders’

Use of Consultants

- Used to generate internal capacity
- Appropriate when a implementation is needed quickly
- Ensure that adequate consultation is sought from staff so that the initiative is organization-led and not consultant-driven
- Control should never be handed over to the consultant

Understand the Current Process

- Develop a Process Overview
- Clearly define the process
 - Mission
 - Scope
 - Boundaries
- Set business and customer measurements
- Understand customers expectations from the process (staff including process team)

Understand the Current Process

- Clearly Identify Improvement Opportunities
 - Quality
 - Rework
- Document the Process
 - Cost
 - Time
 - Value Data

Understand the Current Process

- Carefully resolve any inconsistencies
 - Existing -- New Process
 - Ideal -- Realistic Process

Develop & Communicate Vision of Improved Process

- Communicate with all employees so that they are aware of the vision of the future
- Always provide information on the progress of the BPR initiative - good and bad.
- Demonstrate assurance that the BPR initiative is both necessary and properly managed

Develop & Communicate Vision of Improved Process

- Promote individual development by indicating options that are available
- Indicate actions required and those responsible
- Tackle any actions that need resolution
- Direct communication to reinforce new patterns of desired behavior

Identify Action Plan

- Develop an Improvement Plan
- Appoint Process Owners
- Simplify the Process to Reduce Process Time
- Remove any Bureaucracy that may hinder implementation

Identify Action Plan

- Remove no-value-added activities
- Standardize Process and Automate Where Possible
- Up-grade Equipment
- Plan/schedule the changes

Identify Action Plan

- Construct in-house metrics and targets
- Introduce and firmly establish a feedback system
- Audit, Audit, Audit

Execute Plan

- Qualify/certify the process
- Perform periodic qualification reviews
- Define and eliminate process problems
- Evaluate the change impact on the business and on customers
- Benchmark the process
- Provide advanced team training

Information Technology & BPR

Benefits From IT

- Assists the Implementation of Business Processes
 - Enables Product & Service Innovations
 - Improve Operational Efficiency
 - Coordinate Vendors & Customers in the Process Chain

Computer Aided BPR (CABPR)

- Focus
 - Business Processes
 - Process Redesign
 - Process Implementation

BPR Challenges

Common Problems

- Process Simplification is Common - True BPR is Not
- Desire to Change Not Strong Enough
- Start Point the Existing Process Not a Blank Slate
- Commitment to Existing Processes Too Strong
 - REMEMBER - “If it ain’t broke ...”
- Quick Fix Approach

Common Problems with BPR

- Process under review too big or too small
- Reliance on existing process too strong
- The Costs of the Change Seem Too Large
- BPR Isolated Activity not Aligned to the Business Objectives
- Allocation of Resources
- Poor Timing and Planning
- Keeping the Team and Organization on Target

Summary

- Reengineering is a fundamental rethinking and redesign of business processes to achieve dramatic improvements
- BPR has emerged from key management traditions such as scientific management and systems thinking
- Rules and symbols play an integral part of all BPR initiatives

Summary

- Don't assume anything - remember BPR is fundamental rethinking of business processes

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Globalization

I. Globalization Defined

II. Sources of Globalization

III. Levels of Globalization

IV. Implications



WTO Protest, Seattle 1999



(CNN)

I. Globalization Defined

- “A set of processes that are widening, deepening, and accelerating the interconnectedness among societies ” (Kegley & Raymond)
- “...processes whereby social relations acquire relatively distanceless or borderless qualities, so that human lives are increasingly played out in the world as a single place.” (Jan Aart Scholte)
- “...technological, political, economic, and cultural dimensions that connect individuals, governments, and firms across national borders.” (Rosa Gomez Dierks)
- Globalization as ‘Deterritorialization’
 - Breakdown of borders of Space and Time

II. Sources of Globalization

- Internationalization of Economic Activity
 - Trade & Finance
- Global Liberalization
 - Domestic and International
- Technological Changes
 - IT Revolution (Speed and Cost)
- Improvements in Transportation
 - EX: Containerized Shipping
- Globalized Production Structures
 - ‘Stateless Corporations’ (DaimlerChrysler)

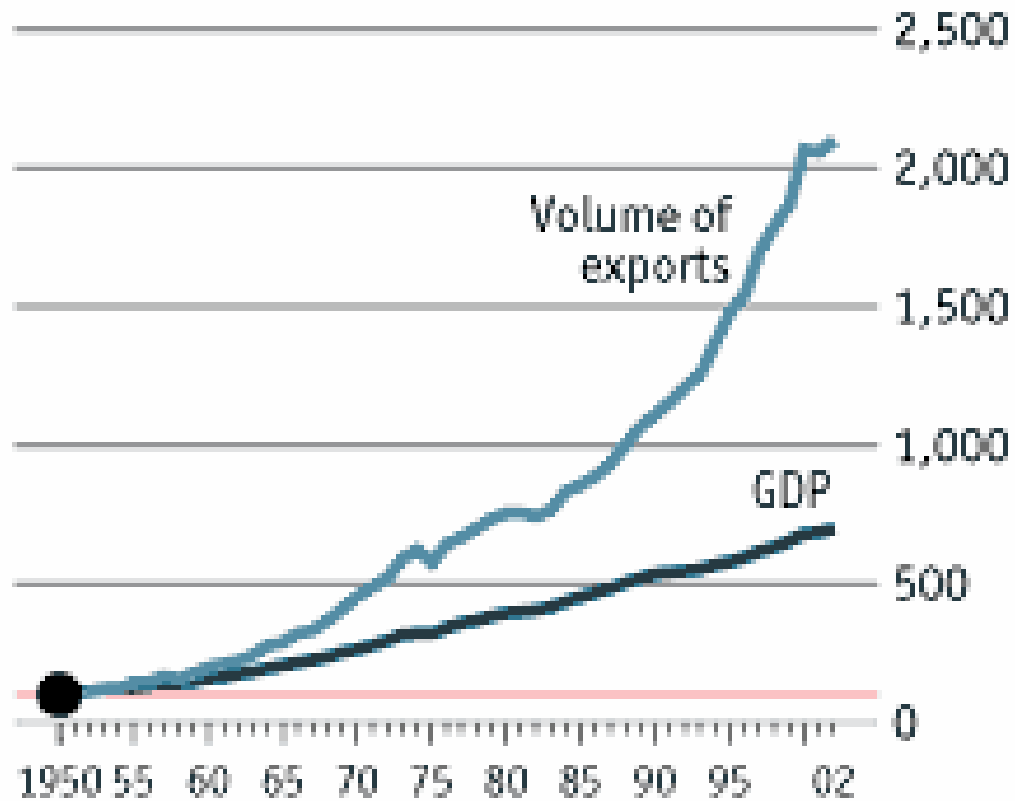


Growth in World Trade

A trader's era

1

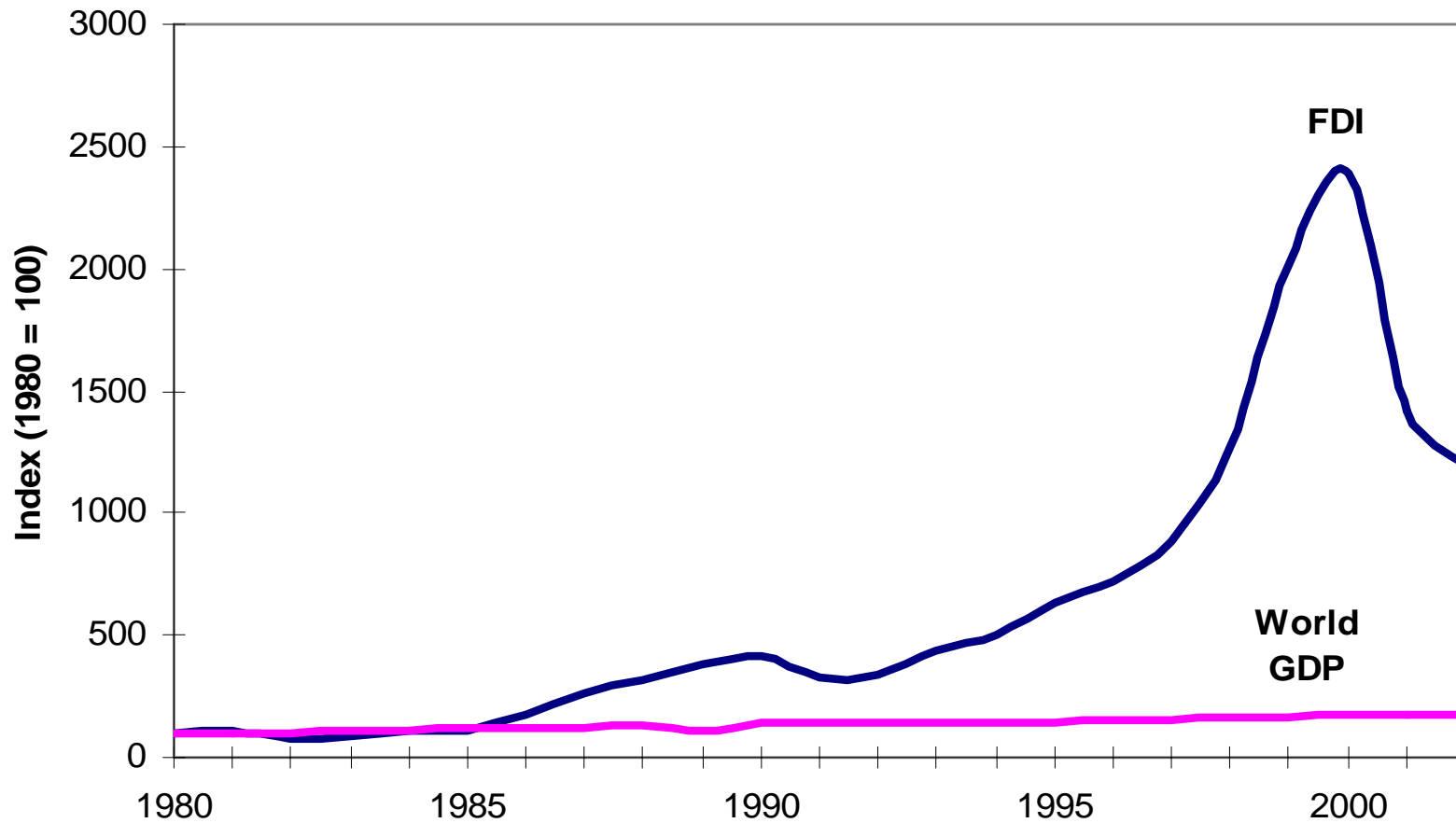
World GDP and trade, 1950–100



Source: World Trade Organisation

Growth in Global Investment

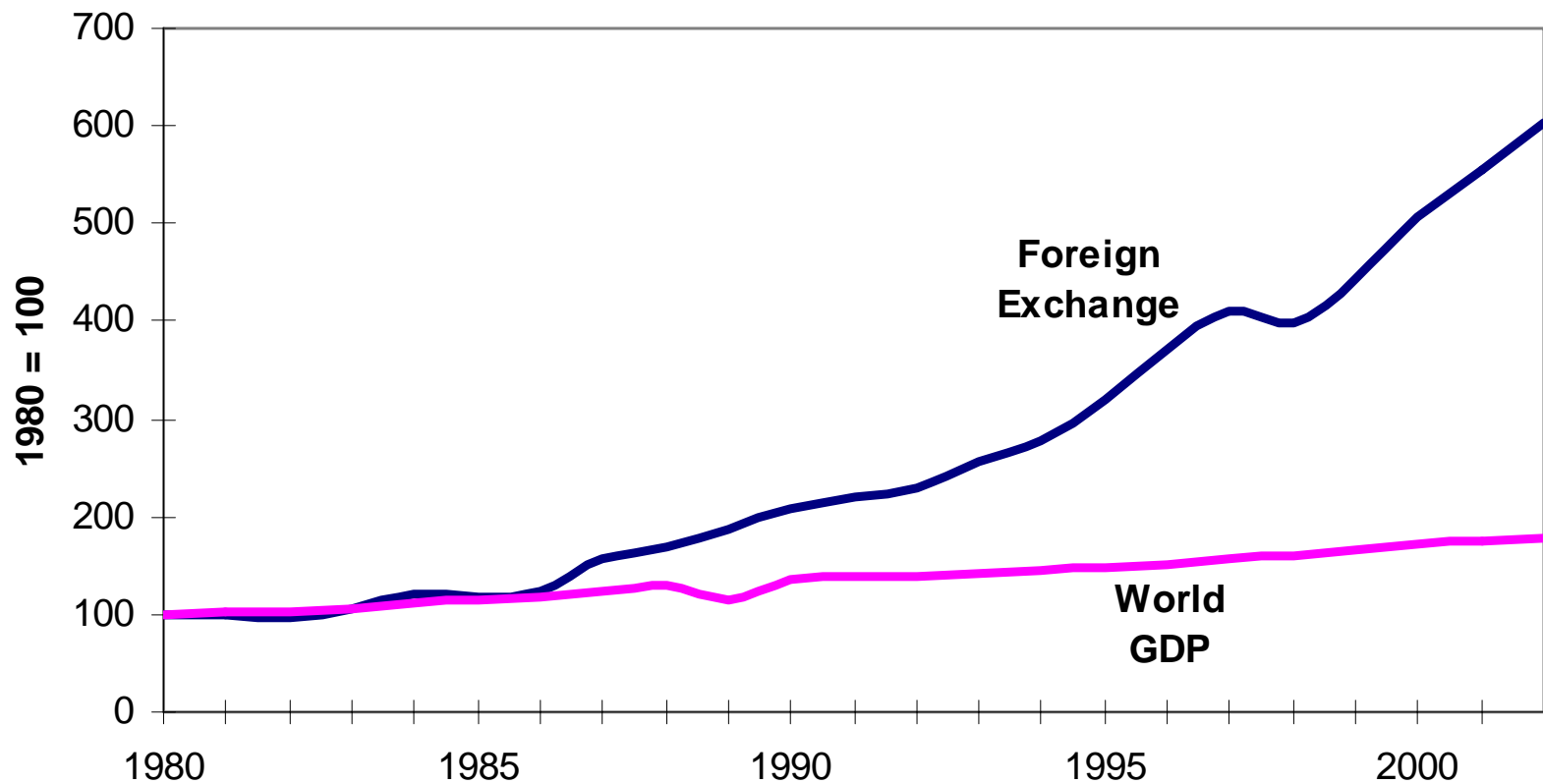
Figure 3: World Gross FDI and World GDP Growth, 1980-2002



Source: UNCTAD, FDI Database

Growth in Foreign Exchange

Figure 2: Growth of World Foreign Exchange and World GDP, 1980-02

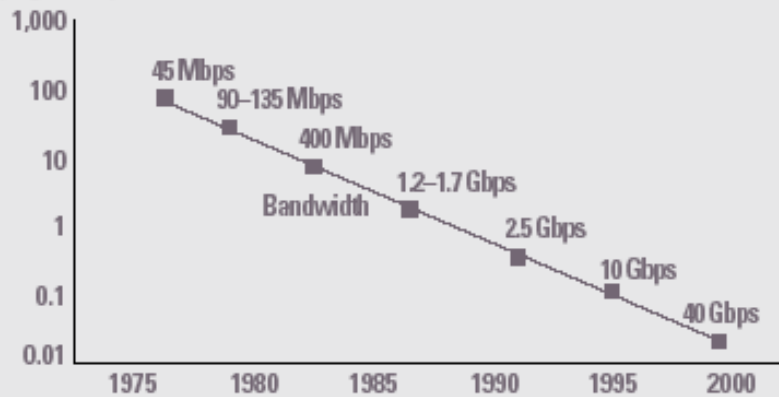


Source: IMF, International Financial Statistics

Costs of Information Technology

FIGURE 1 COST TRENDS IN OPTICAL FIBER TRANSMISSION

Index of transmission cost
per bits per second per kilometer
(log scale)

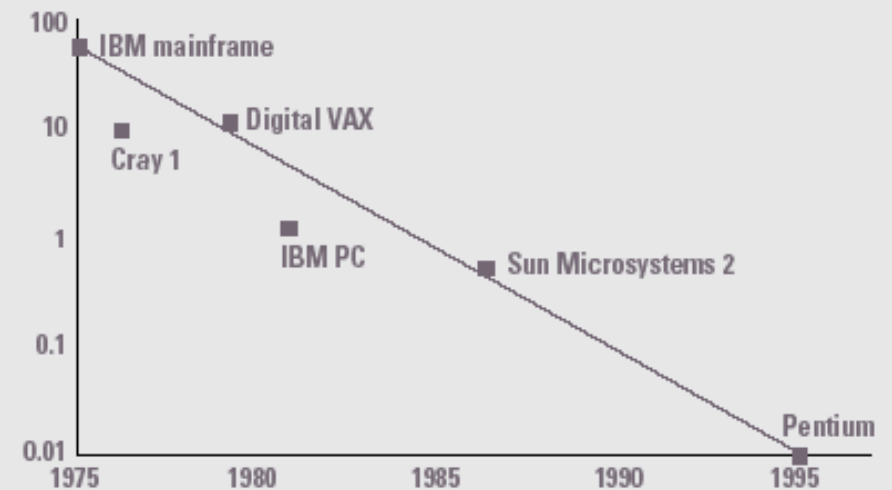


Note: Mbps is megabits per second; Gbps is gigabits per second.
Source: AT&T data.



FIGURE 2 PRICE TRENDS IN INFORMATION PROCESSING

Index of investment cost
per instruction per second
(log scale)



Source: World Bank compilation based on industry data.



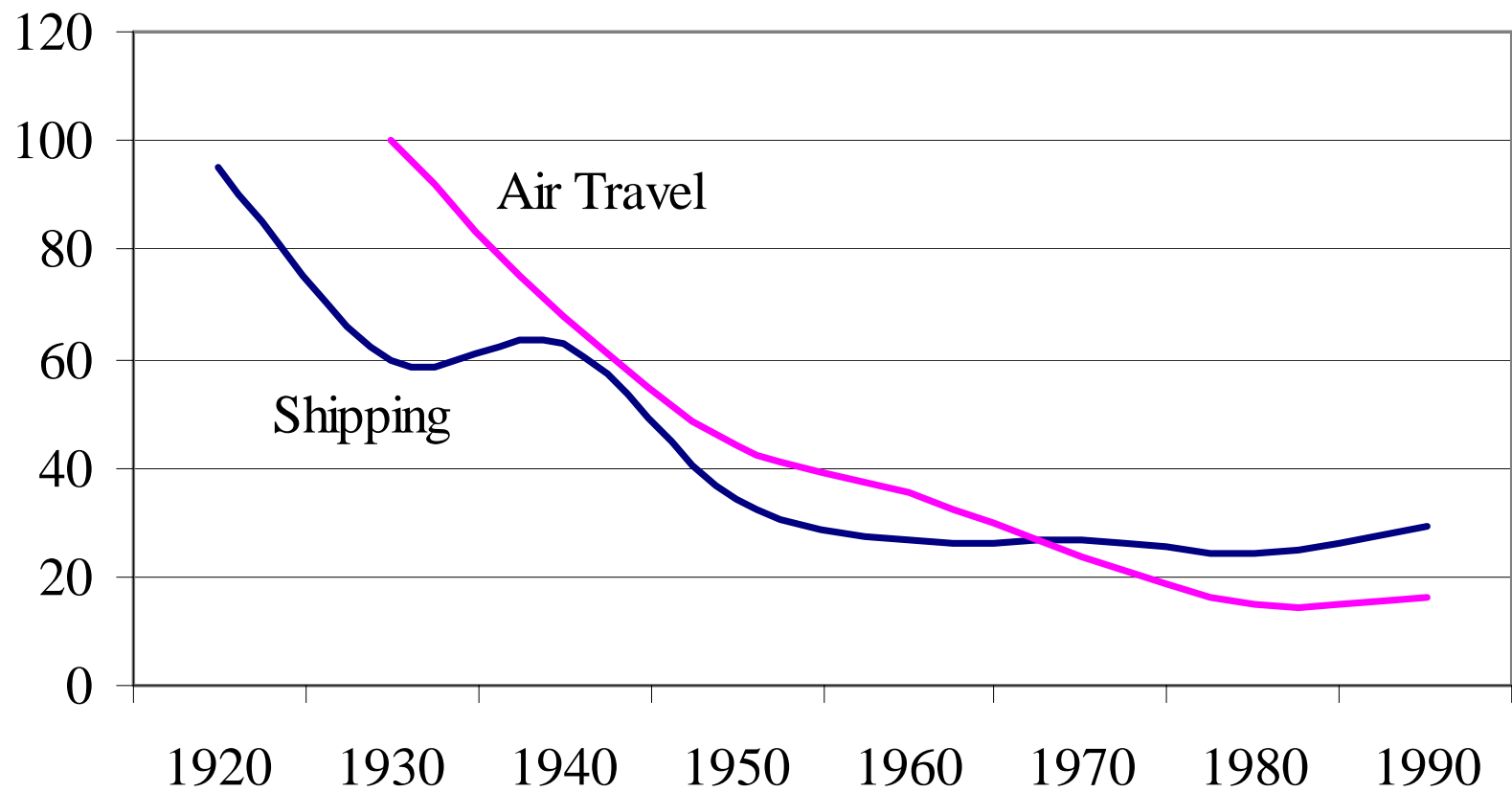
Death of Distance

Call Centers in India



Transportation Costs

Transportation Costs Index

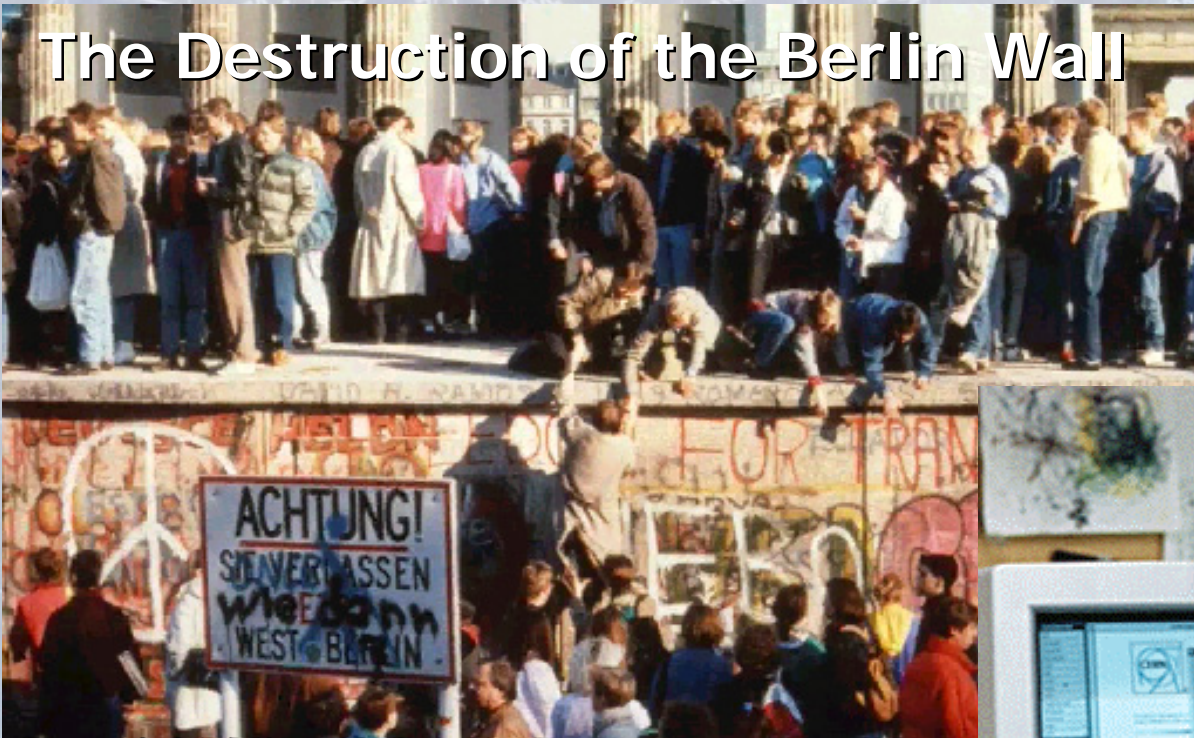


III. Levels of Globalization

- A. Eras of Globalization
 - First Era of Globalization (about 1850-1914)
 - Interwar Period (1920-1939)
 - Cold War Era (1945-1989)
 - Second Era of Globalization (1989-Present)
- Differences of Current Era of Globalization
 - Trade
 - Finance
 - Technology

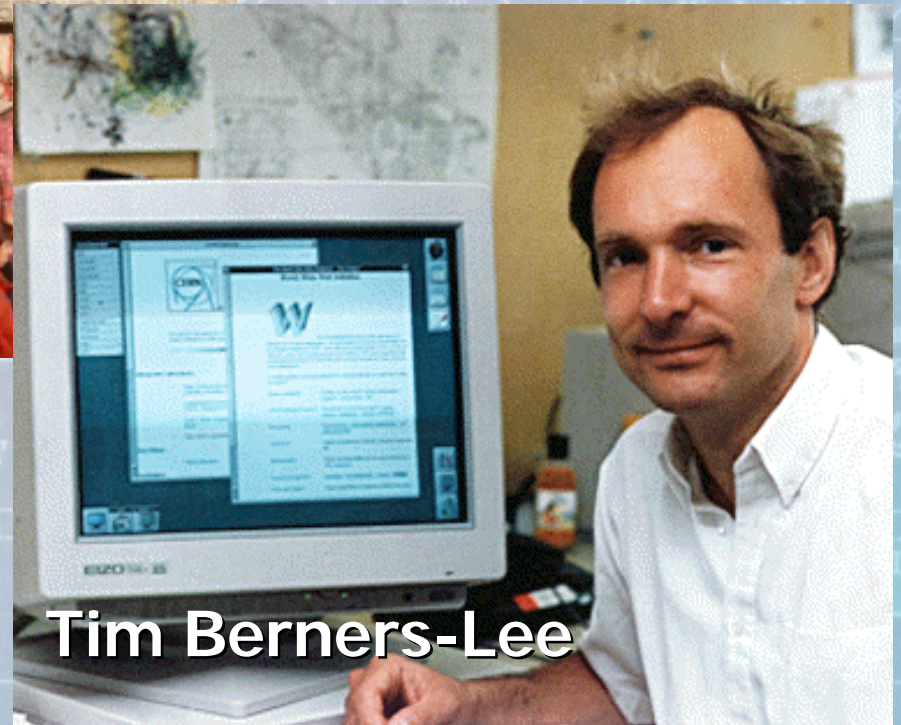
The Start of Globalization

The Destruction of the Berlin Wall



The walls
come down...

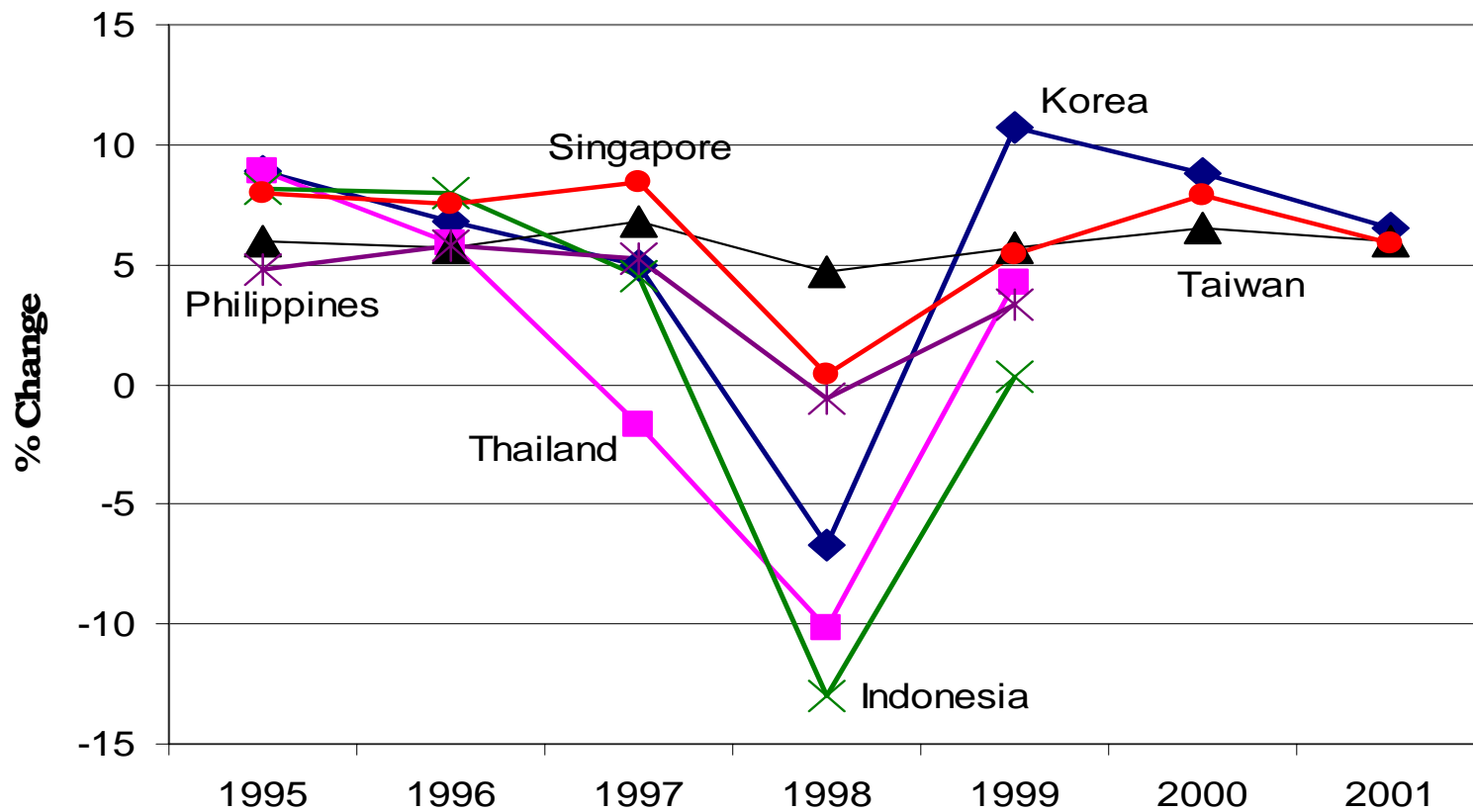
...and the (World Wide)
Web goes out.



Tim Berners-Lee

Volatility in the Global Economy

Asian Tiger Economies (Real GDP Growth)



Source: World Bank

◆ Korea ■ Thailand ▲ Taiwan × Indonesia * Philippines ● Singapore

IV. Implications of Globalization

- Inevitability?
 - Liberalization: Not inevitable
 - Technology: Tough to reverse
- Role of the State?
 - ‘Golden Straitjacket’
(Thomas Friedman)
 - Multilevel Governance
 - Multidimensional Security
- Positive or Negative?



ISE 542

Production Planning & Control

Class Notes-Chapter 1

Dr. Gürsel A. Süer
IMSE Dept
Ohio University
Winter 2003

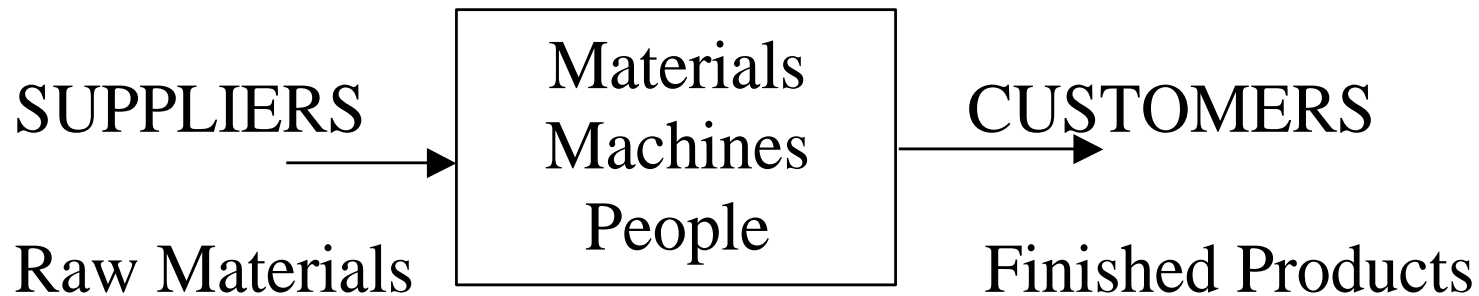
Production Planning and Control

Introduction

- Coordination of materials with suppliers
- Efficient utilization of people and machines
- Efficient flow of materials
- Communication with customers

Production Planning and Control Introduction

A Typical Manufacturing Systems



Decision Making vs. Decision Support

- Authors claim that PPC system does not make decisions or manage the operations
- Managers perform these activities
- PPC system provides support for decision making

Decision Making vs. Decision Support (Cont'd)

- However, developing intelligent software is becoming increasingly feasible
- Software not only to support decision makers but also make (at least) some of the decisions
- Expert Systems, Neural Networks, Genetic Algorithms, Evolutionary Programming, Genetic Programming, Tabu Search, Simulated Annealing, etc. are available techniques

Activities Supported by PPC

- Materials Planning
- Purchasing
- Raw Material Inventory Control

- Capacity Planning
- Scheduling Machine and People
- WIP Inventory Control

Activities Supported by PPC (Cont'd)

- Coordinate Customer Orders
- Finished Goods Inventory Control

Costs and Benefits of PPC Systems

PPC requires a large # of indirect people

Companies with ineffective PPC system will have poor customer service, excessive inventories, low equipment and people utilization, high rate of part obsolescence, large number of expeditors

Company Game Plan

Overall direction for PPC is provided by a
Company Game Plan

Game Plan links various departments
(engineering, finance, marketing,
production)

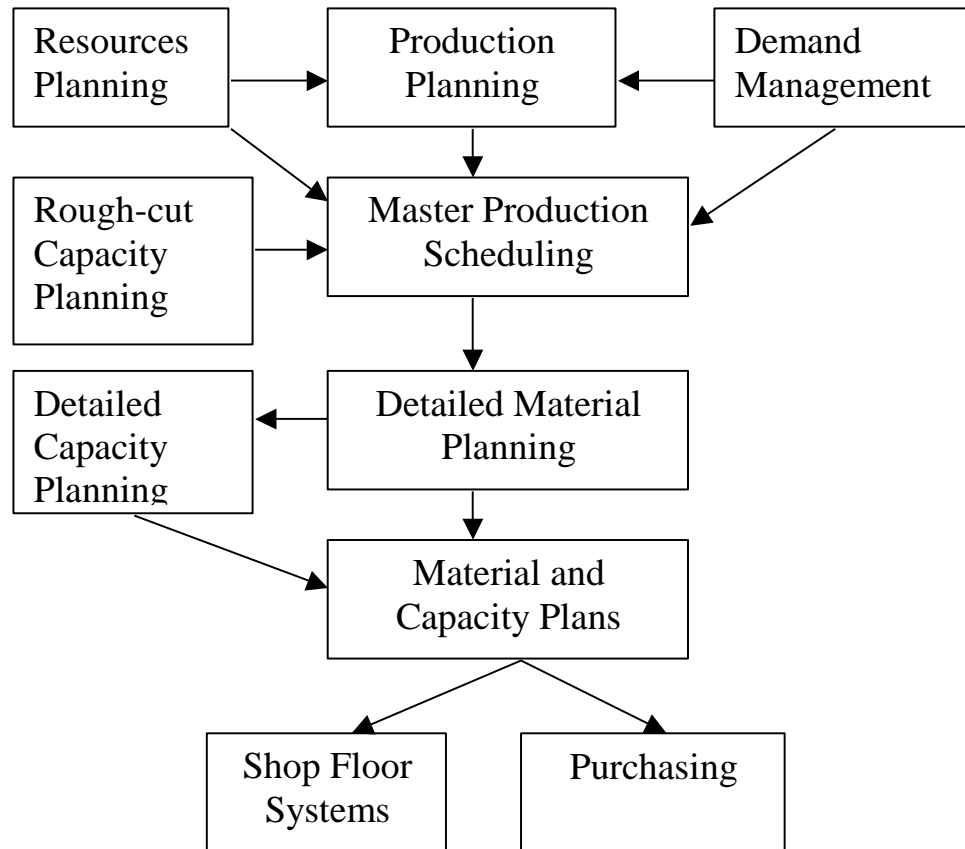
It should be consistent with strategic plans,
budgets, and company's capabilities

Hierarchical Planning

1. Overall Manufacturing Planning
2. Detailed Materials and Capacity Planning
3. Execution of Plans

Production Planning and Control

General Framework



1.Overall Manufacturing Planning

Hierarchical Planning Cont'd

Demand Management

- Forecasting
- Order Promising
- Order Processing
- Order Entry
- Spare Parts

1.Overall Manufacturing Planning

Hierarchical Planning Cont'd

Production Planning

Monthly Plans for Product Families

Master Production Scheduling (MPS)

Weekly Plans for Individual Products

MPS must sum up to Production Plan

PP – MPS Relation

$$\sum_{i=1}^{n_k} \sum_{j=1}^s \text{MPS}_{ijkt} = \text{PP}_{kt} \quad k=1,2,3,\dots,f; t=1,2,3,\dots,T$$

s	number of subperiods in a period
n_k	number of products in family k
MPS_{ijkt}	master production schedule for product i of family k in subperiod j of period t
PP_{kt}	production plan for family k in period t
f	number of families
T	number of periods

Example

Product Family: Markers

Products: Red, Blue, Green Marker

Note: Usually a period is one month and a subperiod is one week ($s=4$).

Example (Cont'd)

Production Plan

	Months	
	1	2
Marker Family	100000	120000

Master Production Schedule

Products	Weeks							
	1	2	3	4	1	2	3	4
Red	10	10	10	10	15	15	15	15
Blue	10	10	10	10	10	10	10	10
Green	5	5	5	5	5	5	5	5

1.Overall Manufacturing Planning

Hierarchical Planning Cont'd

Resource Planning

- Long-Range Capacity Requirements
- Number of Machines
- Number of Employees
- Overtime
- Shifts
- Plants

1.Overall Manufacturing Planning

Hierarchical Planning Cont'd

Rough-Cut Capacity Planning

Capacity Requirements for Master Production
Scheduling

- Overall Factor
- Capacity Bills
- Resource Profiles

2. Materials & Capacity Planning

Hierarchical Planning Cont'd

Materials Planning

Production rates can be used in simpler manufacturing systems.

Materials Requirements Planning (MRP) can be used in more complex systems. MRP determines time-phased requirements (period-by-period) for all purchased and manufactured parts such as raw materials, components, parts, subassemblies, etc.

2. Materials & Capacity Planning

Hierarchical Planning Cont'd

Detailed Capacity Planning

Labor Hours Required

Machine Capacity Required

In an MRP environment, this task is accomplished by using the Capacity Requirements Planning (CRP) technique.

3. Execution of Plans

Hierarchical Planning Cont'd

Shop Floor Control

- Conventional Approach, Process Layout
Similar machines are grouped into workcenters
Use workorders to schedule the jobs through
workcenters / departments
Schedule machine and other workcenters
Determine start and completion times of orders
Update the schedule

3. Execution of Plans

Hierarchical Planning Cont'd

Shop Floor Control (Cont'd)

- Recent Trend, Manufacturing Cells

Similar parts are grouped into families

Corresponding machine cells are formed

Use production rates

Use schedules to control production (Family Sequencing, Product Sequencing, Cell Loading, Cell Scheduling, etc.)

Use Kanban System (Pull, Just-in-Time) to control production

3. Execution of Plans

Hierarchical Planning Cont'd

Purchasing

- Purchasing Plan
- Vendor Search
- Quotation
- Order Release
- Order Follow-up
- Vendor Capacity

Planning vs. Control

- Plans are made
- Results are compared with plans (control)
- Results are OK → Wait until next control period
- Results are not OK → Go to Step 1 (Revise plans)

An Example

Resource Planning:

Assume that a jewelry manufacturing company decided to open three manufacturing sites (US, Ireland and Singapore).

Each plant is going to run one shift except plating area which will be run 2 shifts due to high investment requirement.

Example Cont'd

Demand Management:

Demand is forecasted for different product families and different plants as follows:

	US plant	Ireland plant	Singapore plant
Earrings	300000units/yr	200000units/yr	150000units/yr
Pendants	350000	225000	200000
Rings	150000	100000	75000

Example Cont'd

Production Plans:

US Plant

	Months											
	1	2	3	4	5	6	7	8	9	10	11	12
Earring	20K	20K	20K	20K	20K	20K	30K	30K	30K	30K	30K	30K
Pendant	20K	20K	20K	20K	20K	20K	30K	40K	40K	40K	40K	40K
Ring	10K	10K	10K	10K	10K	10K	15K	15K	15K	15K	15K	15K

PRODUCTION PLAN IS PREPARED FOR IRELAND AND SINGAPORE PLANTS AS WELL.

Example Cont'd

Demand Management:

Following manpower and resources requirements are estimated for each plant:

	US plant	Ireland plant	Singapore plant
Manpower	300	200	150
Machine Type X	50	40	30
Machine Type Y	100	120	50
Machine Type Z	150	40	70

Example Cont'd

Master Production Schedule:

US Plant – Earring Family – 1ST Month

	Weeks			
	1	2	3	4
Gold Earring	1K	1K	1K	2K
Gold Earring with red stone	1K	1K	2K	1K
Silver Earring	1K	2K	1K	1K
Silver Earring with red stone	2K	1K	1K	1K
TOTAL	5K	5K	5K	5K

MASTER SCHEDULE IS PREPARED FOR EACH MONTH (POSSIBLY FOR THE 1ST COUPLE OF MONTHS, NOT FOR THE ENTIRE YEAR) AND PRODUCT FAMILY.

Example Cont'd

Rough-cut Capacity Planning:

Manpower and machine requirements are revised.

	US plant
Manpower	330
Machine Type X	55
Machine Type Y	95
Machine Type Z	190

Example Cont'd

Materials Planning:

Detailed material plans are prepared for subassemblies and parts to be manufactured; components and raw materials to be purchased.

	Weeks											
	1	2	3	4	5	6	7	8	9	10	11	12
Gold	3kg	3kg	2.5kg	2.5kg	...							
Silver	5kg	5kg	4kg	4kg	...							
Red Stone	3K	2K	3K	2K	...							
Plated parts	5K	5K	5K	5K	...							

Example Cont'd

Capacity Requirements Planning:

	Weeks											
	1	2	3	4	5	6	7	8	9	10	11	12
Manpower	320	310	330	322	...							
Machine X	52	55	60	57	...							
Machine Y	90	92	98	95	...							
Machine Z	178	163	172	170	...							

Example Cont'd

Purchasing:

Contact vendors, evaluate quotes and cut purchase orders.

Shop Floor Control:

Assign parts to be plated to different plating lines

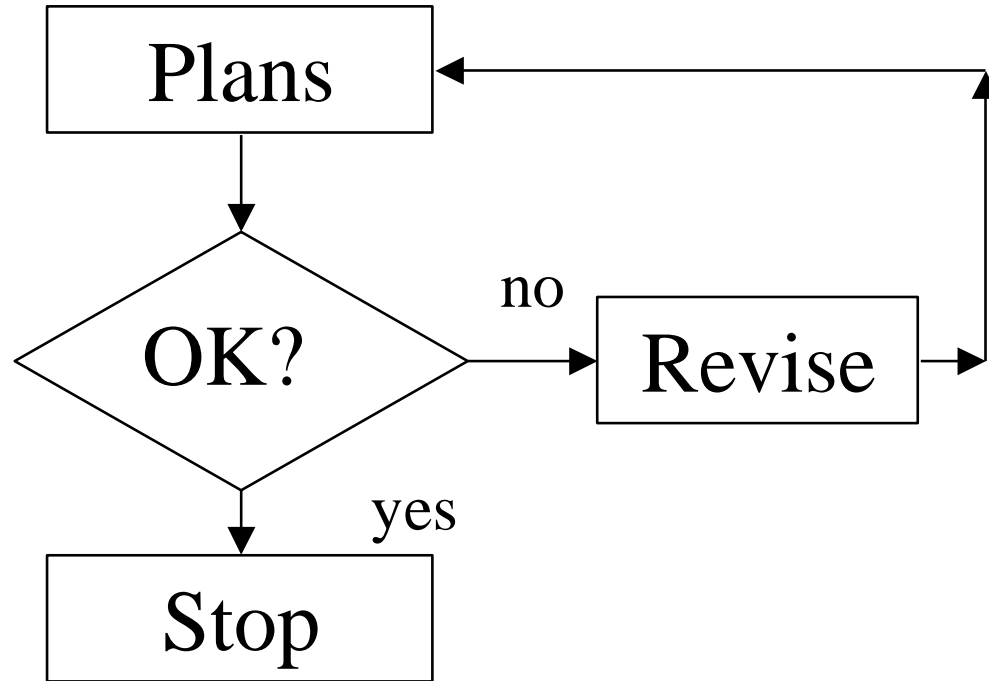
Load manufacturing cells with products and determine start and completion times

Cell1	Job1	Job 3			Job 7		
Cell2	Job 2		Job 4				
Cell3	Job 5		Job 8		Job 6		
	0	5hr	7	10	22	25	34 38

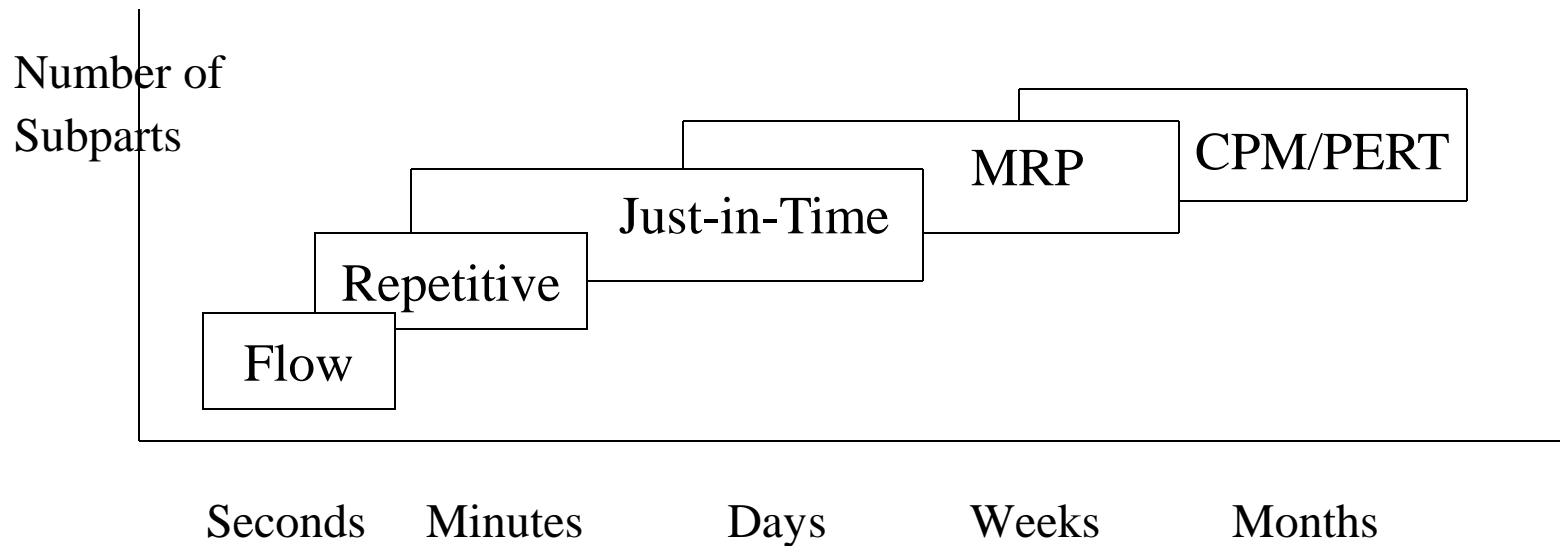
Planning vs. Control

planning

control



Matching PPC with the Needs of the Firm



Time between successive units

Examples: Oil, food, drugs, watches, TV, trucks, planes, houses, ships

Matching PPC with the Needs of the Firm

1. Flow-Oriented Manufacturing Systems

Very short time between successive units

A few components needed

Flow rate is the measure

Ex: Chemical, food, petroleum

Matching PPC with the Needs of the Firm (Cont'd)

2. Repetitive-Nature Manufacturing Systems

Short time between successive units

Assemble similar products

Flow Rate or Assembly Rate is the measure

Ex: Televisions, Radios, Watches, Cars

Matching PPC with the Needs of the Firm (Cont'd)

3. Just-in-Time

High production volume

Low Product Variety

Reduced Inventory and Leadtime

Ex: Cars, Computers, Jewelry, Copy
Machines

Matching PPC with the Needs of the Firm (Cont'd)

4. Materials Requirements Planning (MRP)

Batch production

High product variety

Low production quantity

Ex: Electric Motors, Fans

Matching PPC with the Needs of the Firm (Cont'd)

5. CPM/PERT

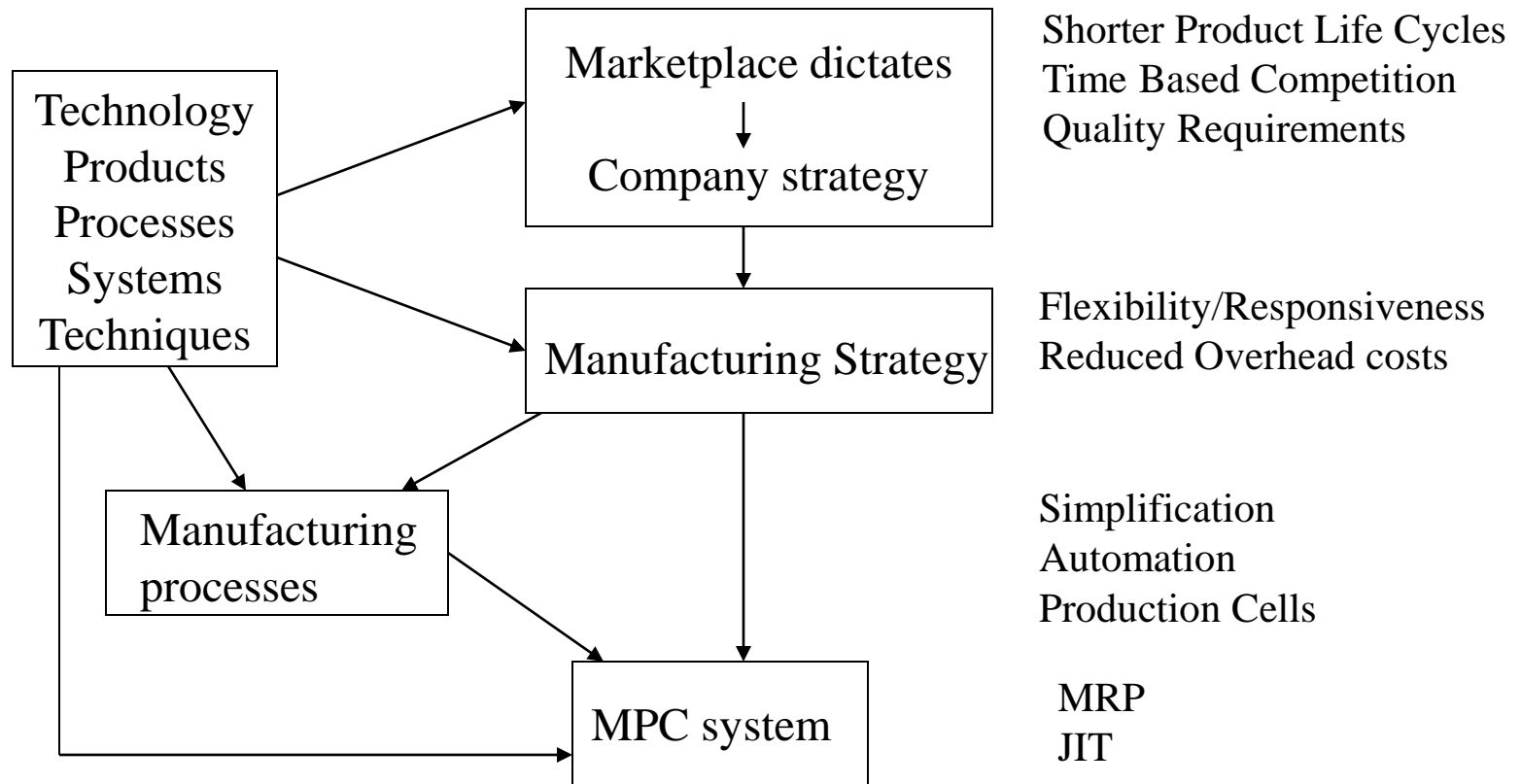
Long leadtimes

Low production quantity

Ex: Airplanes, ships

Forces for Change

Typical Responses



Total Quality Management



Introduction

- **Total** – Made up of the whole(or) Complete.
- **Quality** – Degree of Excellence a product or service provides to the customer in present and future.
- **Management** – Act , art, or manner of handling , controlling, directing, etc.

TQM is the art of managing the whole to achieve excellence.



"TQM is a management approach for an organization, centered on quality, based on the participation of all its members and aiming at long-term success through customer satisfaction, and benefits to all members of the organization and to society."

Definition

TQM is composed of three paradigms:

Total: Organization wide

Quality: With its usual Definitions, with all its complexities (External Definition)

Management: The system of managing with steps like Plan, Organise, Control, Lead, Staff, etc.

Definition

Total Quality Management (TQM) is a management strategy aimed at embedding awareness of quality in all organizational processes.

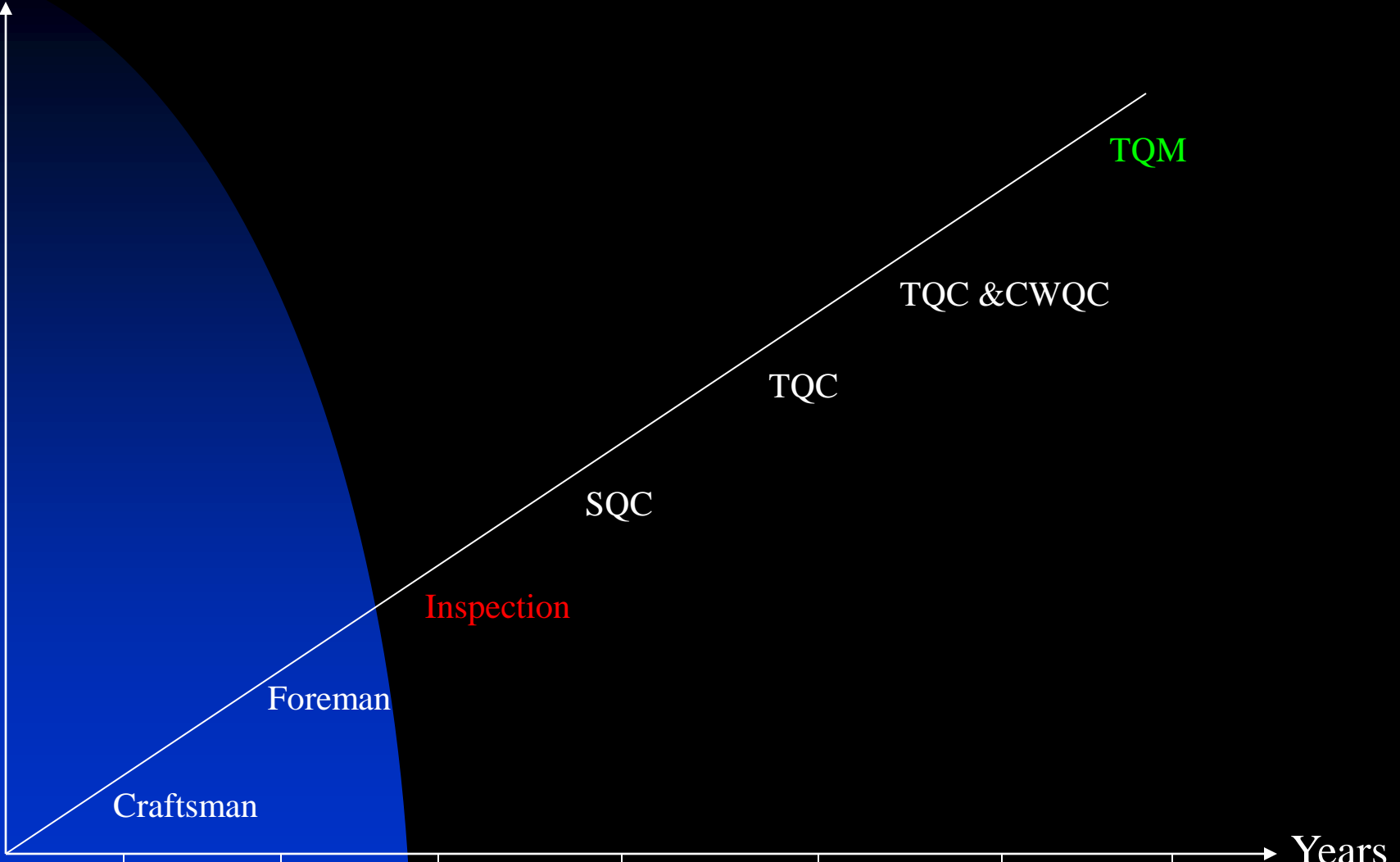
Explanation

TQM requires that the company maintain this **quality standard** in all aspects of its business.

This requires ensuring that things are done right the first time and that defects and waste are eliminated from operations.

Evolution of quality Era

Evolution



Years

Evolution of quality – Means & Focus

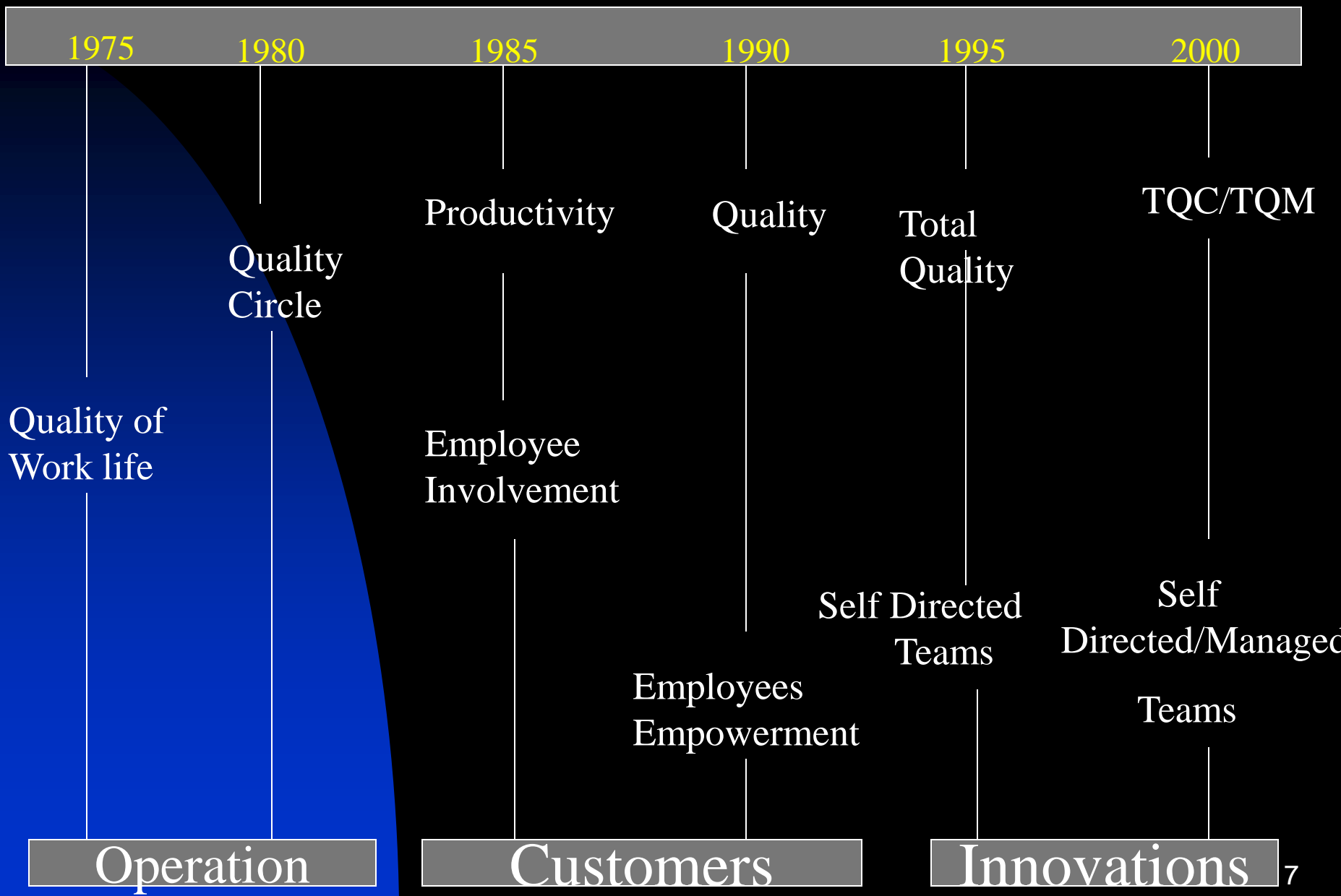
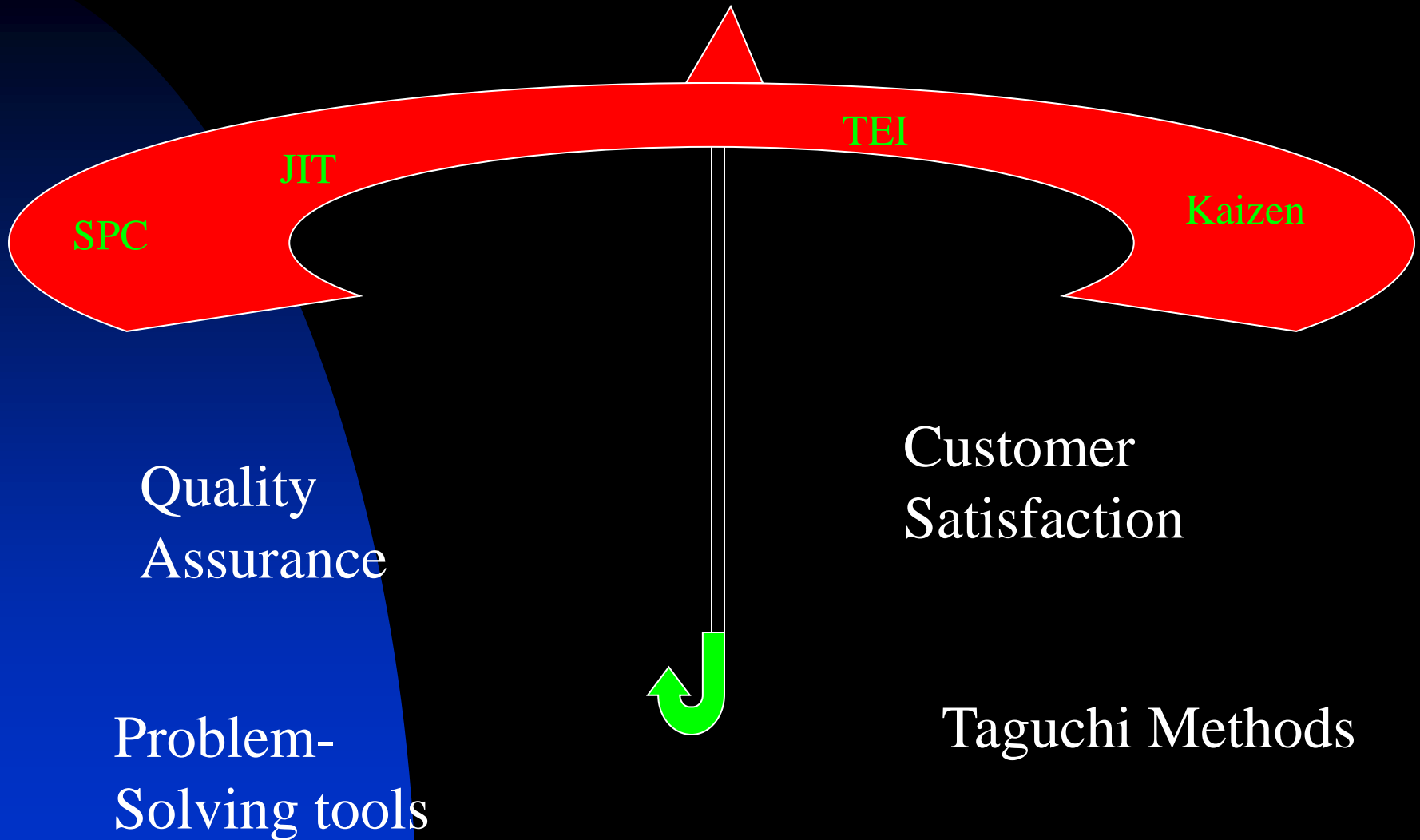




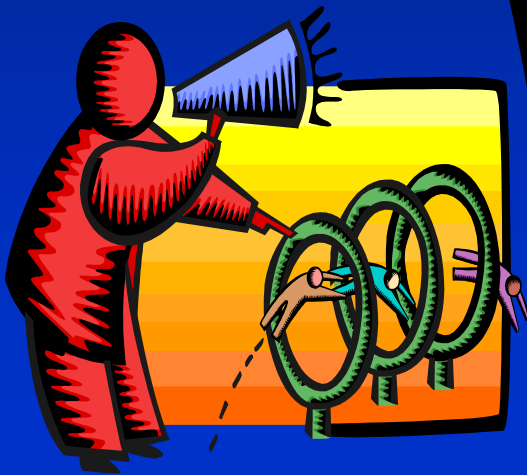
Figure 1. Kano Model

Umbrella Model of TQM



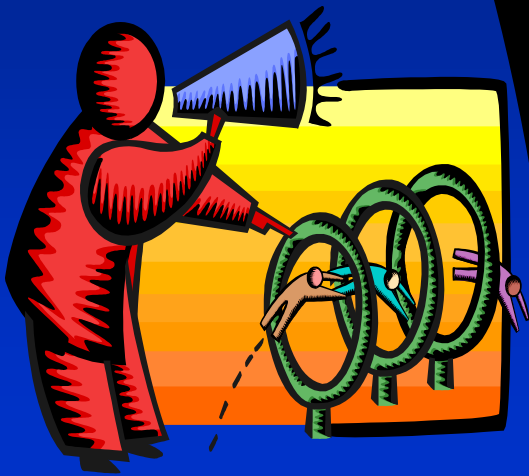
Basic Approach

- A committed and involved management to provide long-term top - to - bottom organizational support.
- An unwavering focus on the customer, both internally and externally.
- Effective involvement and utilization of the entire work force.



Basic Approach

- Continuous improvement of the business and production process.
- Treating supplier as partners.
- Establish performance measures for the processes.

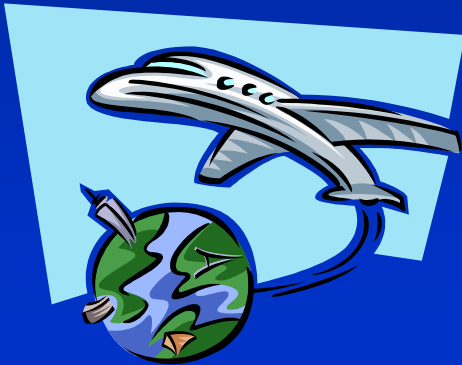


New and Old Cultures

Quality Element

TQM

- Definition -Product Customer
- Priorities -Service &Cost Quality
- Decisions- Short Long
- Emphasis- Detection Prevention₂

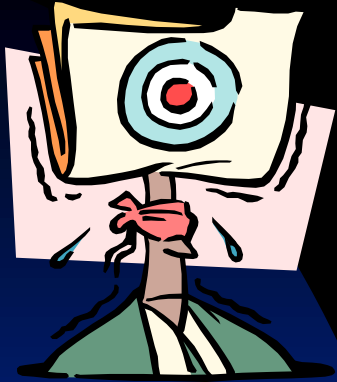


New and Old Cultures

- Errors- Operations System
- Responsibility- QC Every Body
- Problem Solving - Managers Teams
- Procurement- Price Partners/JIT
- Manager's Role- Plan Delegate
Assign Coach
Enforce Mentor



Real Life



- TQM has being implemented in TVS Group.

- Boeing Aircraft

- Reliance



- Tata L & T HMT

- ITI

Guru's of TQM

- Walter.A.Shewhart -TQC &PDSA
- W.Edwards Deming- 14 Points & PDCA
- Joseph.M.Juran-Juran's Trilogy
- A.Feiganbaum-Customer requirement,CWQC,Employee Involvement, TQC.



Guru's of TQM

- Kaoru Ishikawa-Disciple of Juran & Feigenbaum. TQC in Japan, SPC, Cause & Effect Diagram, QC.
- Philips.B.Crosby. Four Absolutes- Quality-Req, Prevention of NC, Zero Defects & Measure of NC.
- Taguchi.G-Loss Function.



Definitions

- ISO 9000:2000

Quality is the degree to which a set of inherent characteristics fulfills requirements.

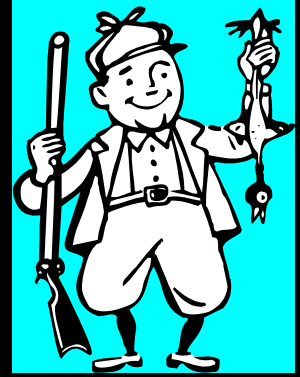
- Quantified

$Q = P/E$ P-Performance
 E-Expectations

- Joseph M. Juran Quality is fitness for use or purpose



Definitions



- Philips B

Crosby

Quality is Conformance to requirements

- W. Edwards Deming

A predictable degree of uniformity and dependability at low cost and suited to market

- Bill Conway

**** Development, manufacture, administration
And distribution of consistently low cost and
products and services that customers need and
want.

Dimensions of Quality

Product- TV

Performance - Primary Characteristics, such as brightness

Features –Secondary Characteristics, Remote Control

Conformance-Meeting Specifications or Standards

Reliability –Consistency of Performance over time-fail

Durability- Useful life ,include Repair.

Service





Dimensions of Quality

Durability- Useful life ,include repair.



Service-Resolution of problems,ease of repair.



Response- Human relations with Customers.

Aesthetics-Sensory Features.

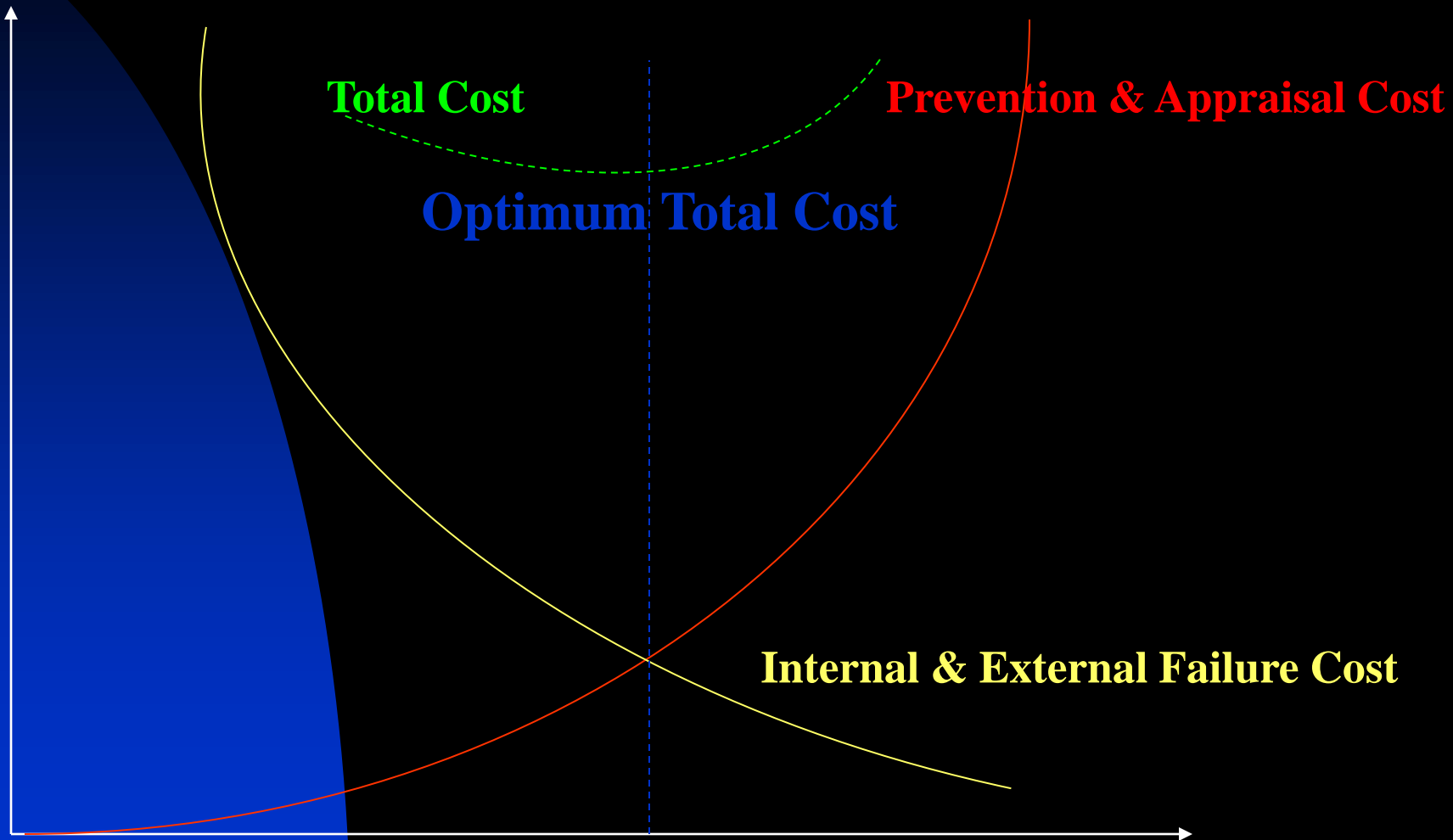


Reputation- Past performance, Company Image.

Quality Cost

- Prevention Cost –Planning, Document, Control, Training
- Appraisal Cost –Inspection & Tests, Installation, Calibration, M/c Depreciation, Reports & Rejects.
- Internal Failure Cost – Scraps, Repair Rework, Design Changes, Defect Failure Analysis, Retests & ReInspection, Downgrading, Down Time.
- External Failure Cost – Complaints, Goodwill, Failures, Services & Replacement, Guarantee & Warranty, Compensation, Recall, Loss of Sales, Seconds Sales.

Economics of Quality of Conformance



Obstacles

Top management commitment

Changing Organization Culture

Improper planning

Continuous Training & Education



Obstacles

Organization Structure & Departments

Data's & Facts For Effective Decisions

Internal & External Customers-
Dissatisfaction

Empowerment & Teamwork

Continuous Improvement



Benefits

Improved Quality

Employee Participation

Team Work

Internal & External Customer Satisfaction

Productivity ,Communication

Profitability & Market Share



WTO-AoA NEGOTIATIONS

STATE OF PLAY



WTO GENESIS

- *The General Agreement on Trade and Tariff (GATT) came into existence in 1947*
- *It sought substantial reduction in tariff and other barriers to trade and to eliminate discriminatory treatment in international commerce.*
- *India signatory to GATT 1947 along with twenty two other countries*
- *Eight rounds of negotiations had taken place during five decades of its existence*

• *Contd.*

WTO GENESIS

- *WTO Came into existence on 1-1-1995 with the conclusion of Uruguay Round Multilateral Trade Negotiations at Marrakesh on 15th April 1994, to :*
 - *Transparent, free and rule-based trading system*
 - *Provide common institutional framework for conduct of trade relations among members*
 - *Facilitate the implementation, administration and operation of Multilateral Trade Agreements*
 - *Rules and Procedures Governing Dispute Settlement*
 - *Trade Policy Review Mechanism*
 - *Concern for LDCs and NFIDCs*
 - *Concern on Non-trade issues such as Food Security, environment, health, etc.*

BASIC PRINCIPLES

1. NON-DISCRIMINATION

- **MFN (exceptions RTAs, SPS)**
- **National Treatment (exceptions Government Procurement, GATS)**

2. MARKET ACCESS

- **Reduction and binding of tariffs**
- **General elimination of quantitative restrictions on imports and exports**
(exceptions Article XX, XXI of GATT)

WTO AoA

WTO- AoA Aims at

- *Fair and market oriented trading system*
- *Commitments on support and protection*
- *Operationally effective GATT Rules & Disciplines*
- *Equitable Trade Reform process*
- *Greater opportunities and Terms of Access to developing countries*
- *Concern for LDCs and NFIDCs*
- *Concern on Non-trade issues such as Food Security, environment, health, etc.*

Reduction Commitments in WTO-AoA

<i>NEGOTIATED REDUCTION</i>	<i>Implementation Period</i>	
	<i>Developed Countries (1995-2000)</i>	<i>Developing Countries (1995-2004)</i>
	<i>%</i>	<i>%</i>
<i>Market Access</i>		
<i>Average tariff cuts for all ag.products</i>	<i>-36</i>	<i>-24</i>
<i>Minimum tariff cuts per product</i>	<i>-15</i>	<i>-10</i>
<i>Domestic Support</i>		
<i>Total cuts in aggregate measurement of support</i>	<i>-20</i>	<i>-13</i>
<i>Export Subsidies</i>		
<i>Value cut</i>	<i>-36</i>	<i>-24</i>
<i>Volume Cut</i>	<i>-21</i>	<i>-14</i>

Domestic Support

- ***Green Box*** - *Research, Extension, PDS, Decoupled Payments etc;*
- ***Blue Box*** - *Production Limiting Subsidies ;*
- ***Amber Box*** - *AMS-subject to reduction commitments viz*
 - *Product specific (MSP)*
 - *Non product specific (input subsidies-fert. Power, irrigation) ;*



REVIEW OF AoA

THE STATE OF PLAY

THE MANDATE OF ARTICLE 20

ARTICLE 20 OF THE AoA MANDATES FRESH NEGOTIATIONS :

-STARTED IN 2000, TAKING INTO ACCOUNT

A) THE EXPERIENCE OF IMPLEMENTATION TO DATE

B) THE EFFECTS ON WORLD TRADE IN AGRICULTURE

C) NON TRADE CONCERNS

D) WHAT FUTURE COMMITMENTS ARE NECESSARY TO ACHIEVE THE LONG TERM OBJECTIVES

Phase I: March 2000 to March 2001

- a) the experience of implementation to date***
- b) the effects on world trade in agriculture***
- c) non trade concerns***
- d) what future commitments are necessary to achieve the long term objectives***

Around 45 Negotiation proposals submitted by 126 Members in Phase-I to cover:

Market Access

Domestic Support

Export Subsidies

Non Trade Concerns

Phase II: March 2001 to February 2002

Modalities and timeframe for of the negotiating process decided in the March 2001 Special Session.



Six Special Sessions of Committee on Agriculture held during 2001-02 and discussed various negotiating proposals.

Phase III: March 2002 to March 2003

Commenced from March 2002

During 2002-03 , the meetings of Committee on Agriculture to discuss the issues on export competition, market access and domestic support.

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India's Approach to the Negotiations

- 1. Comprehensive negotiating proposal submitted to WTO on 15.1.2001 covering Food Security, Market Access, Domestic Support, and Export Competition**
- 2. Non paper on Special and Differential Treatment to Developing Countries**

India Seeks

- *Protecting our food and livelihood security by having sufficient flexibility for domestic policy measures.*
- *Protecting domestic producers from the surge in imports or significant decline in import prices.*
- *Substantial reduction in export subsidies and domestic support to agriculture in the developed countries for greater market access to products of developing countries.*
- *Finally, a more equitable & fair trading framework for agricultural commodities*

Market Access

The negotiations on market access should include the following issues:

Comprehensive binding of tariffs

Reduction of peak tariffs and removal of tariff escalations

Reduction in the number of tariff rate quotas (TRQs) in a progressive manner

Volume of imports allowed under quotas to be substantially expanded till TRQs are eventually eliminated

Transparent administration of TRQs

Domestic support

The negotiations on domestic support should include the following elements:

Substantial reductions in all forms of domestic support should be undertaken by the developed countries.

Subsidies excluded from the discipline introduced by the AoA, i.e. those appearing in the “Blue Box” and the “Green Box”, need to be re-assessed, particularly from the point of view of their influence on production.

The Peace Clause “Article 13 (a) and 13 (b)” shall not be extended beyond implementation period.

Export Subsidies

The negotiations on export subsidies should include the following issues:

Countries using export subsidies should phase out this form of farm support within two years of implementation of the revised disciplines to be followed by countries in the agricultural sector.

Export subsidies discipline should include all forms of spending that enhances the capacities of exporters to increase trade, e.g. export credit, guarantees and insurance programmes.

The Peace Clause “Article 13 (c)” shall not be extended beyond implementation period.

Non-Trade Concerns

The issue of non-trade concerns should be articulated as under:

Non-trade concerns should be adequately reflected in the decisions, particularly those related to market access and domestic support.

The AoA needs to provide an enabling environment for the countries to address the concerns relating to food security and livelihoods.

The relevant decisions of the World Food Summit on food security and livelihoods need to be integral part of the negotiations.

S&D in Doha Ministerial Declaration

“We agree that special and differential treatment for developing countries shall be an integral part of all elements of the negotiations and shall be embodied in the Schedules of concessions and commitments and as appropriate in the rules and disciplines to be negotiated, so as to be operationally effective and to enable developing countries to effectively take account of their development needs, including food security and rural development”.

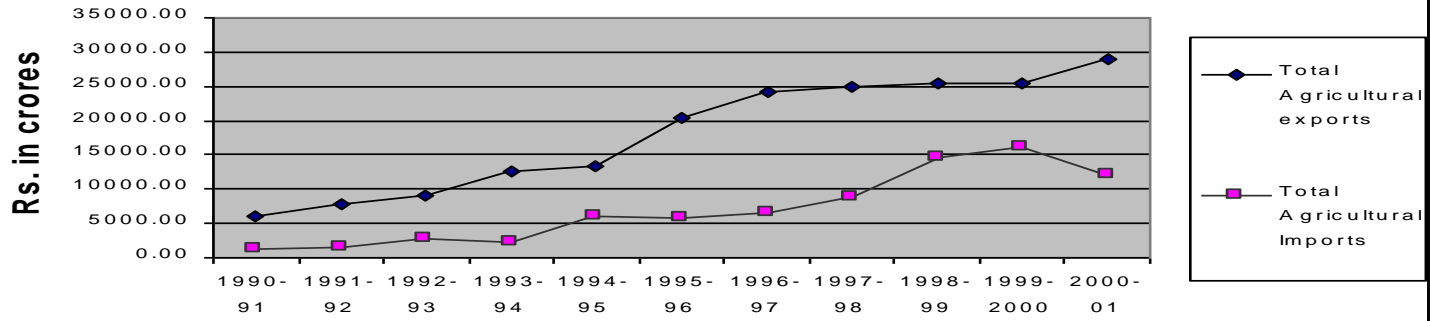
S&D to Developing Countries

- *Increase the levels of MFN tariffs on sensitive products*
- *Special Safeguards (SSGs)*
- *No requirement to provide minimum access requirements*
- *Administration of tariff rate quotas for improved market access*
- *Right to use export subsidies*
- *Exemption for resource poor farmers in Product Specific Support*

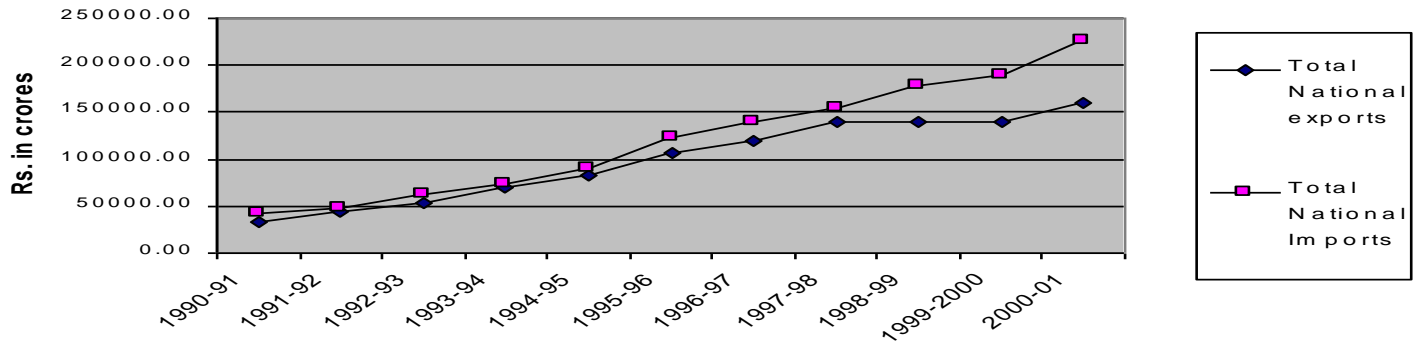
Issues of Regional Importance

- 1. *Crops that are significant from the point of view of sustaining livelihoods and regional development*
- 2. *Crops in which the individual states can be considered to be efficient producers considering the global trends*
- 3. *Crops in which the states have been accumulated surpluses*
- 4. *Crops that face the threat from cheap imports*
- 5. *Crops that have been facing fluctuating prices, resulting in uncertainties for the farmers*

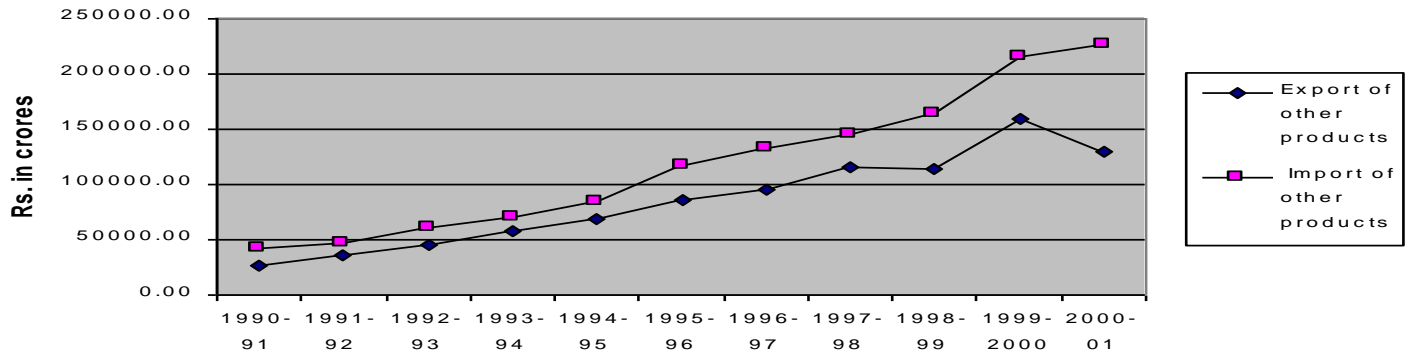
Export vs import of agricultural products

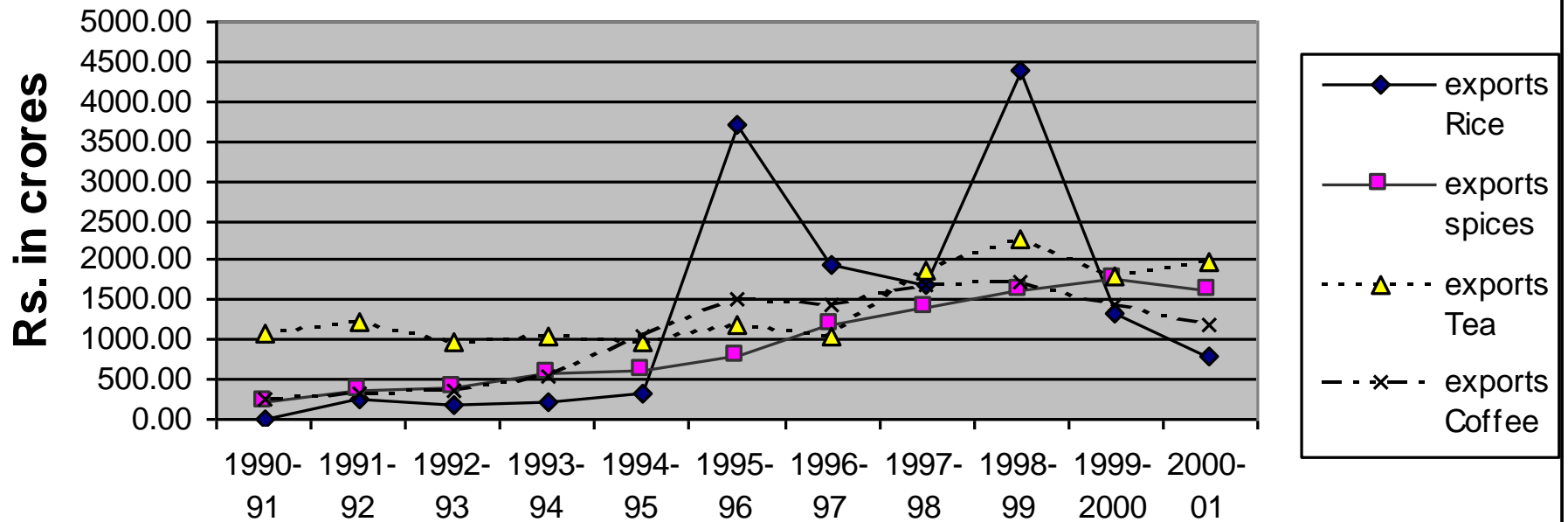


Export vs import of total products



Export vs import of other products



Export of important agricultural products

Issues of Export Competitiveness of Select Agro-products

Rice:

- *The rice export is projected to increase to 2.7 million tonnes in 2005 from current level of 1.8 million tonnes.*
- *In spite of much favourable domestic resource cost, the nominal protection coefficient is marginal which is due to volatile international prices.*
- *The domestic supply gap, quality, processing, marketing, transportation etc., are going to be key factors for sustaining India's rice export potential.*

Spices:

- *Owing to expanding global demand of spices, there is potential for accelerating Indian spice export but the rising competition would require concerted efforts.*
- *The problem of aflatoxin, pesticide residue and low yields are to be tackled.*

Issues of Export Competitiveness of Select Agro-products

Tea:

- *The Indian tea export is projected to increase marginally from 159 thousand tonnes during 1993-95 to 165 thousand tonnes in 2005.*
- *India's export competitiveness as well as share in export of tea is declining.*
- *The strategies include promotional measures, joint ventures for tea blending and marketing and support for importing machinery and packaging materials.*

Coffee:

- *The coffee export is projected to reach to 180 thousand tonnes in 2005 from the level of 160 thousand tonnes in 90s.*
- *There is emergence of new markets in Asia and Eastern Europe and hence India has to focus on this aspect as well.*
- *The quality, R&D and post-harvest methods are important to sustain the growth.*

Issues of Export Competitiveness of Select Agro-products

Cashew :

- *India's export is projected to increase to 95,000 tonne by 2005 from current exports of 80,000 tonne.*
- *The emergence of Vietnam and Brazil as exporters, decline in domestic production of raw cashew and quality stipulations by importing countries, may make these projections un-achievable.*
- *The improvement in the processing facility, land development for additional plantation crop area and removal of legal barriers for such area expansion are suggested for sustaining the export potential.*

Marine Products : *Indian marine products are expected to increase by about 10.2%, per annum, in the next five years. The marine processing industry is well developed but to sustain the growth, availability of raw materials for effective production planning and development of scientifically managed aquaculture and brackish water resources are envisaged. The transport and other infrastructure to support export are also envisaged.*

Schedule of Regional Consultations

<u><i>Dates</i></u>	<u><i>Location</i></u>	<u><i>Region</i></u>
• <i>11th May, 2002</i>	<i>Delhi</i>	<i>Northern</i>
• <i>31st May, 2002</i>	<i>Hyderabad</i>	<i>Southern</i>
• <i>7th June, 2002</i>	<i>Guwahati</i>	<i>North-East</i>
• <i>14th June, 2002</i>	<i>Pune</i>	<i>Western</i>
• <i>28th June, 2002</i>	<i>Jaipur</i>	<i>Central</i>
• <i>5th July, 2002</i>	<i>Bhubaneswar</i>	<i>Eastern</i>



Thank You