

Singapore's Productivity Movement and Lessons Learned

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Outline

1. Introduction and Basic Facts
2. Quality and Productivity concept
3. Productivity movement
 - Early years
 - Awareness, Action, Ownership
3. Innovation- Driven Phase
4. Lessons Learned

Singapore's mission

(Aug 28 - Sept 05/2010)

- **Productivity Movement**
- Current Industrial Policy Measures and Organizations
- SME Development
- FDI Attraction
- Nanyang Polytechnic
- Singapore's International Cooperation in the Industrial Sector and others.

Key Statistics of Singapore(2000) (2010)

• Land Area	685sq km (710)
• Population	4.1 million (4.99)
• Literacy Rate	94% (96%)
• Labor Force	2.1 million
• GDP Growth	2.2%
• Productivity Growth	4.2
• % GDP contribution	
✓ Manufacturing	26%
✓ Non-manufacturing	74%

Impact of Productivity Movement (1981-2001)

Aver. Ann. GDP Growth(1981-2001) = 7.2%

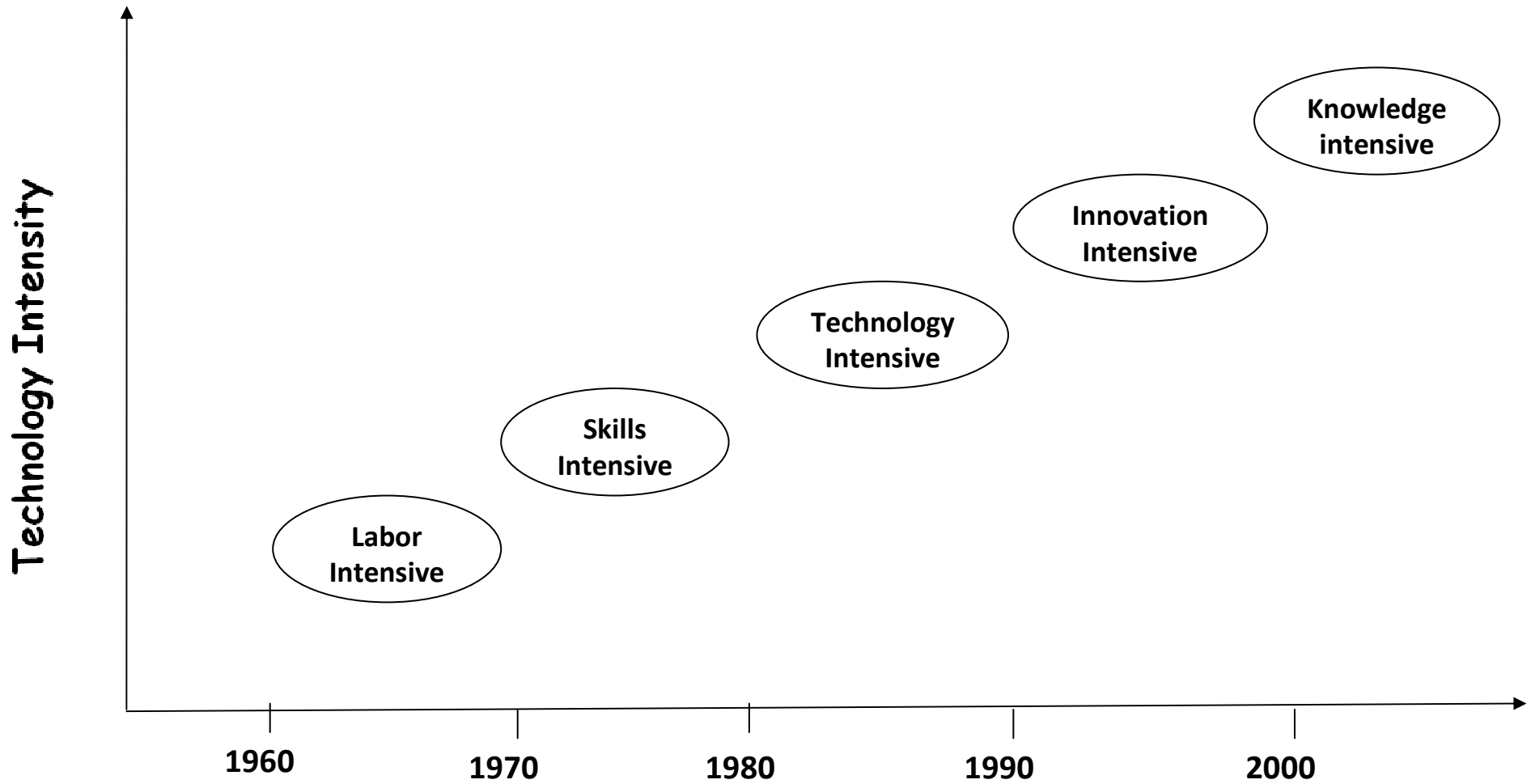
Aver. Ann. Productivity Growth(1981-2001) = 3.8%

	<u>1981</u>	<u>2001</u>
Per Capita Income(\$)	11000	37,100
Average Monthly Earnings(\$)	736	2,800
Home Ownership	63%	92%
Life Expectancy(male)	73yrs	78yrs

Global Competitiveness Index

(2010 - 2011) Ranking

Country	GCI Rank (2010 -11) Out of 139 countries	Score	GCI Rank (2009 – 10) Out of 133 countries
Switzerland	1	5.63	1
Sweden	2	5.56	4
Singapore	3	5.48	3
United States	4	5.43	2
Germany	5	5.39	7
Japan	6	5.37	8
China	27	4.84	29
Tunisia	32	4.65	40
South Africa	54	4.32	45
Kenya	106	3.65	98
Ethiopia	119	3.51	118
Zimbabwe	136	3.03	132
Chad	139	2.73	131

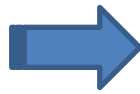


Singapore's Industrial Development Phases

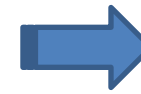
Evolution of the Productivity Movement in Singapore

- Stages of Economic Development

- Labour-Driven



- Capital-Driven



- Innovation-Driven



Why quality and productivity?

1. Customer

- ✓ Today is the customer economy.
- ✓ Customer has upper hand.

2. Competition

- ✓ Competition is agenda for survival.
- ✓ Lowest price, highest quality and best services is the standard of the day.

3. Change

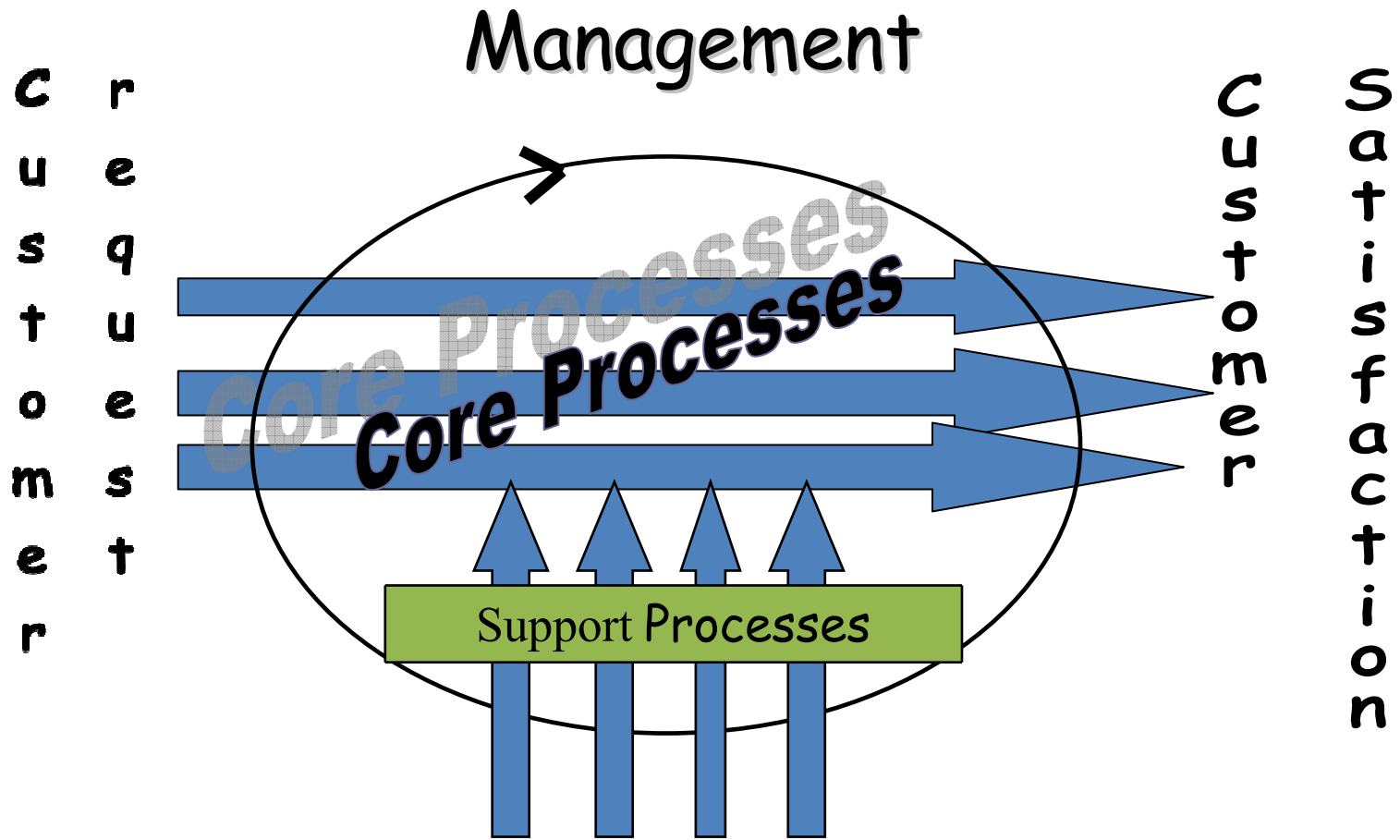
- ✓ The nature of change becomes fast, flexible
- ✓ Nothing is constant or predictable

Quality is

- *Fitness for purpose - Juran*
- *Conformance to requirements - Crosby*

But what does that mean?

***EXCEEDING CUSTOMERS
EXPECTATIONS!!***



Quality, (KAIZEN) if it is introduced and managed correctly, will:

- Eliminate waste;
- Cut inventories;
- Improve customer satisfaction; and
- Enhance profitability.

At the heart of **Total Quality (KAIZEN)**
are two simple aims, they are:

- 1. Make things right the first time
and every time.**
- 2. Work for continual improvement.**

Productivity concept

"Productivity is a state of mind... an attitude that seeks the continuous improvement of what exists. It is a conviction that one can do better today than yesterday and that tomorrow will be better than today."

European Productivity Agency(1959)

Productivity concept

"Productivity is an attitude of mind that strives for and achieves the habit for improvements, as well as the systems and the set of practices that translate the attitude into action..."

National Productivity Board, Singapore

Productivity concept

$$\text{Productivity} = \frac{\text{Value of Output}}{\text{Value of Input}}$$

$$\text{Firm-level Productivity} = \frac{\text{Output}}{\text{Worker}}$$

$$\text{National-level Productivity} = \frac{\text{Gross Domestic Product}}{\text{Work force}}$$

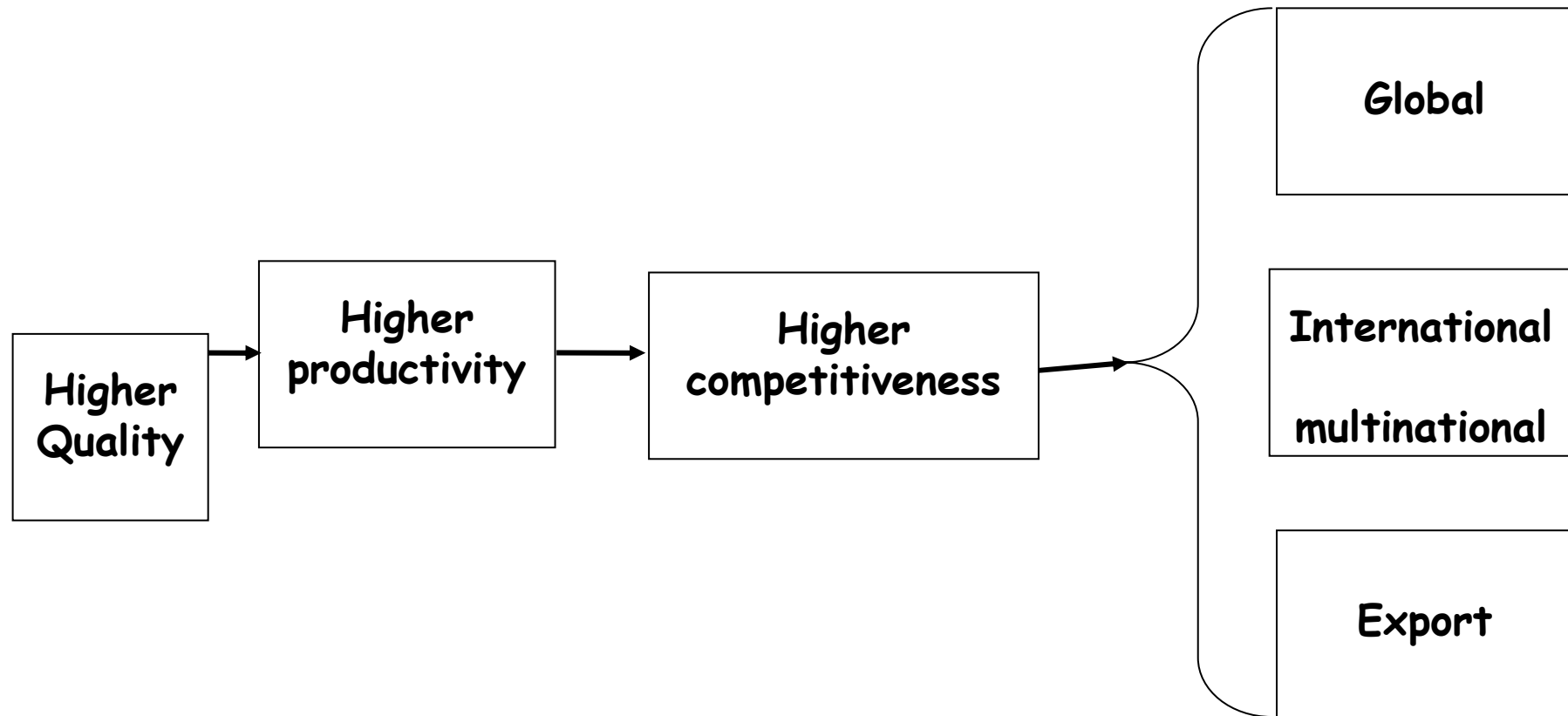
Productivity concept

$$\text{Productivity Growth} = \text{Total Factor Productivity Growth(TFP)} \\ + \\ \text{Capital Intensity(CI) Growth}$$

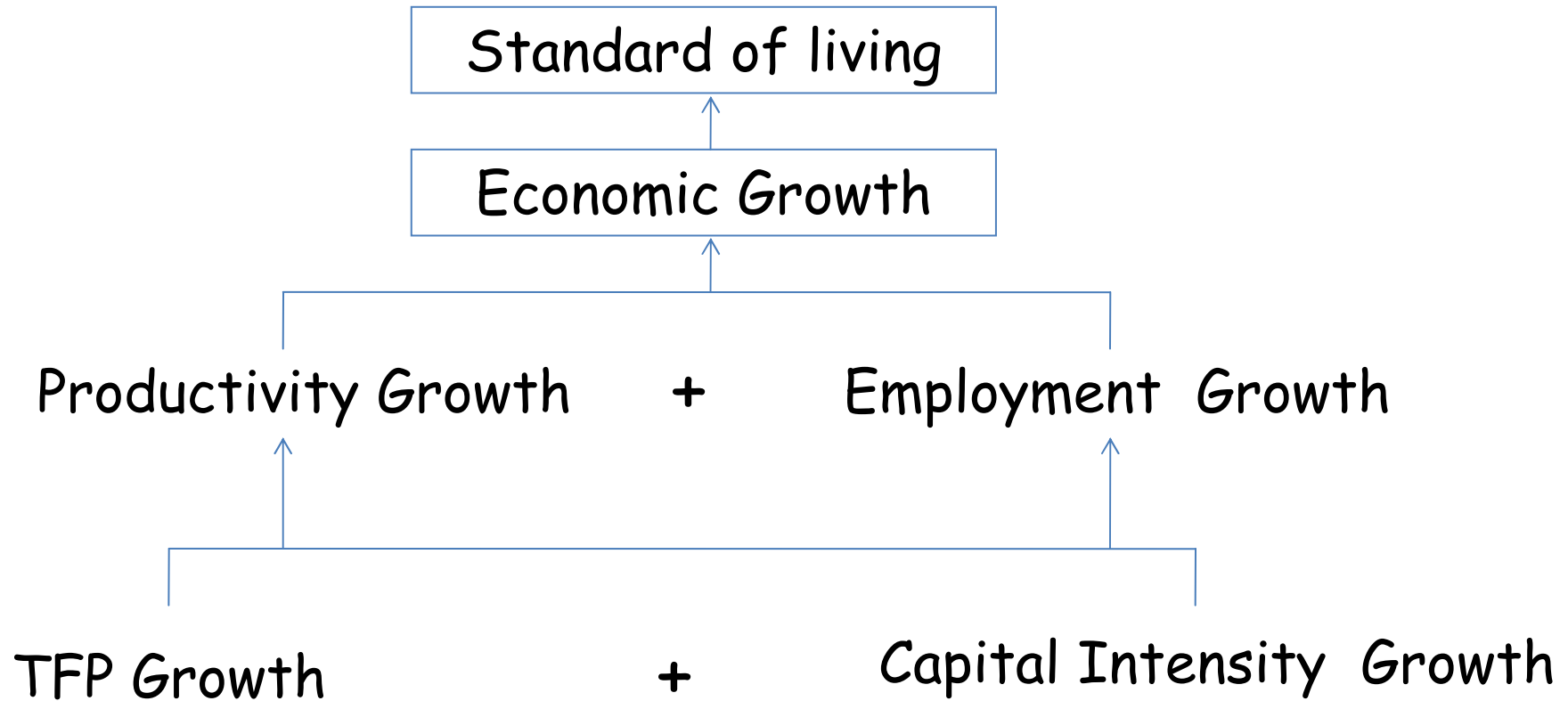
TFP = A measure of how well resources are used

CI = Capital per Worker

Productivity concept



Productivity concept

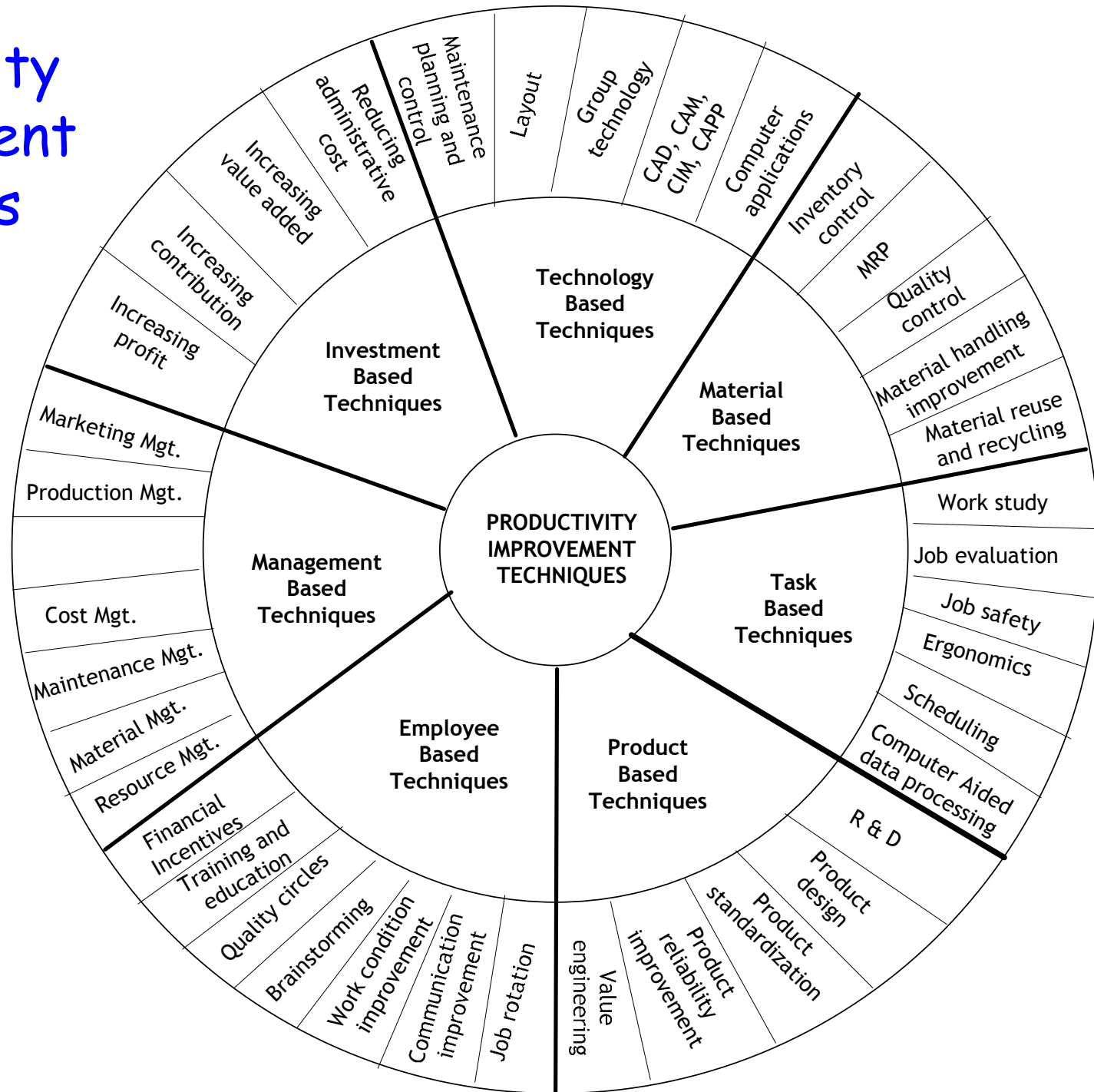


Productivity concept

Factor Contributing to Higher TFP

- Skill level of the workforce
- Technical progress as indicated by
- ✓ Innovation, advances in knowledge, better management systems, positive work attitudes and teamwork
- Industrial Restructuring
- ✓ Shifting of resources to more productive sector

Productivity improvement techniques



Prod'vity Movement - Early Years

Charter for industrial progress(1965)

- Joint declaration by employer groups and unions to work together to increase productivity under a Productivity Code of Practice.
- Establishment of the Singapore Productivity Center to Promote productivity in Singapore.

Prod'vity Movement - Early Years

- National Productivity Center(1967-1972)
 - Training and management consultancy
 - Industrial Relations

- National Productivity Board(1972-1981)
 - Training and Management Consultancy
 - Productivity Council
 - Low Cost Automation

National Productivity Board(1981-1995)

- Training and Management Consultancy
- Work Excellence Committee
- Quality Circles
- Productivity Promotion
- Skills Development Fund Administration

Productivity and Standards Board (PSB)

- Formation of PSB in 1996 to promote innovation and raise TFP.



- Merger of National Productivity Board and the Singapore Institute of Standards and Industrial Research.

- **Mission:** to raise productivity so as to enhance Singapore's competitiveness and economic growth.
- Six broad thrusts:
 - Productivity promotion
 - Man power development
 - Technology application
 - Industry development
 - Standard & quality development
 - Incentives management

Standards, Productivity and Innovation Board (SPRING Singapore) (2002)

- Innovation and Entrepreneurship
- Small and Medium sized Enterprises
- Domestic Cluster Development
- Service Excellence
- Standardization for Productivity



- **Mission:** To enhance the competitiveness of enterprises for a vibrant Singapore economy
- **Nurture** a pro-business environment
- **Facilitate** the growth of industries
- **Enhance** productivity and innovation and capabilities of enterprises
- **Increase access** to markets and business opportunities.



"... productivity will come the day we get it into everybody's head that he has a critical contribution ... it's got to do with self-respect, it's got to do with co-operation between workers, and between worker and manager on the same side."

Prime Minister Lee Kuan Yew 1981

Stages of the Productivity Movement

- Awareness Stage(1981-85)
- Action Stage(1986-88)
- Ownership Stage(1989-90s)



100%
Right

Awareness Stage

1. Education of the public

- Launch of the Productivity Movement
- Publication of Productivity Data
- Media Support
- Changes in schools and Tertiary Institutions

Awareness Stage

2. Information Dissemination and Training

- Courses with emphasis on **Human Relations**
- A Library of Local Case Studies on **Good Management Practices**
- A Registry of Courses on **Productivity and Management**

Awareness Stage

3. Strengthening Company Identification

- Payment of **variable bonus**
- Special **awards** for long service employees
- House unions
- **Supports facilities**:- companies given preference during peak periods

Awareness Stage

4. Promotion of labour-manag't joint consultation
 - Work excellence committees
 - Quality control circles
5. Promotion of productivity in the public sector
 - Productivity campaign in the public sector
 - Work improvement teams
 - Productivity working committee

Awareness Stage

6. Formation of National Productivity Council to review productivity efforts and outline future strategy on an annual basis. High-level representation from government, employer, groups, unions and academia.

Action Stage

Objective:

- To translate "awareness" into specific programs to improve productivity at the workplace

Focus:

- Skills upgrading of management and workers
- Upgrading of companies operational efficiency

Action Stage

- Management consultancy referral scheme
- Associate consultants scheme
- Model company project
- Industry based consultancy assistance scheme



Action Stage

- **Training** of the workforce
 - Skills development fund
- **Collaboration** on national training programs
 - **Singapore Airline**: SQ Center
 - **Philips Singapore**: Industrial Engineering Training Center
 - **Seiko Instruments**: On-The-Job Training Project

Ownership Stage

Objective:

- To Encourage Ownership of the Productivity Movement

Focus:

- Self-sustaining Productivity Movement

100%
Right

Ownership Stage

"... to have a successful productivity movement, we must have a critical mass of **organizations and individuals** who know that they will benefit from it, **are proud to be part of it, and are willing and ready to make it succeed.**"

Mr Mah Bow Tan
Chairman, NPB 1989



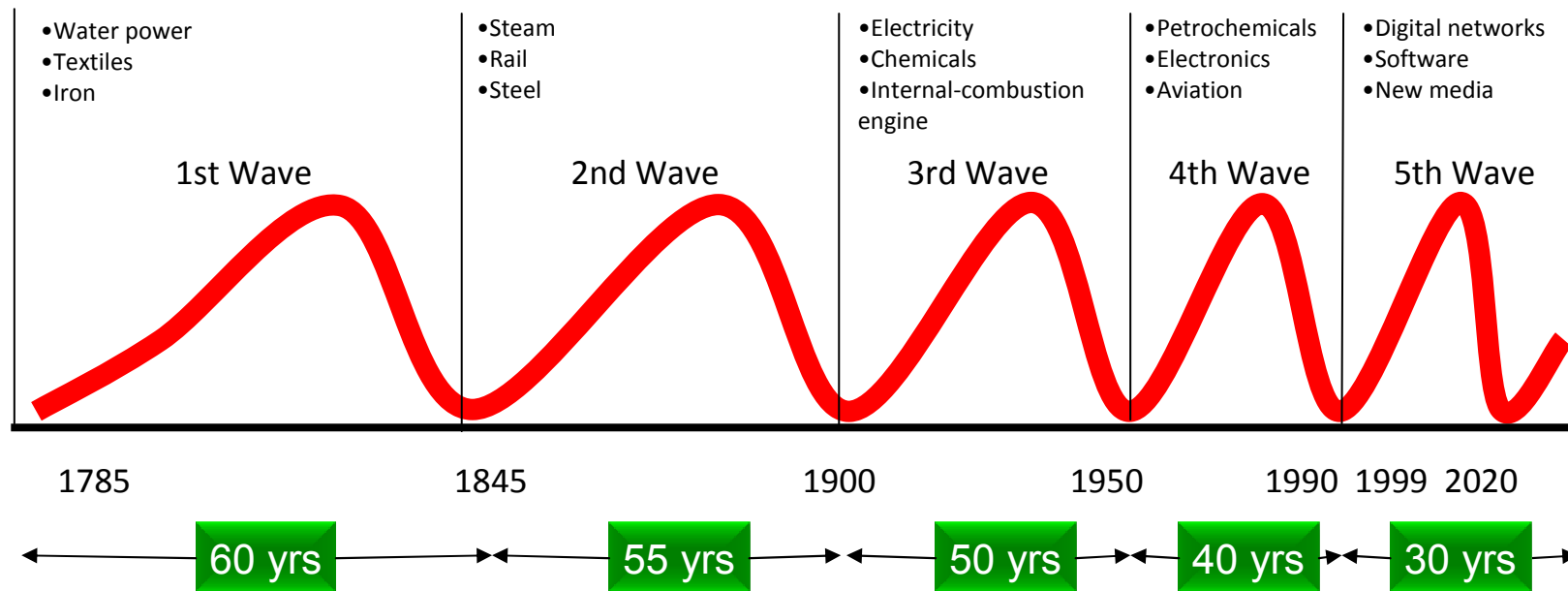
Ownership Stage

- Launch of the productivity activities scheme
 - Develop a core of productivity "champions" in companies
- Private sector leading the annual productivity campaign
 - Employer groups chairing the campaign steering committee

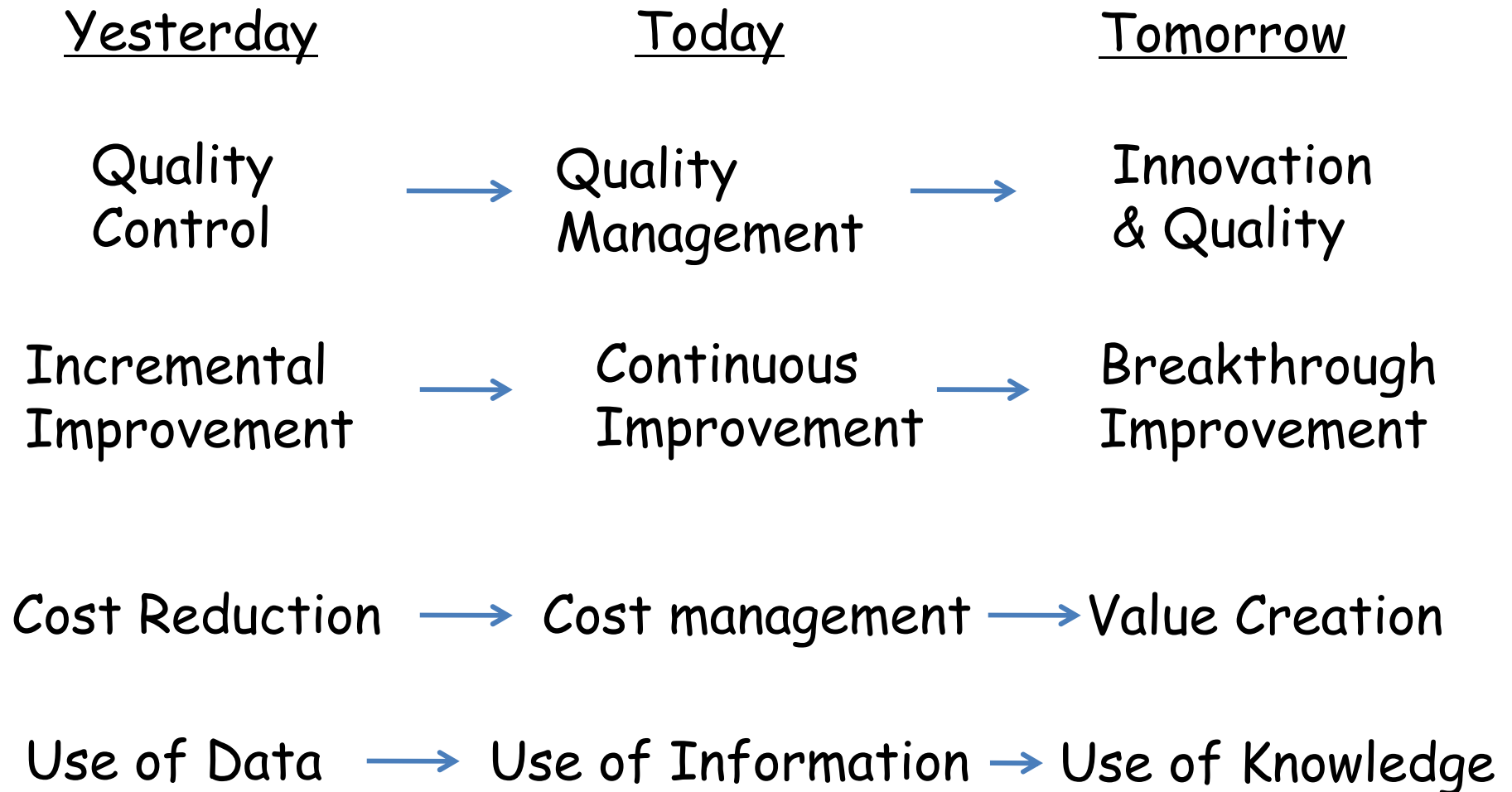
Innovation Driven Phase

- Innovation-Driven Growth
- **Abundance of Knowledge** and Increasing Returns
- In perfecting searching the Unknown

Shorter life-cycles for innovative technologies



Innovation Driven Phase



Innovation Driven Phase

Yesterday

Today

Tomorrow

A committed
Workforce



A Quality
Workforce



A Work-class
workforce

Training for
Employment



Training for
Development



Training for
Employability

Problem-solving
Mindset



A Quality
Mindset



An Innovation
Mindset

Lessons Learned

1. Productivity is a question of **paradigm shift** and it is **a movement not an event**.

“productivity is **a mental attitude** that leads to practical action, resulting in **real improvement** for everyone...”

Japan Productivity Center

So what do we need?

New Mindset of

- Thinking big. The sky is the limit.
- Acceptance of complexity and its contradictions
- Diversity consciousness and sensitivity
- Seeking opportunity in surprises and uncertainties

- Do it right the first time and every time.
- Focus on continuous improvement
- Extended time perspective
- Systems thinking

Yes We can Make it !!!

Lessons Learned

2. Strong Commitment

- Higher government officials
- Enterprises leaders
- Individuals (Concerned citizens)

Lessons Learned

3. Strong Organizational Structure

- National Council of Productivity
and Competitiveness
- Flat Structure
- Members - Dynamic, Visionary and action
oriented

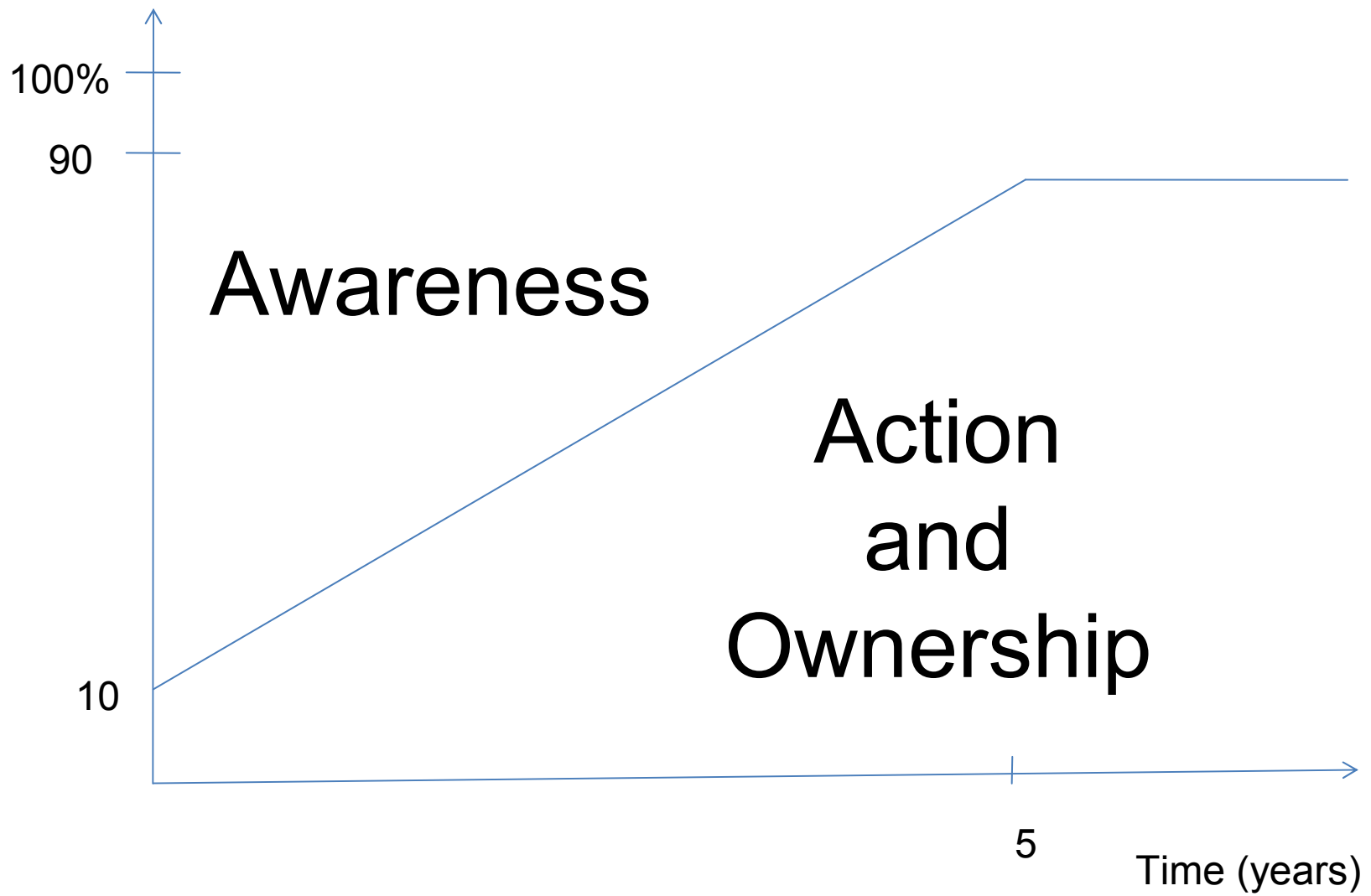
Lessons Learned

4. Be conscious of the three phases

(Awareness, Action and Ownership)

A. Awareness

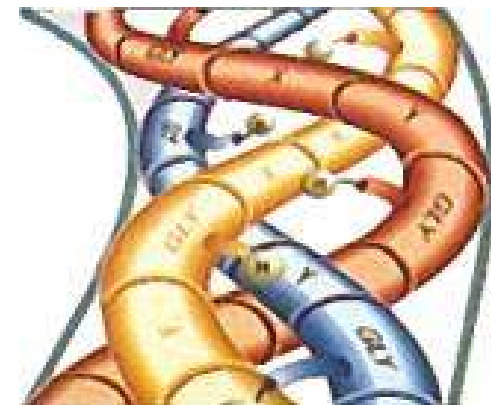
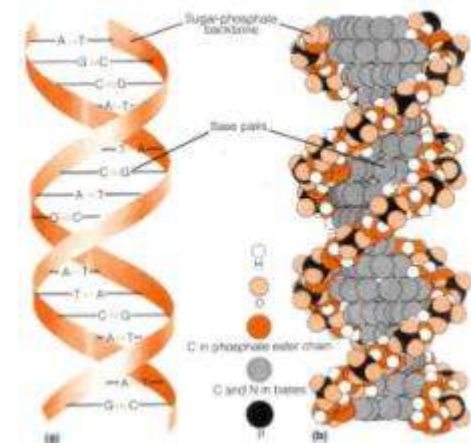
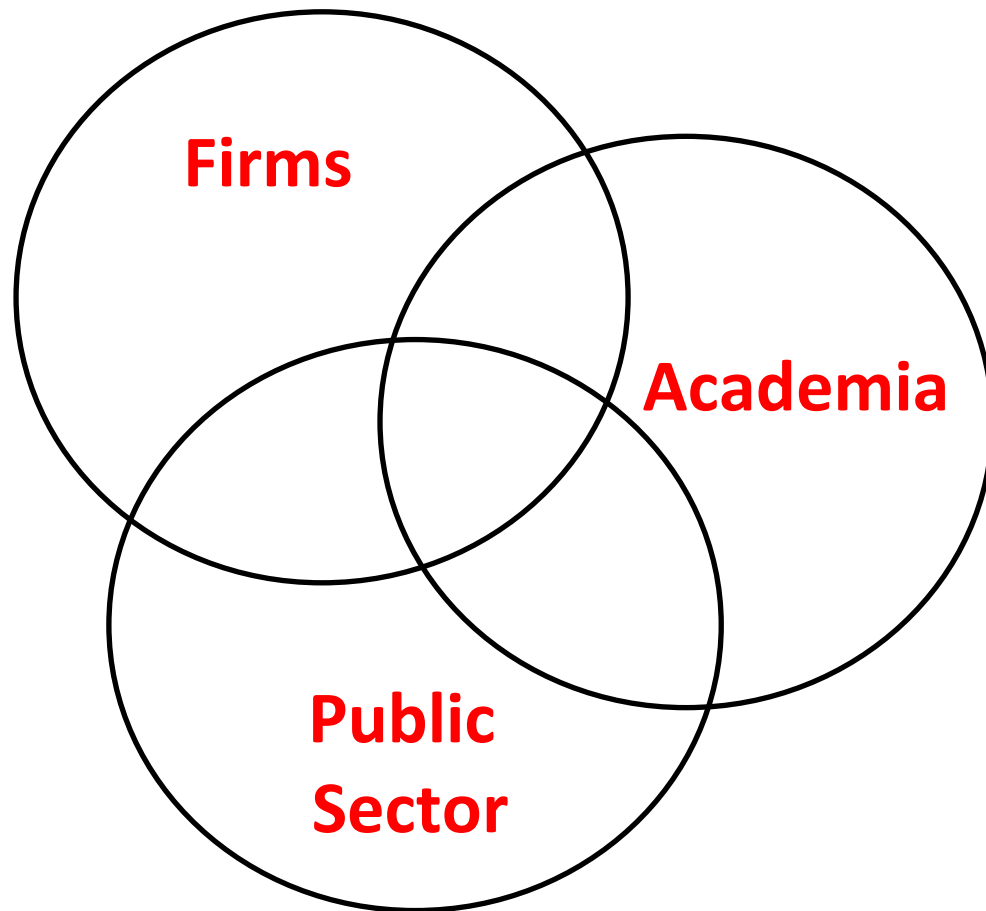
B. Action and Ownership (combined)



Lessons Learned

5. Productivity Movement refers to the commitment and active involvement by **government, private sector and universities** in activities to increase productivity.

Lessons Learned - Triple helix **fusion**



Source : Economic Competitiveness Group

Lessons Learned Productivity Promotion

1. Annual Productivity Campaign

- Promotion Theme:- Quality and Productivity
- Launch of Campaign by High Level Ministers
- Company Wide Programmes
- Quality circles at the Workplace

Lessons Learned Productivity Promotion

2. Education, Seminars and Publications

- Media Support and Involvement of Artists
- Teaching Quality and Productivity at all levels in the Ethiopian Education System.
- International Exposition of Quality Circles
- Quality Award Conference
- National Quality Circles Conventions
- Publications and Dissemination of Quality News

Lessons Learned Productivity Promotion

3. National Awards

- Ethiopian Quality Award for **Business Excellence**
- National **Productivity Award**
- National **Training Award**
- Excellent **Service Award**
- National **Quality Circles Award**



Lessons Learned Productivity Promotion

4. Adopting Best Practices

- **Japanese** Productivity Movement
- **Asian** Productivity Organization
- Japan Productivity Center for Social-Economic Development.
- **Study missions** to study other countries productivity experience

Two Golden Rules

Rule Number 1: There is always a better way of doing things.
(Continuous Improvement)

Rule Number 2 : Don't forget Rule Number 1

Thank you