WHAT DOES PRODUCTIVITY MEAN TO YOU?
Basic Concepts on Productivity

• It is an index or Ratio of output to input (eg., of economic growth)

\[
\text{PRODUCTIVITY} = \frac{\text{OUTPUT}}{\text{INPUT}}
\]

- Manpower Productivity
- Material Productivity
- Capital Productivity
- Machine Productivity

Value Added per Employee
Productivity has been conceptualised to represent gross output either in monetary terms or as output per unit of manpower.

The concept is further extended to total output of goods produced and services rendered.
*Productivity is vital for economic growth and for an increase in real income of all sections of society

*Increase in productivity and improved standard of living are inter-linked

*Emphasis on conservation of scarce resources; use of available resources in such a way so as to maximise yield

*Utilisation of resources so as to produce optimal performance results
*“Productivity is the quotient obtained by dividing output by one of the factors of production i.e. labour, capital, raw materials, investment, energy”*

*“Quantity of production as per a quantity of labour or the output per unit of labour input”*

According to International Labour Organisation - “Productivity is the ratio between output of wealth produced and the input resources used up in the process of production”
PRODUCTIVITY

PRODUCTIVITY IS THE PROCESS OF OPTIMISING OUTPUT -INPUT RATIO FOR ACHIEVING DESIRED OBJECTIVE(S) -THROUGH WASTE ELIMINATION

"WAR AGAINST WASTAGE"
STAGES OF DEVELOPMENT OF PRODUCTIVITY

1. LABOUR DRIVEN
2. INVESTMENT – DRIVEN
3. INNOVATION – DRIVEN

OUTPUT \times SATISFACTION

PRODUCTIVITY =

INPUT \times COMMITMENT
PRODUCTIVITY IS, ABOVE ALL, AN ATTITUDE OF MIND. IT SEEKS TO CONTINUALLY IMPROVE WHAT ALREADY EXISTS. IT IS BASED ON THE BELIEF THAT ONE CAN DO THINGS BETTER TODAY THAN YESTERDAY AND BETTER TOMORROW THAN TODAY.

From the report of the Rome Conference European Productivity Agency, 1958
PRODUCTIVITY = EFFICIENCY + EFFECTIVENESS

Doing things right

Doing the right thing
GOOD, BETTER, BEST
NEVER LET IT REST
TILL THE GOOD IS BETTER
AND THE BETTER IS BEST

PRODUCTIVITY
WHAT IS VALUE ADDED?

Value added is the “wealth” created by the products and/or services generated by an organization.

The more productive an organization, the more value added is created.
VALUE – ADDED PRODUCTIVITY

PREVIOUSLY, COMPANIES COMPETED ON THE BASIS OF COST, QUALITY, & DELIVERY. TODAY, COMPETITION IS INCREASINGLY BEING DEFINED IN TERMS OF THE ABILITY TO CREATE VALUE FOR CUSTOMERS

AS A WORD, PRODUCTIVITY IS A HOLISTIC APPROACH, PAYING EQUAL IMPORTANCE TO BEING “LEAN, MEAN, GREEN AND CLEAN”

INPUT

LABOUR

+ CREATING & DELIVERING CUSTOMER VALUE

PROD. = CAPITAL

+ OPERATIONAL EFF.

VALUE-ADDED OUTPUT

NEW APPLICATION
NEW PRODUCT
NEW MARKET/BUSINESS
NEW TECHNOLOGY
NEW SERVICES
CYCLE TIME, COSTS
QUALITY, EMPOWERMENT
KNOWLEDGE
14 NON-VALUE ADDING ACTIVITIES IN ORGANIZATIONS

1. Preparation Time
   Drafts, preliminary meetings, pre-planning sessions

2. Waiting Time

3. Transportation/Distribution

4. Unnecessary Process Steps

5. Administration/Decision-Making

Total Quality Management in the Public Sector, Colin Mergan and Stephen Murgatroyd, 1994
14 Non-Value Adding Activities in Organizations:

6. Communications
7. Overproduction
8. Set-up Times
9. Timing
10. Bottlenecks
11. Process Waste
12. Rejects
13. Materials Waste
14. Untidiness
HOW EXCELLENT COMPANIES IMPROVE THEIR PRODUCTIVITY

1. Customer-oriented
   - Learning from customers
   - Providing Highest Quality and Service

2. Productivity through People
   - People are *not means (tools)*, *but sources* for Quality and Productivity

3. Corporate Value
   Establishment of *Corporate Value* (Management Philosophy) so that Employees are able to be proud of their jobs.
HOW EXCELLENT COMPANIES IMPROVE THEIR PRODUCTIVITY-CONT’D

4. Action-centered
- Priority on *taking actions*, not taking too long to *analyse problems*

5. Enthusiastic Champions
- Encouraging *risk taking* and creating spirit

6. Main Business Lines
Business Development from *main lines*.
NOT indiscriminate Diversification

7. Simple Organisation & Small HO
Small administrative and organisation *structure* and Simplified *systems*. 
IF YOU ALL STOP TRYING TO INNOVATE AND IMPROVE PRODUCTIVITY FOR A BETTER TOMORROW YOU CAN ONLY GET WORSE
PRODUCTIVITY RATIOS:

1. Overall Indices
   \[ \text{Final Output} / \text{Resource Inputs} \]

2. Cost Ratios
   \[ \text{Performance Output} / \text{Corresponding costs} \]

3. Time Standard Ratios
   \[ \text{Performance Output} / \text{Needed Time} \]

4. Work Standard Ratios
   \[ \text{Work Output} / \text{Resource Standard} \]

Total Factor Productivity = \[ \text{Output} / (\text{Labour} + \text{Capital} + \text{Resources}) \]
PRODUCTION BASED MODELS – Output as value addition

- Productivity = \( S - Q \)
  \[ M + C \]

where \( S \) = Sales volume, i.e. money value of output

\( Q \) = Materials cost; \( M \) = Manpower cost; \( C \) = Capital cost

- Total Factor Productivity (TFP) = (Net Value Added)
  \[ \frac{(S + I + MP) - E}{M + (C_w + C_f)} \]

where \( S \) = Sales (sales bills deflated to base year)

\( I \) = Inventory change (difference between closing and opening inventory of all the three types; deflated to base year)
Managing for Productivity Improvement

**Business Objectives**

- More Output
- Less Input
- More Units Sales
- More Value Added, Product Innovations
- Less Resource Loss
- Less People, Machine & Material cost

**Value Analysis**

- Reduced Scrap and Spoilage
- Improved Purchasing
- Improved Quality

**Improved**

- Distribution
- Communication
- Systems
- Scheduling
- Time Management
- Training

**Better**

- Service
- Dependability
- Operators
- Utilisation
- Quality

**Improved**

- Sales Price
- Purchasing
- Management
- Distribution
- Service

**New**

- Products
- Markets
- Research
- Marketing
- Features

**Higher**

- Quality
- Dependability

**Better**

- Utilisation
- Quality
- Operators

**Improved**

- Time Management
- Communication
- Systems
- Scheduling

**Less**

- Input
- Resource Loss
- People, Machine & Material cost

**Less**

- Downtime
- Scrap and Spoilage

**Improved**

- Purchasing
- Management
- Quality
- Distribution

**Better**

- Service
- Dependability

**Higher**

- Sales Price
- Quality

**New**

- Products
- Markets
- Research
- Marketing
- Features

**Better**

- Utilisation
- Quality
- Operators

**Improved**

- Time Management
- Communication
- Systems
- Scheduling

**Less**

- Input
- Resource Loss
- People, Machine & Material cost

**Less**

- Downtime
- Scrap and Spoilage

**Improved**

- Purchasing
- Management
- Quality
- Distribution

**Better**

- Service
- Dependability
PRODUCTIVITY IMPROVEMENT TECHNIQUES

WORK STUDY

PRODUCTION PLANNING

INVENTORY CONTROL

VALUE ANALYSIS

PREVENTIVE MAINTENANCE
ENERGY CONSERVATION TECHNIQUES

EDP/COMPUTERISATION

POLLUTION CONTROL

HRD MEASURES

JOB EVALUATION

INCENTIVES

MERIT RATING

5S
PRODUCTIVITY IMPROVEMENT TECHNIQUES:- con’td

PDCA
KAIZEN
QCC
SUGGESTION SCHEMES
JIT
TPM
TQM
COMPETITION IS A PROCESS IN WHICH ONE COMPANY TRIES TO GO AHEAD WITH RESPECT TO OTHER COMPANIES BY PROVIDING BETTER QUALITY PRODUCTS, BETTER PRICES, AND BETTER CUSTOMER SERVICES

OR VERY SIMPLY

CREATING COMPETITIVE EDGE OR ADVANTAGES FOR OUR COMPANY
<table>
<thead>
<tr>
<th>COMPETITIVE ADVANTAGES</th>
<th>COMPETITIVE ASSSETS</th>
<th>X COMPETITIVE PROCESSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>MARKET SHARE</td>
<td>INFRASTRUCTURE</td>
<td>BUSINESS PROCESS</td>
</tr>
<tr>
<td>MARKETING STRATEGIES</td>
<td>DEVELOPED</td>
<td>RE-ENGNN</td>
</tr>
<tr>
<td>BRAND PREFERENCE</td>
<td>CAPITAL DEPLOYED</td>
<td>BENCH MARKING</td>
</tr>
<tr>
<td></td>
<td>HUMAN RESOURCE</td>
<td>INNOVATION/CREATIVITY</td>
</tr>
<tr>
<td></td>
<td>HARNESSSED</td>
<td></td>
</tr>
</tbody>
</table>

ALWAYS CREATE LEARNING ORGANISATION FOR ACHIEVING COMPETITIVE ADVANTAGES