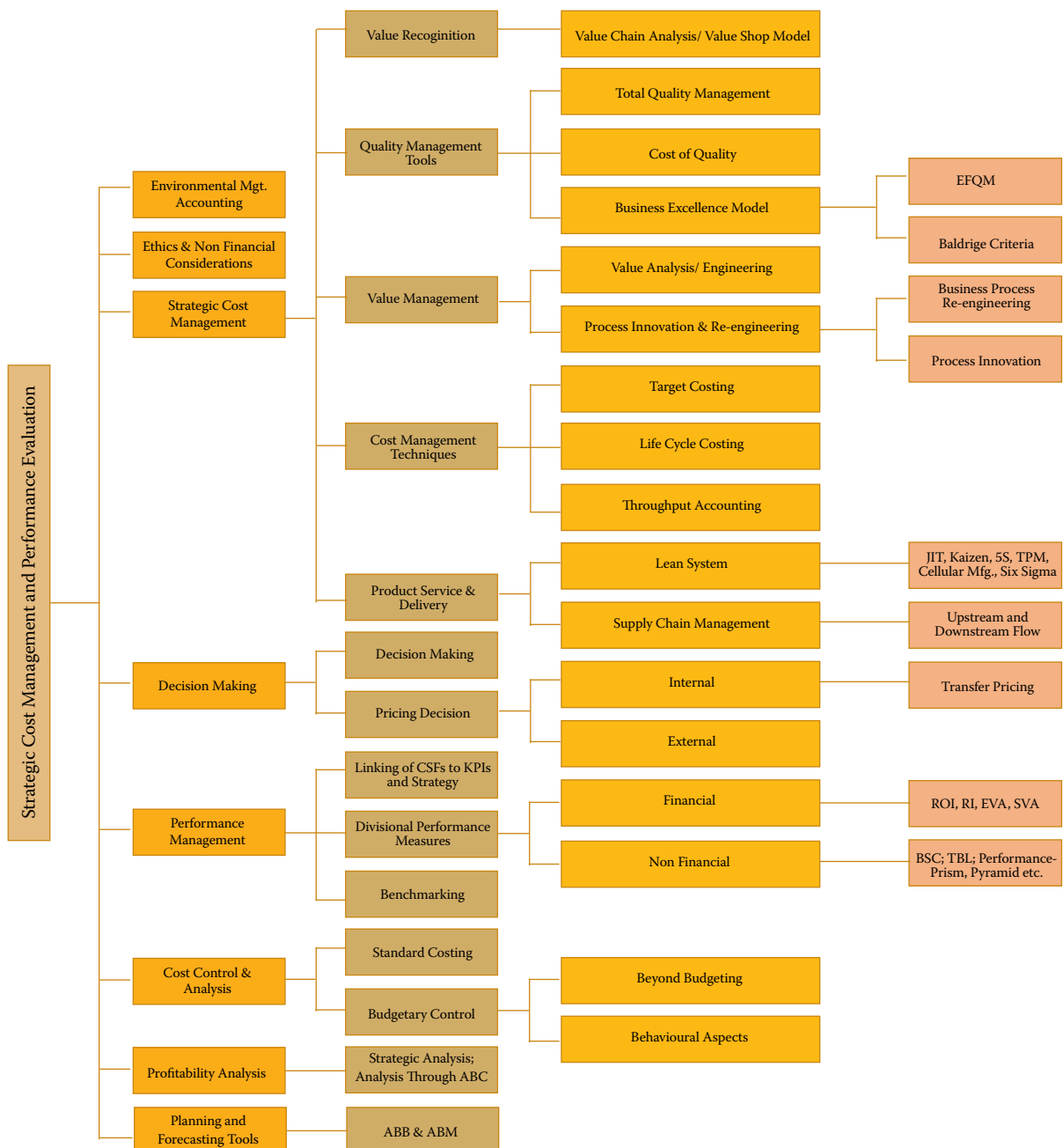


# Strategic Cost Management and Performance Evaluation

**“Strategy is about setting yourself apart from the competition. It’s not a matter of being better at what you do - it’s a matter of being different at what you do.”**

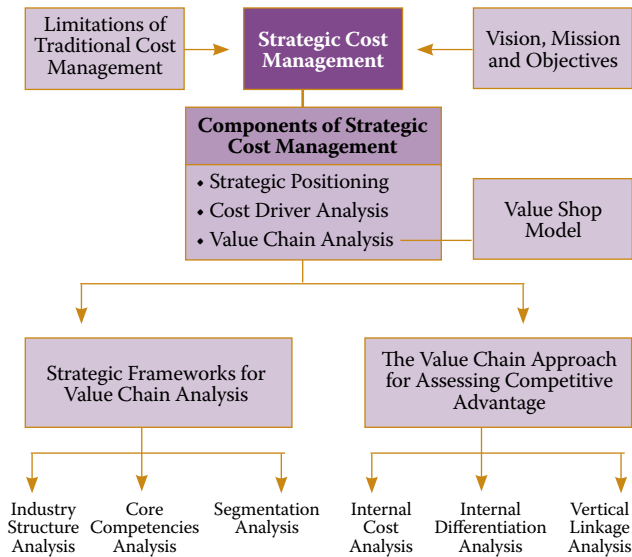
**– Michael Porter**

Strategic Cost Management and Performance Evaluation (SCMPE) is a vital module of the overall skills base of today’s Chartered Accountant. SCMPE examines the Chartered Accountant’s role in dynamic organisations operating in the global business environment where organisations are considered as integrated part of the global market supply chain. The *long-term sustainability* of these organisations requires not only a sound internal operating environment but also an outward-looking *strategy* to compete with external environment. In this role, the Chartered Accountant contributes to *strategy development and implementation* with the goal of creating *customer* and *shareholder value*. SCMPE combines the strategic cost management techniques which have become increasingly important in contemporary operational environments, with the performance based management framework in one integrated system.



## INTRODUCTION TO STRATEGIC COST MANAGEMENT

### Chapter Overview



### Traditional Cost Management

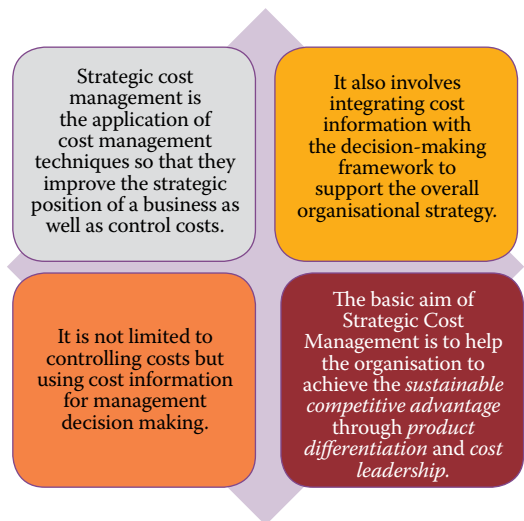
Traditional cost management system involves *allocation of costs and overheads* to the production and focusses largely on cost control and cost reduction.



### Strategic Positioning Analysis

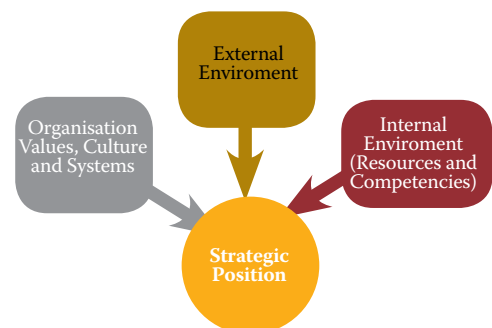
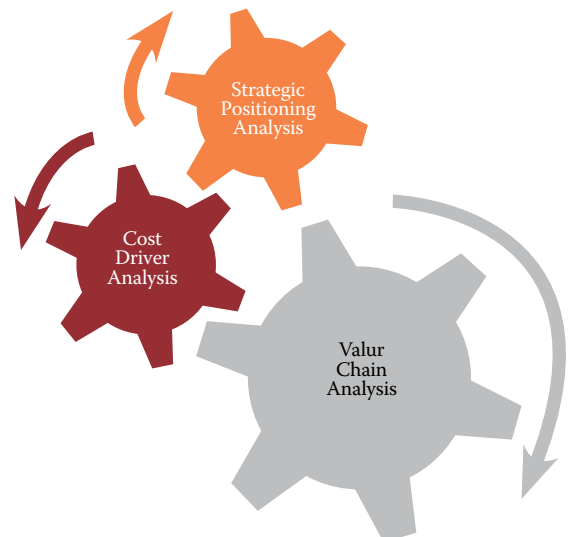
Strategic Positioning Analysis is a company's *relative position within its industry* matters for performance. Strategic positioning reflects choices a company makes about the kind of value it will create and how that value will be created differently than rivals. The following factors affect the strategic position of a company –

### Strategic Cost Management



### Components of Strategic Cost Management

Strategic Cost Management primary revolves around three business themes - Value Chain analysis, Cost driver analysis and Strategic positioning analysis.



External environment can be analysed using models like **PESTEL** (Political, Economic, Social, Technological, Environmental and Legal factors) and **Porter's 5 forces**.

### Cost Driver Analysis

Cost is caused or driven by various factors which are interrelated. Cost is not a simple function of volume or output as considered by traditional cost accounting systems. Cost driver concept is explained in two broad ways in strategic cost management parlance - Structural cost drivers and Executional cost drivers.

**Structural cost drivers** are the organisational factors which affect the costs of a firm's product. These factors drive costs of an organisation in varied ways. The scale and scope of operation of a company will impact the costs.

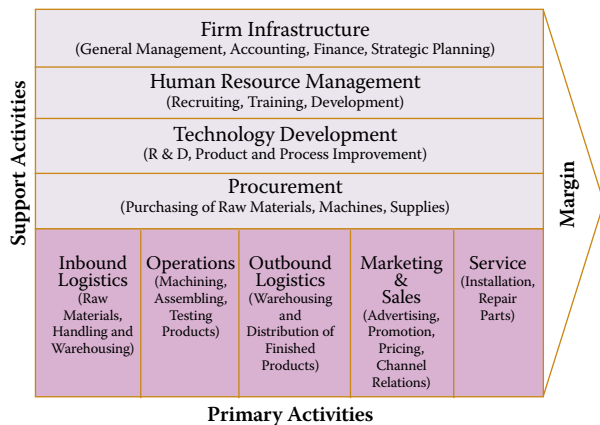
**Executional cost drivers** are based on firm's *operational decision* on how the various resources are employed to achieve the goals and objectives. These cost drivers are determined by management style and policy. The participation of workforce towards continuous improvement, importance of total quality management, efficiency of plant layout etc. are examples of executional cost drivers.

A company must focus on those cost drivers which is of strategic importance.

### Value Chain Analysis

*"Value-chain analysis is a process by which a firm identifies & analyses various activities that add value to the final product"*

- ◆ The idea is to identify those activities which do not add value to the final product/service and *eliminate such non-value adding activities*.
- ◆ The analysis of value chain helps a firm obtain *cost leadership* or improve *product differentiation*.
- ◆ Resources must be deployed in those *activities* that are capable of producing products *valued by customers*.



*Primary activities* are those which are directly involved in transforming of inputs (Raw Material) into outputs (Finished Products) or in provision of service. *Secondary activities* (also known as support activities) support the primary activities.

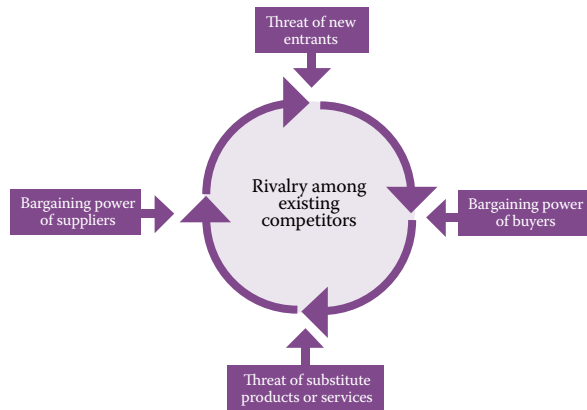
### Strategic Frameworks For Value Chain Analysis

The Value Chain analysis requires strategic framework for organizing varied information. The following three are generally accepted strategic framework for Value Chain analysis.

#### Industry Structure Analysis

An industry might not yield high profits just because the industry is large or growing. The five forces suggested by Porter's play an important role in *determining profit potential of the firms in an industry*.

Factors which influence profitability are:

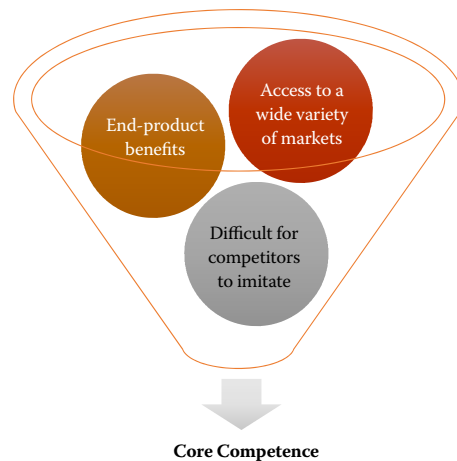


The five forces analysis helps a firm to better understand the *industry value chain* and its *competitive environment*.

### Core Competencies Analysis

Core Competency is a distinctive or unique skill or technological knowhow that creates distinctive customer value. A core competency is the primary source of an organisation's competitive advantage. The competitive advantage could result from **cost leadership** or **product differentiation**.

There are three tests useful for identifying a core competence.



In order to attain superior performance and attain competitive advantage, a firm must have distinctive competencies. Distinctive competencies can take any of the following two forms:

- ◆ An offering or **differentiation advantage**. If customers perceive a product or service as superior, they become more willing to pay a premium price relative to the price they will have to pay for competing offerings.
- ◆ Relative **low-cost advantage**, under which customers gain when a company's total costs undercut those of its average competitor.

### Segmentation Analysis

A single industry might be a collection of different market segments. This analysis will reveal the competitive advantages or disadvantages of different segments. A firm may use this information to decide to exit the segment, to enter a segment, reconfigure one or more segments, or embark on cost reduction/ differentiation programs.

## The Value Chain Approach For Assessing Competitive Advantage

The value chain model can be used by business to assess the competitive advantage. Companies must not only focus on the end product/ service but also on the *process/ activities* involved in creation of these products/ services. The value chain approach can be used to better understand the competitive advantage in the following areas:

### Internal Cost Analysis

Organisations can use the value chain analysis to understand the cost of processes and activities and identify the source of profitability.

### Internal Differentiation Analysis

Companies can also use value chain analysis to create and offer superior differentiation to the customers. The focus is on improving the value perceived by customers on the companies' products and service offering. The firms must identify and analyse the value creating process and carry out a differentiation analysis.

### Vertical Linkage Analysis

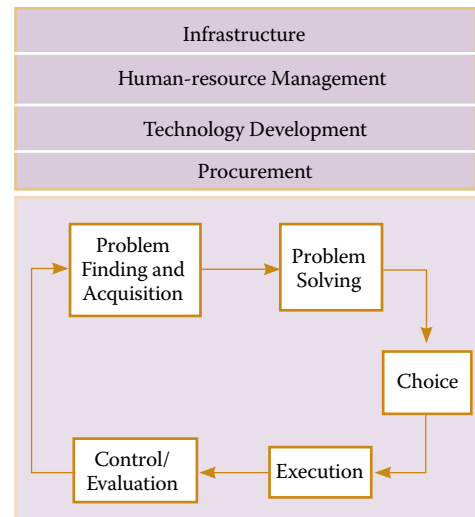
A company generates competitive advantage not only through linkages of internal processes within a firm but also through linkages between a firm's value chain and that of suppliers or users. A vertical linkage analysis includes all upstream and downstream activities throughout the industry.

In the SCM frame work, effective cost management involves a broad focus which Porter calls the value chain. It is a strategic tool used to analyse internal firm activities. Its goal is to recognize, which activities are the most valuable (i.e. are the source of cost or differentiation advantage) to the firm and which ones could be improved to provide competitive advantage. *Cost leadership* can be achieved through techniques like target costing. *Product differentiation* is directly proportional to market movements and changing business requirements.

## Value Shop Model or Service Value Chain

This concept aims to serve companies from *service sector*. In value shop principle, no value addition takes place. It only deals with the problem, figure-out the main area requires its service and finally comes with the solution. This approach is designed to *solve customer problems rather than creating value by producing output from an input of raw materials*. **The model has the same support activities as Porter's Value Chain but the primary activities are described differently.** In the value shop they are:

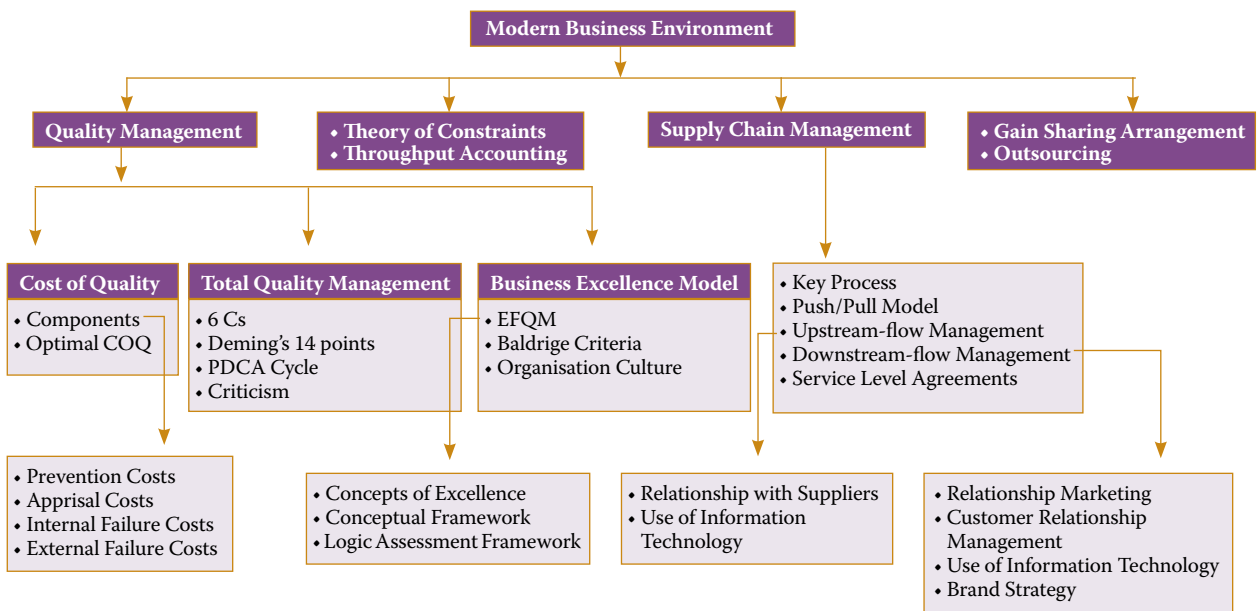
- ◆ Problem finding and acquisition.
- ◆ Problem solving.
- ◆ Choosing among solutions.
- ◆ Execution and control/evaluation.



The management in a value shop focuses on areas like problem and opportunity assessment, resource mobilization, project management, solutions delivery, outcome measurement, and learning.

## MODERN BUSINESS ENVIRONMENT

### Chapter Overview

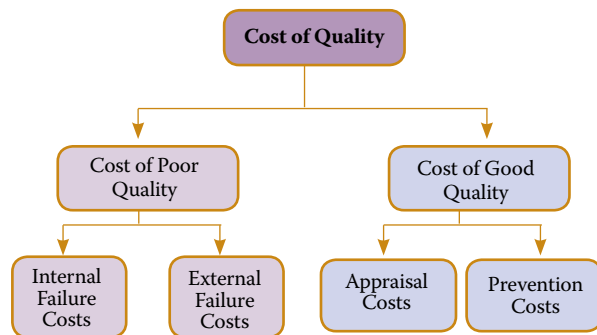


## Modern Business Environment

Today's business environment is that of a *buyer's market*. This trend is the result of international transitions and macroeconomic, technological, political, and social changes. The challenge for businesses today is to satisfy their customers through the exceptional performance of their processes.

## Cost Of Quality (COQ)

Mr. Philip B. Crosby in his book 'Quality is Free' referred to the COQ costs in two broad categories namely 'Price of Conformance' and 'Price of Non-conformance'. These two can be bifurcated further in to prevention & appraisal costs and internal & external failure costs. Hence, COQ is often referred as PAF (Prevention, appraisal & failure) model. *In other words*, 'Price of Conformance' is known as 'Cost of Good quality' and 'Price of Non-conformance' is often termed as 'Cost of Poor Quality'.



### Prevention Costs

- ◆ The costs incurred for *preventing* the poor quality of products and services may be termed as Prevention Cost.
- ◆ They are planned and *incurred before actual operation* and are associated with the design, implementation, and maintenance of the quality management system.

### Appraisal Costs

- ◆ The need of control in product and services to ensure high quality level in all stages, conformance to *quality standards* and *performance requirements* is Appraisal Costs.
- ◆ Appraisal Cost incurred to determine the degree of conformance to quality requirements (measuring, evaluating or auditing).

### Internal Failure Costs

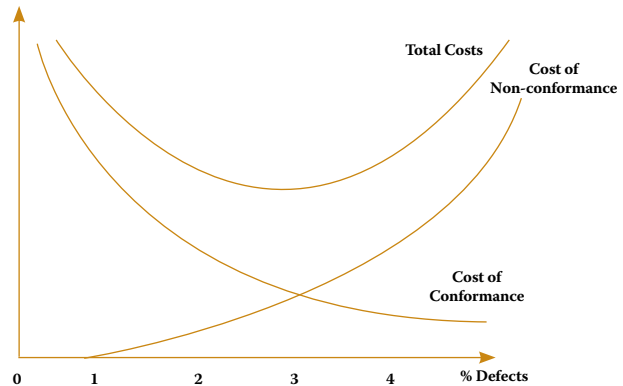
- ◆ These are costs that are caused by products or services not conforming to requirements or customer/user needs and are found *before delivery of products and services* to external customers.
- ◆ Deficiencies are caused both by errors in products and inefficiencies in processes.

### External Failure Costs

- ◆ These costs occur when products or services that fail to reach design quality standards are not *detected until transfer to the customer*.

### Optimal COQ

It is generally accepted that an increased expenditure in prevention and appraisal is likely to result in a substantial reduction in failure costs. Because of the trade off, there may be an *optimum operating level* in which the **combined costs are at a minimum**.



## Total Quality Management (TQM)

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

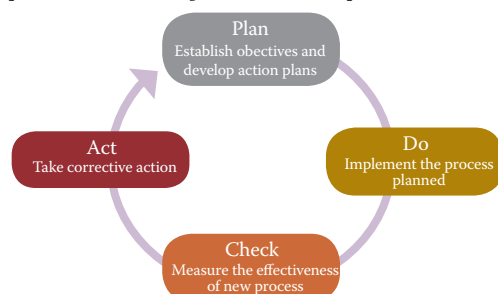
- ◆ Focuses on meeting owner's/ customer's needs, by providing quality services at a reasonable cost.
- ◆ Focuses on continuous improvement.
- ◆ Recognizes role of everyone in the organization.
- ◆ Views organization as an internal system with a common aim.
- ◆ Focuses on the way tasks are accomplished.
- ◆ Emphasizes teamwork.

### Six C's of TQM



### The Plan-Do-Check-Act (PDCA) Cycle

Deming developed the Plan – Do – Check – Act cycle. PDCA Cycle describes the activities a company needs to perform in order to incorporate *continuous improvement* in its operation.



Deming outlined his philosophy on quality in his famous “14 Points.” These points are principles that help guide companies in achieving quality improvement.

## Criticisms of Total Quality Management

- ♦ the focus on documentation of process and ill-measurable outcomes;
- ♦ the emphasis on quality assurance rather than improvement;
- ♦ an internal focus which is at odds with the alleged customer orientation; and
- ♦ may not be appropriate for service based industries

## The Business Excellence Model

Business Excellence (BE) is a philosophy for developing and strengthening the management systems and processes of an organization to *improve performance and create value for stakeholders*.

The essence of this approach is to *develop quality management principles* that increase the overall efficiency of the operation, minimize waste in the production of goods and services, and help to increase employee loyalty as a means of maintaining high standards throughout the business by *achieving excellence in everything* that an organization does (including leadership, strategy, customer focus, information management, people and processes).

Several business excellence models exist world-wide. While variations exist, these models are all *remarkably similar*. The most common include;

- ♦ EFQM Excellence Model
- ♦ Baldrige Criteria for Performance Excellence
- ♦ Singapore BE Framework
- ♦ Japan Quality Award Model
- ♦ Australian Business Excellence Framework

## EFQM Excellence Model

The EFQM model is a practical, non-prescriptive tool that enables organizations to understand the cause and effect relationships between what their organisation does and the results it achieves. The EFQM model presents a set of three integrated components:

- ♦ The Fundamental, concepts of excellence
- ♦ The Criteria, conceptual framework
- ♦ The RADAR, logic assessment framework

## Baldrige Criteria for Performance Excellence

This model provides the foundation for most of the business excellence models adopted around the world. The framework is built round the seven categories i.e.,

- ♦ Leadership,
- ♦ Strategic planning,
- ♦ Customer and market focus,
- ♦ Measurement analysis and knowledge management,
- ♦ Workforce,
- ♦ Process management and
- ♦ Business results.

## Business Excellence Model and Organizational Culture

- ♦ Business Excellence approach focuses on strengthening the internal function and communication, looks towards the cultivation of strong ties with consumers and can be incorporated into the culture.
- ♦ Excellence cannot be attained if the staffs are forced to conform to certain norms. They have to be critically managed and motivated.

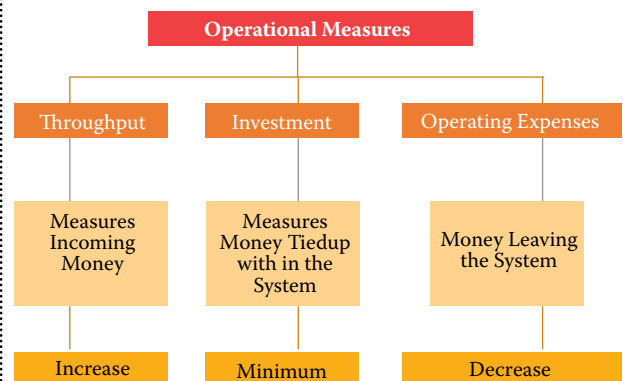
## Theory of Constraints

### Operational Measures of Theory of Constraints

The theory of constraints focuses on revenue and cost management when faced with bottlenecks. It advocates the use of three key measures. These are:

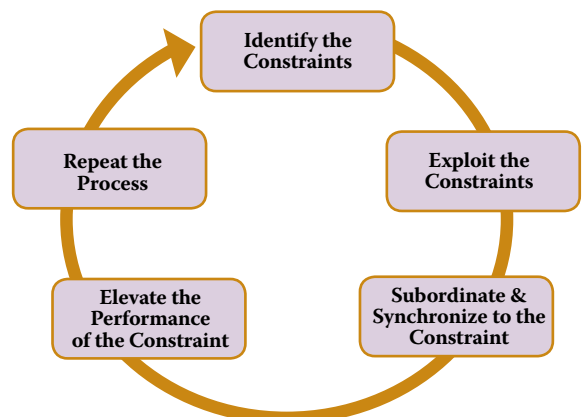
Core Measures	Definition
Throughput (T)	<ul style="list-style-type: none"> <li>♦ Throughput as a TOC measure is the rate of generating money in an organization through Sales.</li> <li>♦ <math>\text{Throughput} = (\text{Sales Revenue} - \text{Unit Level Variable Expenses}) / \text{Time}</math></li> <li>♦ Direct Labour Cost is viewed as a fixed unit level expenses and is not usually included.</li> </ul>
Investment (I)	<ul style="list-style-type: none"> <li>♦ This is money associated with turning materials into Throughput and do not have to be immediately expensed.</li> <li>♦ Includes assets such as facilities, equipment, fixtures and computers.</li> </ul>
Operating Expense (OE)	<ul style="list-style-type: none"> <li>♦ Money spent in turning Investment into Throughput and therefore, represent all other money that an organisation spends.</li> <li>♦ Includes direct labour and all operating and maintenance expenses.</li> </ul>

Based on these three measures, the objectives of management can be expressed as increasing throughput, minimizing investment and decreasing operating expenses.



## Goldratt's Five-Step Method for Improving Performance

The key steps in managing **bottleneck resources** are as follows:





## Throughput Accounting

Several ratios were defined by Galloway and Waldron based on the definition of throughput.

Throughput Accounting Ratio:

$$\frac{\text{Throughput per Bottleneck Minute}}{\text{Factory Cost per Bottleneck Minute}}$$

If the TA ratio is greater than 1 the product in question is “profitable” because, if all capacities were devoted to that product, the throughput generated would exceed the total factory cost. If there was a bottleneck, products could be ranked by a variant of the TA ratio (although the ranking is the same as that derived by the use of throughput per bottleneck minute).

Other Performance Ratios suggested include:

$$\frac{\text{Throughput}}{\text{Labour Cost}} \quad \text{and} \quad \frac{\text{Throughput}}{\text{Material Cost}}$$

## Supply Chain Management

The Global Supply Chain Forum (GSCF) defines Supply chain management as the “*integration of key business processes from end user through original suppliers that provides products, services, and information that add value for customers and other stakeholders*”.

### Types of Supply Chain- Push and Pull

#### Push Model



#### Pull Model

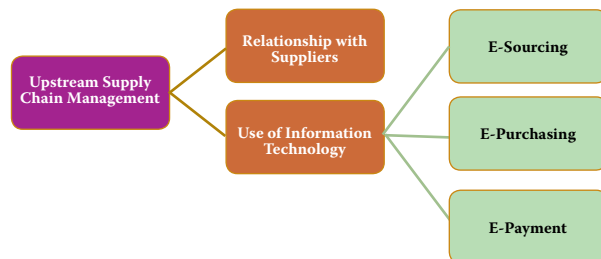


### Upstream and Downstream Flow

A supply chain begins right from the supplier and finally ends on end customer or consumer. In the total chain, there are flows of material, information and capital or finance. *When the flow relates to supplier, it is termed as upstream flow. If the flow is with consumers or customers, it is named as downstream flow.*

### Management of Upstream Supplier Chain

Management of transactions with suppliers are termed as upstream supply chain management.



### Relationship with Suppliers

Supplier capabilities of innovation, quality, reliability and costs/ price reductions and agility to reduce risk factors all have witnessed significant changes when aligned with key suppliers. Greater value can

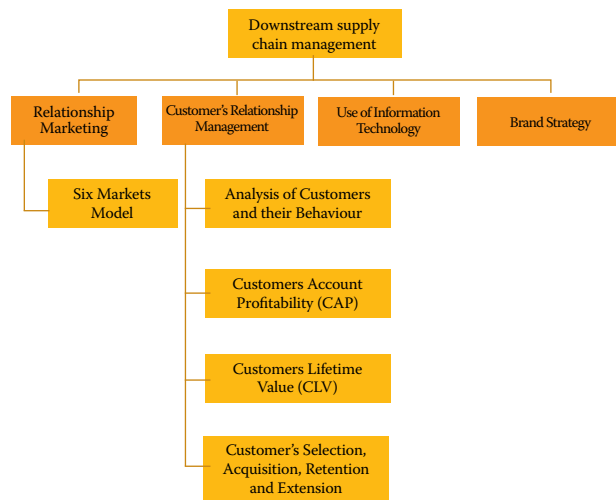
be achieved for both businesses, something that would be difficult to achieve if operating independently.

### Use of Information Technology

The main activities of upstream supply chain are *procurement* and *logistics*. In modern business environment upstream supply chain management use **E-Procurement** process. E-Procurement is the electronic methods beginning from identification of the organization's requirements and end on payment. E-Procurement includes E-Sourcing, E-Purchasing and E-Payment.

### Downstream Supply Chain Management

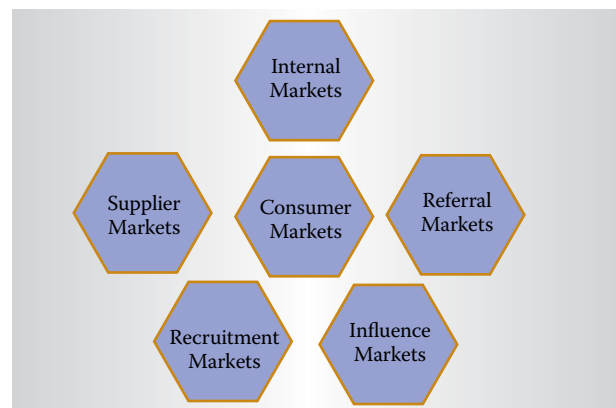
Management of transactions with consumers or customers are termed as downstream supply chain management.



### Relationship Marketing

Marketing plays a vital role to successfully handle the downstream supply chain management. *The Relationship marketing helps the organization to keep existing customer and to attract new customers through helpful staff, quality service / product, appropriate prices and proper customer care etc.*

**Six Markets Model** identifies the six key “market domains” where organizations may consider directing their marketing activities.



*The six markets model suggests that a firm must regulate its actions towards developing appropriate relationships with each of the market areas as the management of relationships in each of the six markets is critical for the attainment of customer retention objective.*

The growing interest in relationship marketing suggests a shift in the nature of marketplace transactions from discrete to relational

exchanges, from exchanges between parties with no past history and no future to interactions between parties with a *history and plans for future interaction*.

## Customers Relationship Management

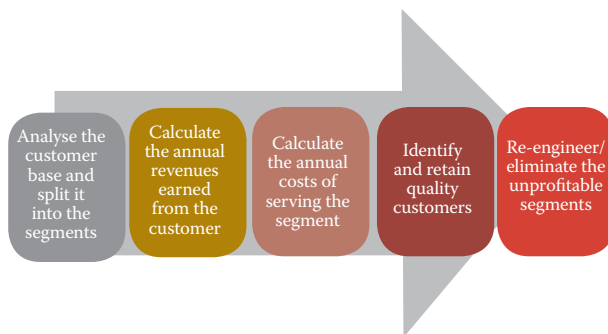
To manage and analyse customer's interaction and data throughout the life cycle with the main motive of improving business relations the strategies and technologies used is Customer Relationship Management (CRM). Relation includes relations with customers, assisting in customer retention and driving sales growth. CRM is knowing the needs of the customers and providing them with best possible solution.

## Analysis of Customers and their Behaviour

Analysis of customers is necessary based on geographical location or purchasing characteristics. For industrial customer expectation of benefits - quality, discount, serviceability, size of the should be taken into consideration. During such analysing process, management should keep in mind the physiological need, safety need, social need, status/ego need and self-fulfillment need of existing and future customers.

## Customers Account Profitability (CAP)

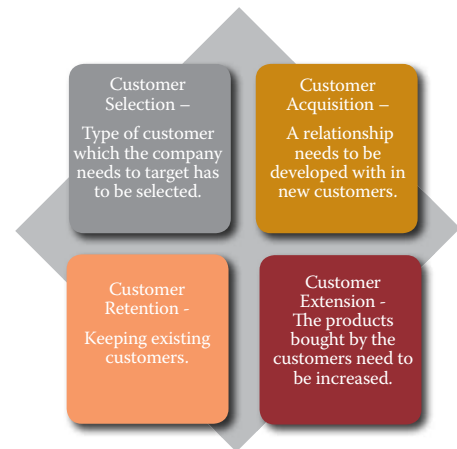
Undertaking a customer account profitability improvement initiative is a **five-step process**:



## Customers Lifetime Value (CLV)

Customer Life time value is the present value of net profit that we derive from a customer over the entire lifetime of relationship with that particular customer. It is the *net present value of the projected future cash flows from a lifetime of customer relationship*. It is an essential tool used in marketing to focus on more profitable customers and **stop servicing non-profitable customers**.

## Customer's Selection, Acquisition, Retention and Extension



## The use of Information Technology in Downstream Supply Chain Management

In managing downstream supply chain, organizations link *their sales system to the purchasing system of its customer* through Electronic Data Change. Using E-Business, they sell products. Intelligence gathering is used to monitor the online customer transactions. E-mail is the way through which organization keeps in touch with customers. Use of IT results in quick action, reduction in associated cost and saving in time.

## Brand Strategy

Specially branding of product makes a huge difference in its *appeal to customers*. Branding can be usage of logo or specific colour or any other means which makes the product or service distinctively visible among others.

## Gain Sharing Arrangements

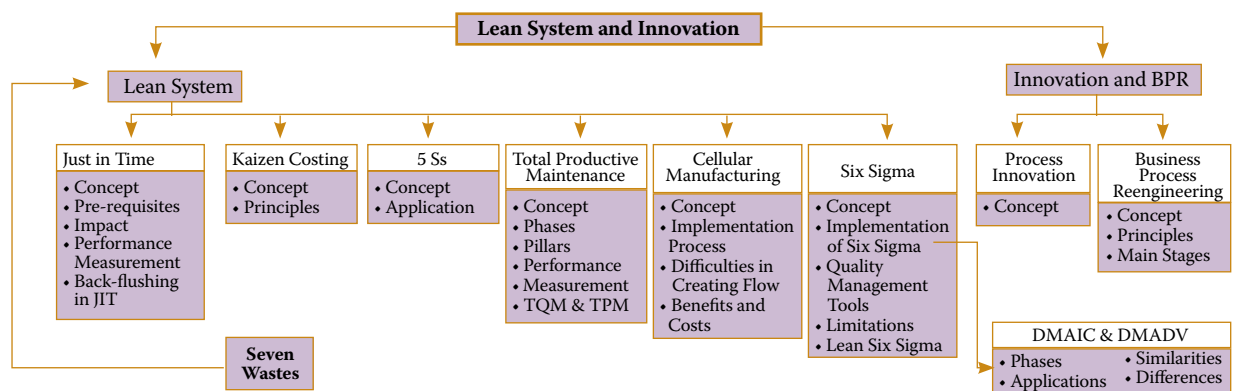
Gain sharing is an approach to the review and adjustment of an existing contract, or series of contracts, where the adjustment provides benefits to both parties.

## Outsourcing

Outsourcing is a business practice used by companies to reduce costs or improve efficiency by shifting tasks, operations, jobs or processes to another party for a span of time.

# LEAN SYSTEM AND INNOVATION

## Chapter Overview

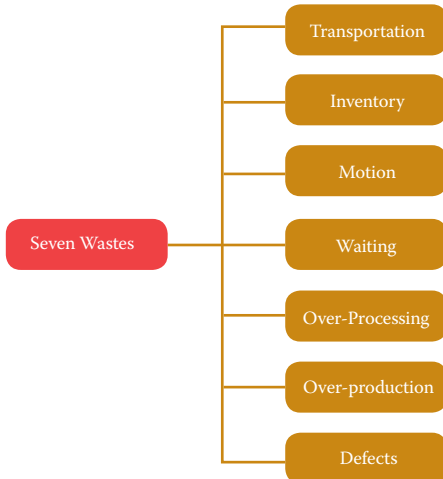




## Lean System

*"Lean System is an organized method for waste minimization without sacrificing productivity within a manufacturing system. Lean implementation emphasizes the importance of optimizing work flow through strategic operational procedures while minimizing waste and being adaptable."*

There are generally 7 type of wastes:



Most of lean system techniques are based on following *principles*:

- ◆ Perfect first-time quality
- ◆ Waste minimization
- ◆ Continuous improvement
- ◆ Flexibility

The *characteristics* of lean manufacturing:

- ◆ Zero waiting time
- ◆ Zero inventory
- ◆ Pull processing
- ◆ Continuous flow of production
- ◆ Continuous finding ways of reducing process time.

## Just-In-Time (JIT)

CIMA defines:

*"System whose objective is to produce or to procure products or components as they are required by a customer or for use, rather than for stock. Just-in-time system **Pull system**, which responds to demand, in contrast to a push system, in which stocks act as buffers between the different elements of the system such as purchasing, production and sales."*

A complete JIT system begins with production, includes deliveries to a company's production facilities, continues through the manufacturing plant, and even includes the types of transactions processed by the accounting system.

### Features

Spare Parts/ Materials from suppliers on the exact date and at the exact time when they are needed	Straight delivery to the production floor for immediate use in manufactured products	Visit of engineering staff at supplier sites to examine supplier's processes
Installation of EDI system that tells suppliers exactly how much of which parts are to be sent	Dropping off products at the specific machines	Shorten the setup times
Eliminating the need for long production runs/ Streamlined flow of parts from machine to machine	Training to employees how to operate a multitude of different machines, perform limited maintenance	Several alterations in the supporting accounting systems

## Essential Pre-requisites of a JIT system

- ◆ Low variety of goods
- ◆ Vendor reliability
- ◆ Good communication
- ◆ Demand stability
- ◆ TQM
- ◆ Defect-free materials
- ◆ Preventive maintenance

## Impact of JIT System on

- ◆ **Waste Costs:** When fully installed, a JIT system vastly reduce all these types of waste. When this happens, there is a sharp drop in several aspects of a product's costs.
- ◆ **Overhead Costs:** The costs of material handling, facilities, and quality inspection decline when a JIT system is installed.
- ◆ **Product Prices:** When a company achieves a higher level of product quality, along with ability to deliver products on the dates required, customers may be willing to pay a premium.

## Performance Measurements in a JIT System

Many of the performance measurement measures used under a *traditional accounting system* are not useful in a JIT environment, while new measures can be implemented that take advantage of the unique characteristics of this system.

- ◆ Machine utilization measurements can be discarded under JIT environment.
- ◆ Another inappropriate measurement is any type of piece rate tracking for each employee.
- ◆ Any type of direct labour efficiency tracking is highly inappropriate in a JIT system.
- ◆ Installing a JIT system does not mean that there should be a complete elimination of operational measures.

## Back-flushing in a JIT System

Back-flushing requires no data entry of any kind until a finished product is completed.

## Kaizen Costing

This philosophy implies that small, incremental changes routinely applied and sustained over a long period result in significant improvements.

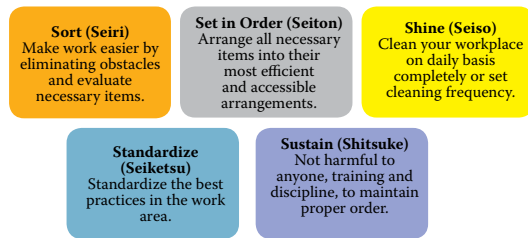
## Kaizen Costing Principles

- ◆ The system seeks gradual improvements in the existing situation, at an acceptable cost.
- ◆ It encourages collective decision making and application of knowledge.
- ◆ There are no limits to the level of improvements that can be implemented.
- ◆ Kaizen involves setting standards and then continually improving these standards to achieve long-term sustainable improvements.
- ◆ The focus is on eliminating waste, improving systems, and improving productivity.
- ◆ Involves all employees and all areas of the business.

## 5S

5S is the name of a workplace organization method that uses a list of five Japanese words: **seiri, seiton, seiso, seiketsu, and shitsuke**. It explains *how a work space should be organized for efficiency and*

effectiveness by identifying and storing the items used, maintaining the area and items, and sustaining the new order.

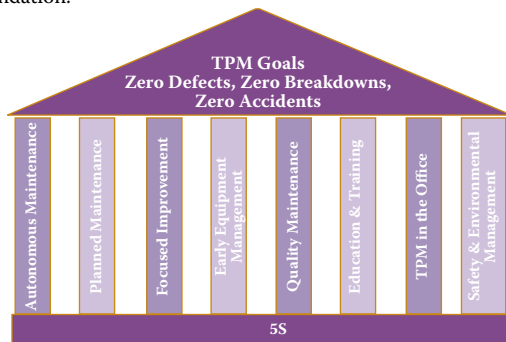


5S methodology is being applied to a wide variety of industries including Manufacturing, Health care, Education & Government.

## Total Productive Maintenance (TPM)

Total Productive Maintenance (TPM) is a system of maintaining and improving the integrity of production and quality systems. This is done through the machines, equipment, processes, and employees that add to the value in Business Organisation. TPM helps in *keeping all equipment in top working condition* so as to avoid breakdowns and delays in manufacturing processes.

TPM Strategy focuses on **eight pillars** of success with 5S strategy as foundation.



## Performance Measurement in TPM

The most important approach to the measurement of TPM performance is known as Overall Equipment Effectiveness (OEE) measure.

$$\text{Performance} \times \text{Availability} \times \text{Quality} = \text{OEE} \%$$

OEE may be applied to any individual assets or to a process. It is unlikely that any manufacturing process can run at 100% OEE. According to Dal *et al* (2000), Nakajima (1998) suggested that ideal values for the OEE component measures are:

Availability	> 90%
Performance	> 95%
Quality	> 99%

Accordingly, OEE at World Class Performance would be approximately 85%. Kotze (1993) contradicted, that an OEE figure greater than 50% is more realistic and therefore more useful as an acceptable target.

## Cellular Manufacturing/ One Piece Flow Production System

A Sub Section of JIT and Lean System is Cellular Manufacturing. It encompasses a group technology. The goals of cellular manufacturing are:

- ♦ To move as quickly as possible,
- ♦ Make a wide variety of similar products,
- ♦ Making as little waste as possible.

## Six Sigma

It is quality improvement technique whose objective is to *eliminate defects* in any aspect that affects customer satisfaction. The premise of Six Sigma is that by measuring defects in a process, a company can develop ways to eliminate them and practically achieve “zero defects”. Six sigma can be used with balanced scorecard by providing more rigorous measurement system based on statistics.

### Numerical Concept of Six Sigma

‘Sigma’ is a statistical term that measures how far a process deviates from perfection. The higher the sigma number, the closer the process is to perfection.

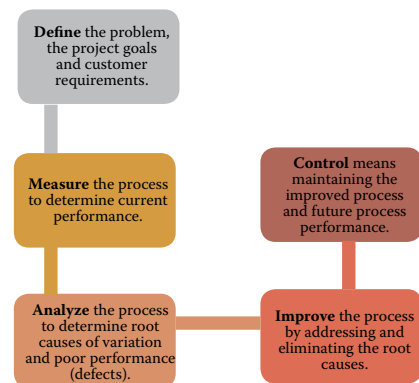
#### The values of Defect Percentage

Six Sigma is 3.4 defects per million opportunities or getting things right 99.99966% of the time. It is possible to develop ways of reducing defects by measuring the level of defects in a process and discovering the causes.

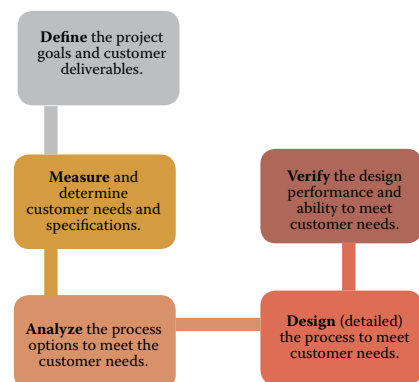
### Implementation of Six Sigma

There are two methodologies for the implementation of Six Sigma-

**DMAIC:** This method is very robust. It is used to improve *existing business process*. To produce dramatic improvement in business process, many entities have used it successfully. It has *five phases*:



**DMADV:** The application of these methods is aimed at creating a high-quality product keeping in mind customer requirements at every stage of the product. It is an improvement system which is used to develop *new processes or products* at Six Sigma quality levels. Phases are described in diagram:



Both DMADV and DMAIC are fundamental six sigma methodologies for improving quality of product/process. Broadly, DMAIC deals with improving some existing process to make it align with customer's needs while DMADV deals with new design or redesign.

### Lean Six Sigma

Lean Six Sigma is the combination of *Lean* and *Six Sigma* which help to achieve greater results that had not been achieved if Lean or Six Sigma would have been used individually. It increases the speed and effectiveness of any process within any organization. By using lean Six Sigma, organisations will be able to Maximize Profits, Build Better Teams, Minimize Costs, and Satisfy Customers.

### Process Innovation

Process Innovation means the implementation of a new or significantly improved production or delivery method (including significant changes in techniques, equipment and/ or software).

### Business Process Reengineering

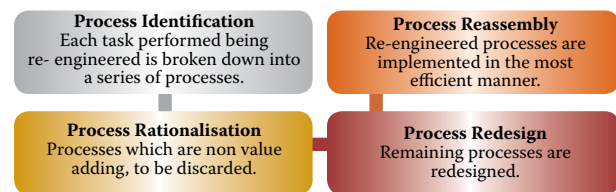
Hammer defines Business Process Reengineering (BPR) (or simply reengineering) as *"the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in*

*critical contemporary measures of performance, such as cost, quality, service, and speed."*

Principles of Business Process Re-engineering

- ◆ Organize around outcomes
- ◆ Have those who need the results of a process perform the process
- ◆ Integrate the processing of information into the work process that produces the information
- ◆ Treat geographically dispersed resources as though they were centralized
- ◆ Line parallel activities instead of integrating their results
- ◆ Put the decision point where the work is performed, and build controls into the process
- ◆ Capture information once and at the source

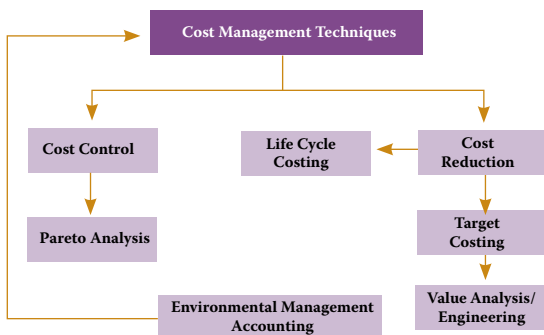
### Main Stage of BPR



Porter's Value Chain is commonly used in Business Process Re-engineering as a technique to *identify* and *analyse* processes that are of strategic significance to the organisation.

## COST MANAGEMENT TECHNIQUES

### Chapter Overview



### Target Costing

It can be defined as *"a structured approach to determining the cost at which a proposed product with specified functionality and quality must be produced, to generate a desired level of profitability at its anticipated selling price"*.

In Target costing, we first determine what price we think the consumer will pay for our product. We then determine how much of a profit margin we expect and subtract that from the final price. The remaining amount left is what is available as a budget to be used to create the product.

### Components of Target Costing System

Typically, the total target is broken down into its various components, each component is studied and opportunities for cost reductions are identified. These activities are often referred to as Value Analysis (VA) and Value Engineering (VE).

**Value Analysis** is a planned, scientific approach to cost reduction which reviews the material composition of a product and production design so that modifications and improvements can be made which do not reduce the value of the product to the customer or to the user.

**Value Engineering** is the application of value analysis to new products. Value engineering relates closely to target costing as it is cost avoidance or cost reduction before production.

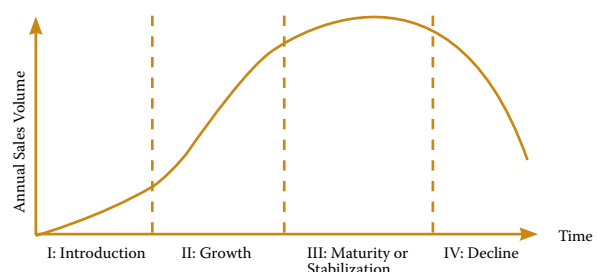
The initial value engineering may not uncover all possible cost savings. Thus, **Kaizen Costing** is designed to repeat many of the value engineering steps for as long as a product is produced, constantly refining the process and thereby stripping out extra costs.

Further, Target Costing System is based on involving representatives of all the **Value Chain** such as suppliers, agents, distributors and existing after-sales service in the target costing system.

### Life Cycle Costing

Life Cycle Costing involves identifying the costs and revenue over a product's life i.e. from inception to decline. Life cycle costing aims to maximize the profit generated from a product over its total life cycle.

The life cycle of a product consists of four phases/ stages viz., Introduction; Growth; Maturity; Saturation and Decline.



### Life Cycle Characteristics

	Introduction	Growth	Maturity	Decline
<b>Objectives</b>	Create product awareness & trial	Maximise market share	Maximise profits while defending market share	Reduce expenditures & milk the brand
<b>Sales</b>	Low sales	Rapidly rising	Peak sales	Declining sales
<b>Costs per Customer</b>	High cost per customer	Average cost per customer	Low cost per customer	Low cost per customer
<b>Profits</b>	Negative	Rising profits	High profits	Declining profits
<b>Customers</b>	Innovators	Early adopters	Middle majority	Laggards
<b>Competitors</b>	Few	Growing number	Steady number beginning to decline	Declining number

### Strategies

	Introduction	Growth	Maturity	Decline
<b>Product</b>	Offer basic product	Offer product extensions, service & warranty	Diversify brands and models	Phase out weak items
<b>Price</b>	Cost plus profit	Price to penetrate market	Price to match or beat competitors	Price cutting
<b>Advertising</b>	Build product awareness amongst early adopters & dealers	Build awareness & interest in mass market	Stress on brand differences and benefits	Reduce level to keep hard core loyalty
<b>Distribution</b>	Build selective distribution	Build Intensive distribution	Build more intensive distribution	Go selective: Phase out unprofitable outlets
<b>Sales Promotion</b>	Use heavy sales promotion to entice trial	Reduce to take advantage of heavy consumer demand	Increase to encourage brand switching	Reduce to minimal level

### Pareto Analysis

Pareto Analysis is a rule that recommends focus on the most important aspects of the decision making in order to simplify the process of decision making. It is based on the 80:20 rule that was a phenomenon first observed by Vilfredo Pareto, a nineteenth century Italian economist. He noticed that 80% of the wealth of Milan was owned by 20% of its citizens. This phenomenon, or some kind of approximation of it say, (70: 30 etc.) can be observed in many different business situations. The management can use it in a number of different circumstances to direct management attention to the *key control mechanism* or *planning aspects*. It helps to clearly establish top priorities and to identify both profitable and unprofitable targets.

### Environmental Management Accounting [EMA]

- ♦ EMA identifies and estimates the costs of *environment-related activities* and seeks to control these costs.
- ♦ The focus of EMA is not on financial costs but it also considers the environmental cost or benefit of any decisions made.
- ♦ EMA is an attempt to integrate best management accounting thinking with best environmental management practice.

### Environmental Costs

**Environmental Prevention Costs—**  
Those costs associated with *preventing* adverse environmental impacts.

**Environmental Appraisal Costs—**  
The cost of activities executed to determine whether products, process and activities are in *compliance* with environmental standards, policies and laws.

**Environmental Internal Failure Costs –**  
Costs incurred from activities that have been produced but *not discharged* into the environment.

**Environmental External Failure Costs –**  
Costs incurred on activities performed *after discharging* waste into the environment. These costs have adverse impact on the organisation's *reputation* and *natural resources*.

### Identification of Environmental Costs

To prepare environmental management accounts an intense review of general ledger containing costs of materials, utilities and waste disposal etc. is required. Since the *environmental costs are generally 'hidden' in 'general overheads' of the company*, it becomes difficult for management to identify opportunities to cut environmental costs but nonetheless it is crucial for them to do so to preserve natural resources getting scarcer.

In 2003, the UNDSO identified four management accounting techniques for the Identification and Allocation of Environmental Costs:

#### Input-Output Analysis

This technique records material inflows and balances this with outflows on the basis that, what comes in, must go out.

#### Flow Cost Accounting

This technique uses not only material flows but also the organizational structure. Classic material flows are recorded as well as material losses incurred at various stages of production. Flow cost accounting makes material flows transparent by using various data, which are quantities (physical data), costs (monetary data) and values (quantities x costs). The material flows are divided into three categories, material, system, and delivery and disposal.

#### Life Cycle Costing

Lifecycle costing considers the costs and revenues of a product over its whole life rather than one accounting period. Therefore, the full environmental cost of producing a product will be taken into account. In order to reduce lifecycle costs, an organization may adopt a TQM approach.

#### Activity Based Costing (ABC)

ABC allocates internal costs to cost centres and cost drivers on the basis of the activities that give rise to the costs. In an environmental accounting context, it distinguishes between *environment-related*

**costs**, which can be attributed to joint cost centres, and **environment-driven costs**, which tend to be hidden on general overheads.

The *environment-driven costs* are removed from general overheads and traced to products or services. The cost drivers are determined based on environment impact that activities have and costs are charged accordingly. This should give a good attribution of environmental costs to individual products and should result in better control of costs.

### Controlling Environmental Costs

After Identification and Allocation of Environmental Costs, task of controlling starts. An organization may try to control these costs as mentioned below-

#### Waste

'Mass balance' approach can be used to determine how much material is wasted in production, whereby the weight of *materials bought is compared to the product yield*.

#### Water

Businesses pay for water twice – first, to buy it and second, to dispose of it. If savings are to be made in terms of reduced water bills, it is important for organizations to identify where water is used and how consumption can be decreased.

#### Energy

Often, energy costs can be reduced significantly at very little cost. Environmental management accounts may help to identify inefficiencies and wasteful practices and, therefore, opportunities for cost savings.

#### Transport and Travel

Again, EMA techniques may be used to identify savings in terms of travel and transport of goods and materials. At a simple level, a business can invest in more fuel-efficient vehicles.

### Consumables and Raw Materials

These are directly attributable costs and discussions with management can reduce such costs. For example, toner cartridges for printers could be refilled rather than replaced.

### Reasons for Controlling Environmental Cost

There are three main reasons why the management of environmental costs is becoming increasingly important in organizations.

**First**, a 'carbon footprint' (as defined by the Carbon Trust) measures the total greenhouse gas emissions caused directly and indirectly by a person, organization, event or product.

**Second**, environmental costs are becoming huge for some companies, particularly those operating in highly industrialized sectors such as oil production. Such significant costs need to be managed.

**Third**, regulation is increasing worldwide at a rapid pace, with penalties for non-compliance also increasing accordingly.

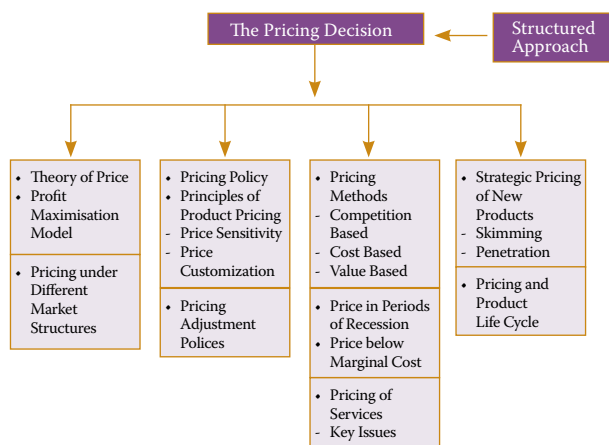
### Role of EMA in Product/ Process Related Decision Making

The correct costing of products is a pre-condition for making sound business decisions. The accurate product pricing is needed for strategic decisions regarding the volume and choices of products to be produced. *EMA converts many environmental overhead costs into direct costs and allocate them to the products that are responsible for their incurrence*. The results of improved costing by EMA may include:

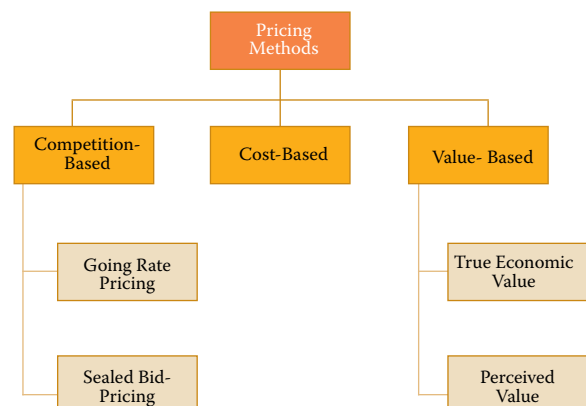
- ◆ Different pricing of products as a result of re-calculated costs;
- ◆ Re-evaluation of the profit margins of products;
- ◆ Phasing-out certain products when the change is dramatic;
- ◆ Re-designing processes or products in order to reduce environmental costs and
- ◆ Improving housekeeping and monitoring of environmental performance.

## PRICING DECISION

### Chapter Overview



### Pricing Methods





### Cost-Based Pricing Method

In many businesses, the common method of price determining is to estimate the *cost of product & fix a margin of profit*. The term 'cost' here means **Full Cost** at current output and wages level since these are regarded as most relevant in price determination.

Pricing based on total costs is subjected to two limitations. They are:

- ♦ The allocation of inter-departmental overheads is based on an *arbitrary basis*; and
- ♦ The allocation overheads will require estimation of normal output which often cannot be done precisely.

In order to avoid these complications, **Variable Costs** which are considered as relevant costs are used for pricing, by *adding a mark-up* (to include fixed costs allocation also).

Sometimes, instead of arbitrarily adding a percentage on cost for profit, the firm determines an *average mark-up* on cost necessary to produce a **desired Rate of Return on Investment**. The rate of return to be earned by the firm or industry must depend on the *risk involved*.

### Competition-Based Pricing Method

When a company sets its price mainly on the consideration of *what its competitors are charging*, its pricing policy under such a situation is called competitive pricing or competition-oriented pricing. It is not necessary under competitive pricing to charge the same price as charged by the concern's competitors. But under such a pricing, the concern may keep its prices lower or higher than its competitors by a certain percentage.

#### Going Rate Pricing

It is a competitive pricing method under which a firm tries to *keep its price at the average level charged by the industry*. The use of such a practice of pricing is especially *useful where it is difficult to measure costs*.

#### Sealed Bid-Pricing

The objective of the firm in the bidding situation is to *get the contract*, and this means that it hopes to set its price lower than that set by any of the other bidding firms. But however, the firm does not ordinarily set its price below a certain level. Even when it is anxious to get a contract in order to keep the plant busy, it cannot quote price below marginal cost. On the other hand, if it raises its price above marginal cost, it increases its potential profit but reduces its chance of getting the contract.

### Value-Based Pricing Method

There is an increasing trend to price the product on the basis of *customer's perception of its value*. This method helps the firm in reducing the threat of price wars. Marketing research is important for this method. It is based on:

#### Objective Value or True Economic Value (TEV)

This is a measure of benefits that a product is *intended to deliver to the consumers relative to the other products* without giving any regard whether the consumer can recognize these benefits or not.

True economic value for a consumer is calculated taking two differentials into consideration:

$$\text{TEV} = \text{Cost of the Next Best Alternative} + \text{Value of Performance Differential}$$

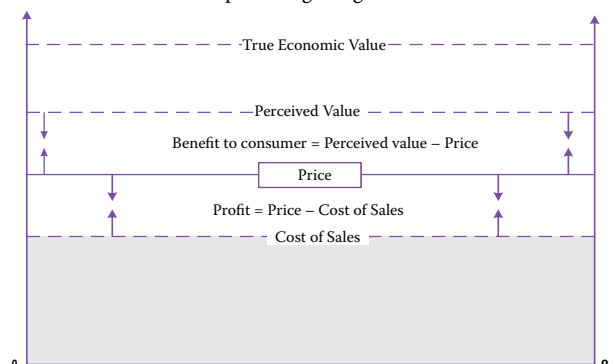
Cost of the next best alternative is the cost of a comparable product offered by some other company. Value of performance differential is the value of additional features provided by the seller of a product.

A firm's product may be superior to the next best alternative in some dimensions but inferior in others.

#### Perceived Value

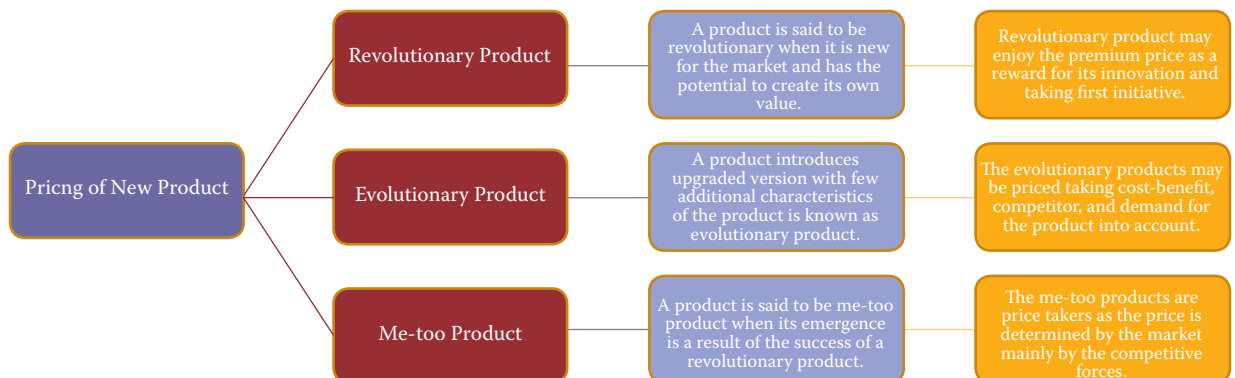
This is the *value that consumer understands the product deliver to it*. It is the price of a product that a consumer is willing to spend to have that product.

At the time of fixing price, it is to be kept in the mind that any price which set below the perceived value but above the cost of goods sold give incentives to both buyers and the seller. This can be understood with the help the diagram given below.



### Strategic Pricing of New Products

The pricing of new product poses a bigger problem because of the uncertainty involved in the estimation of their demand. In order to overcome this difficulty, experimental sales are conducted in different markets using different prices to see which price is suitable. A new product is analysed into three categories for the purpose of pricing:



### Three New Product Pricing Situations



While preparing to enter the market with a new product, management must decide whether to adopt a skimming or penetration pricing strategy.

### Skimming Pricing

It is a policy of high prices during the early period of a product's existence. This can be synchronised with high promotional expenditure and in the later years the prices can be gradually reduced. The reasons for following such a policy are:

The demand is likely to be *inelastic* in the earlier stages till the product is established in the market.

The change of high price in the initial periods serves to *skim the cream of the market* that is relatively insensitive to price.

The demand for the product is *not known* the price covers the initial cost of production.

High initial capital outlays, needed for manufacture, results in high cost of production.

### Penetration Pricing

This policy is in favour of using a low price as the principal instrument for penetrating mass markets early. It is opposite to skimming price. The low price policy is introduced for the sake of long-term survival and profitability and hence it has to receive careful consideration before implementation. The three circumstances in which penetrating pricing policy can be adopted are:

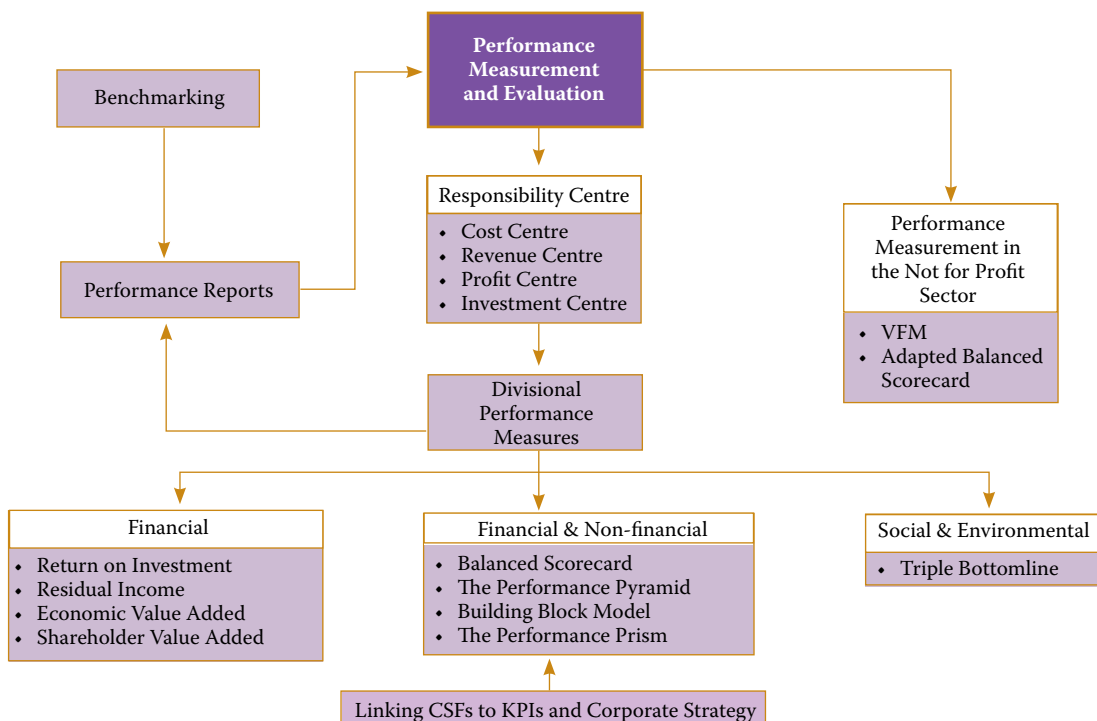
When demand of the product is elastic to price.

When there are substantial savings on large scale production.

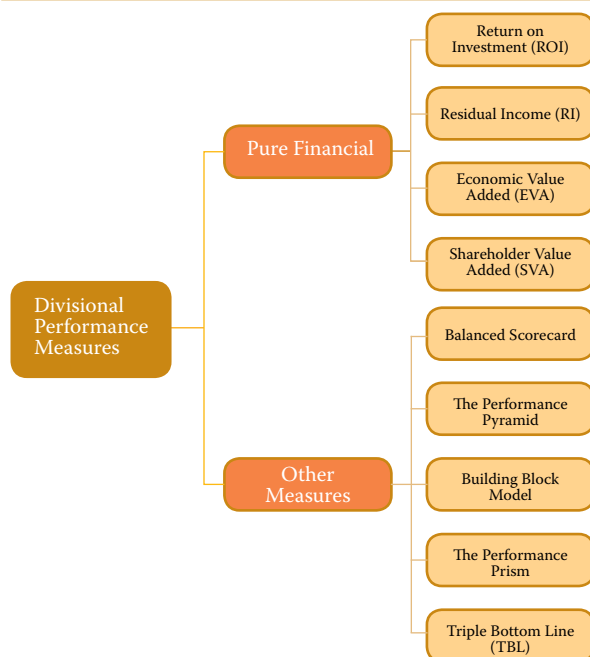
When there is threat of competition.

## PERFORMANCE MEASUREMENT AND EVALUATION

### CHAPTER OVERVIEW



## DIVISIONAL PERFORMANCE MEASURES



### Return on Investment (ROI)

- ROI expresses divisional *profit as a percentage of the assets employed* in the division.
- ROI is a common measure and thus is ideal for comparison across corporate divisions for companies of similar size and in similar sectors. ROI can therefore lead to a *lack of goal congruence*.

### Residual Income (RI)

- To overcome some of the dysfunctional consequences of ROI, the residual income approach can be used.
- For evaluating the *economic performance* of the division, residual income can be defined as *divisional contribution less a cost of capital charge* on the total investment in assets employed by the division.
- Residual income suffers from the disadvantages of being an *absolute measure*, which means that it is difficult to compare the performance of a division with that of other divisions or companies of a different size.

### Economic Value Added (EVA)

- Economic Value Added is a measure of economic profit. Economic Value Added is calculated as the difference between the Net Operating Profit After Tax (NOPAT) and the Opportunity Cost of Invested Capital. This opportunity cost is determined by multiplying the Weighted Average Cost of Debt and Equity Capital (WACC) and the amount of Capital Employed.

$$EVA = NOPAT - WACC \times \text{Capital}$$

### Shareholder Value Added (SVA)

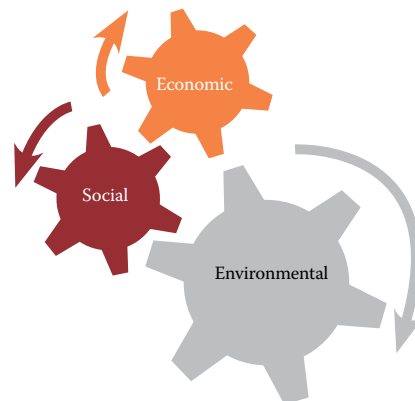
A variation along the same concept as EVA. Rappaport suggested that *future cash flows should be discounted at a suitable cost of capital* and that shareholder value would be increased if this measure were to increase. According to Rappaport, the following seven factors- he calls them "value driver"- affect shareholder value:

- Rate of Sales Growth
- Operating Profit Margin
- Income Tax Rate
- Investment in Working Capital

- Fixed Capital Investment
- Cost of Capital
- Life of the Project

### Triple Bottom Line (TBL)

TBL incorporates the three dimensions-



- Environmental-** measures the impact on resources, such as air, water, ground and waste emissions (Baumgartner & Ebner, 2010, p.79).
- Social-** relates to corporate governance, motivation, incentives, health and safety, human capital development, human rights and ethical behaviour.
- Economic-** refers to measures maintaining or improving the company's success.

### Linking CSFs to KPIs and Corporate Strategy

In order to truly achieve effective measurement of business performance, the KPIs must be selected and designed in a way that ensures that the CSF is delivered if the KPI meets the threshold, and the CSFs in turn must be designed and constructed in a way that ensures that the company's strategic vision is delivered if the CSFs are met.

### Balanced Scorecard

The balanced scorecard is a method which displays organisation's performance into four dimensions namely financial, customer, internal and innovation. The four dimensions acknowledge the interest of shareholders, customers and employees taking into account of both long-term and short-term goals. Kaplan and Norton classified performance measures into four business 'perspectives'

#### Financial Perspective

Financial performance measures indicate whether the company's strategy implementation and execution are contributing to its revenue and earnings.

#### Customer Perspective

In this stage, companies identify customers and market segments in which they compete and also the means by which they provide *value* to these customers and markets.

#### Internal Business Perspective

In this stage companies identify processes and activities which are necessary to achieve the objectives as identified at financial perspectives and customer perspective stage. These objectives may be achieved by reassessing the value chain and making necessary changes to the existing *operating activities*.

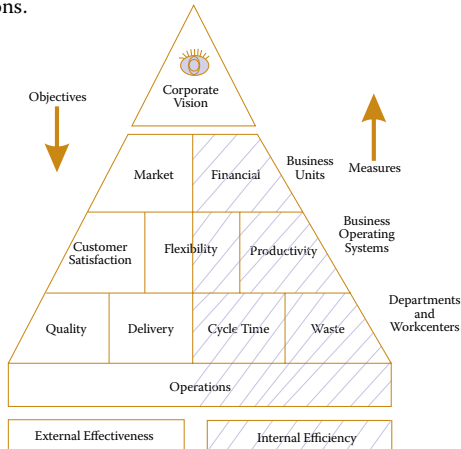
#### Learning and Growth Perspective

In the learning and growth perspective, Companies determine the activities and infrastructure that the company must build to create *long term growth*, which are necessary to achieve the objectives set in the previous three perspectives.

### Performance Pyramid

The Performance Pyramid is also known as Strategic Measurement and Reporting Technique by Cross and Lynch 1991. They viewed businesses as performance pyramids. The attractiveness of this

framework is that it links the business strategy with day-to-day operations.

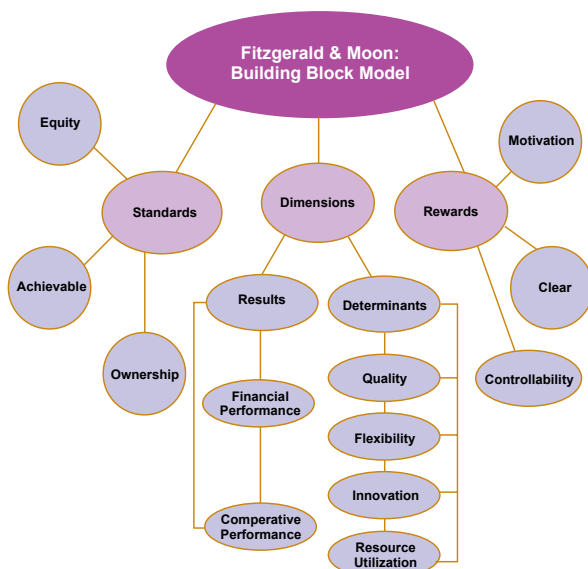


In the above pictorial presentation:

- ◆ 'Objectives' are shown from top to bottom.
- ◆ 'Measures' are from bottom to the top.
- ◆ At the top is the organization's *corporate vision* through which long term success and competitive advantages are described.
- ◆ The 'business level' focuses on achievements of organization's CSF in terms of *market* and *financial* measures.
- ◆ The marketing and financial success of a proposal is the initial focus for the achievement of corporate vision.
- ◆ The above business are linked to achieving *customers' satisfaction*, increase in *flexibility* and high *productivity*.
- ◆ The above driving forces can be monitored using the operating forces of the organization.
- ◆ The left-hand side of the pyramid contains *external* forces which are 'non-financial'.
- ◆ On the other hand, the right-hand side of the pyramid contains *internal efficiency* which are predominantly 'financial' in nature.

### The Building Block Model

Fitzgerald and Moon proposed a Building Block Model which suggests the solution of performance measurement problems in *service industries*. But it can be applied to other manufacturing and retail businesses to evaluate business performance.

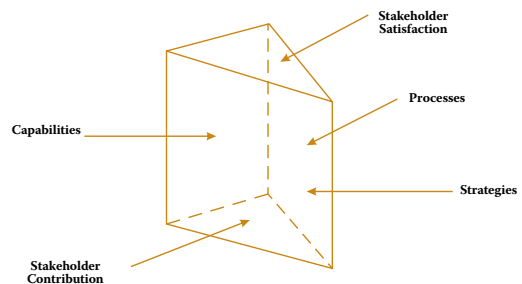


### Performance Prism

The Performance Prism is an approach to performance management which aims to effectively meet the needs and requirements of **all stakeholders**. This is in contrast with the performance pyramid which tends to concentrate on *customers* and *shareholders* and is also in contrast with value based management, which prioritizes the needs of shareholders. There are five 'facets' to the Performance Prism which lead to key questions for strategy formulation and measurement design:

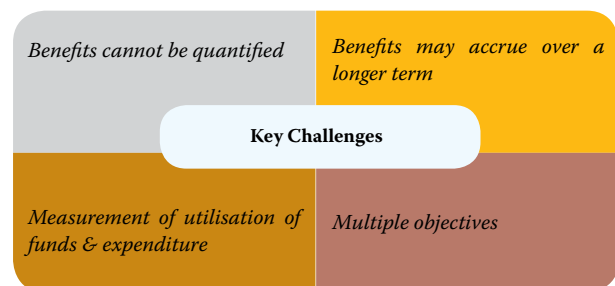


### Comprehensiveness of Performance Prism



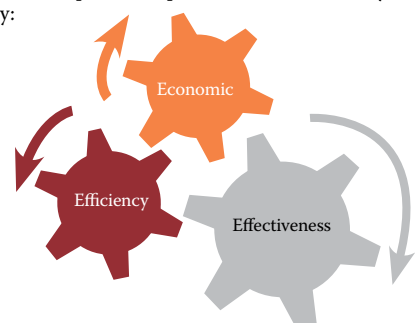
### Performance Measurement in the Not for Profit Sector

The following are key challenges for measuring performance in not-for-profit organisations –



### Value for Money (VFM) Framework

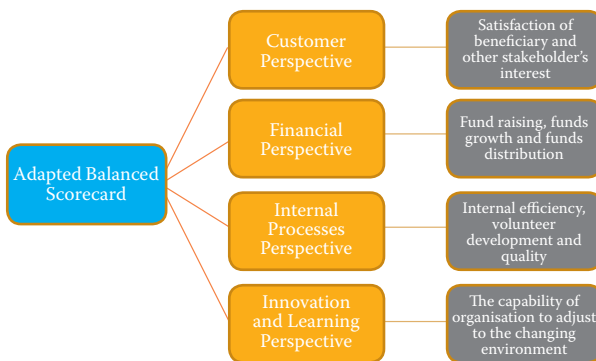
A framework which can be used for measurement of performance in not-for-profit sector is the Value for Money framework. Not-for-profit organisations are expected to provide value for money which is demonstrated by:



- ♦ **Effectiveness:** Whether the organisation has *achieved its desired mission and objectives*?
- ♦ **Efficiency:** Whether the *resources and funds* available to the organisation has been *utilised efficiently* i.e., maximum output has been obtained with minimum input?
- ♦ **Economy:** Whether the *desired output has been obtained using the lowest cost*? It must be noted that use of lowest cost approach should not compromise quality.

## Adapted Balanced Scorecard

Kaplan developed the 'Adapted Balanced Scorecard' for measuring performance at NGOs. The main assumption of this adapted scorecard is that mission statement and not profits is the main point to be met.

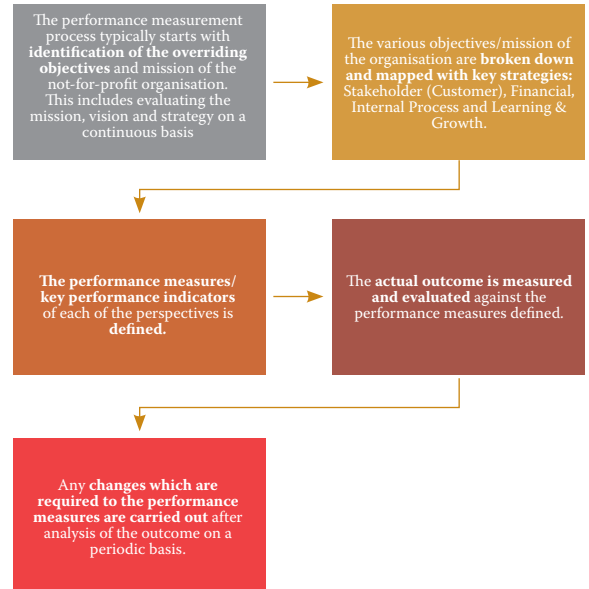


## Other Performance Measures

- ♦ The ability to raise funds to meet the objectives efficiently.
- ♦ Submitting periodic reports to the stakeholders in a transparent manner.

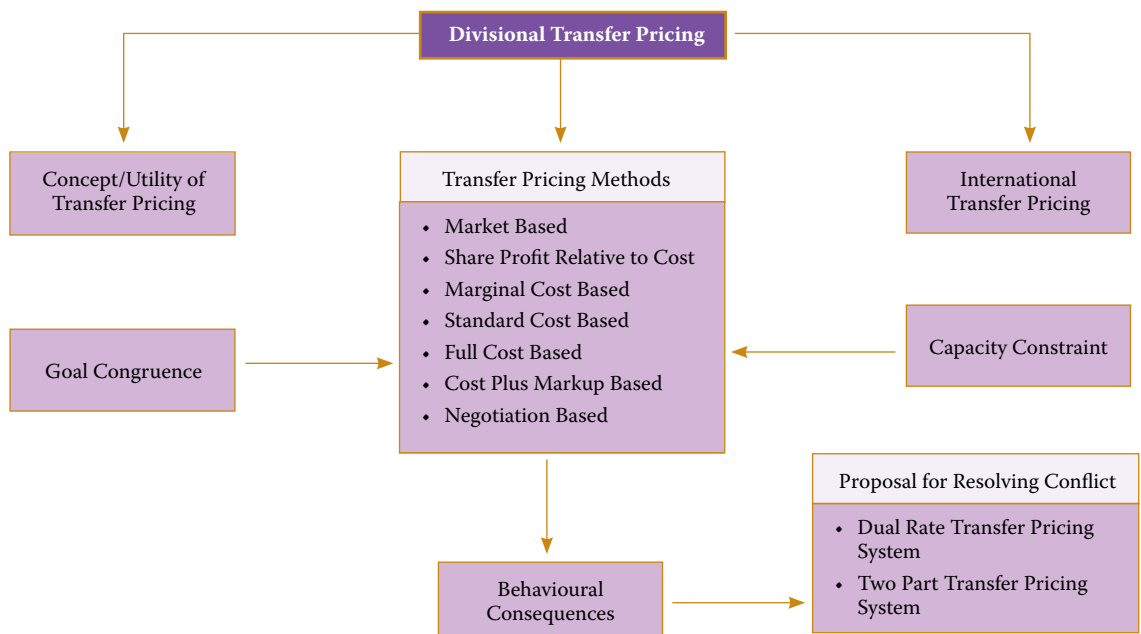
- ♦ The best use of financial as well as non-financial resources to achieve desired objectives and mission.
- ♦ The long-term impact (benefits) of the activities of the not-for-profit organisations.
- ♦ The quality of services provided by the organisations.

## Performance Measurement Process



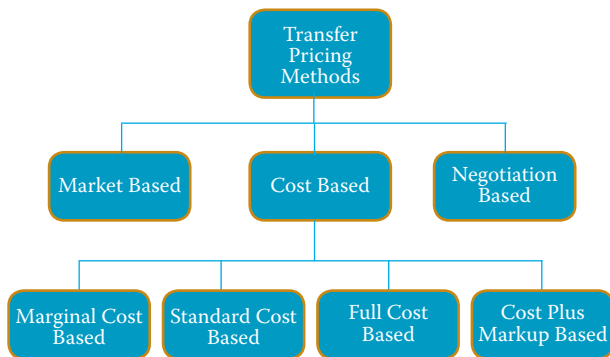
# DIVISIONAL TRANSFER PRICING

## Chapter Overview





## Transfer Pricing Methods



### Market Based Transfer Price

Transfer price is based on *market price* of goods or services similar to the ones transferred internally within divisions. The transfer can be recorded at the external market price, **adjusted for any costs that can be saved by internal transfer** e.g. selling and distribution expenses, packaging cost.

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>Since demand and supply determine market price, it is likely to be unbiased.</li> <li>Market prices are less ambiguous compared to cost-based pricing.</li> <li>Since the pricing is competitive, divisional performance can be linked more objectively to its contribution to the company's overall profits.</li> </ul>	<ul style="list-style-type: none"> <li>Market price may not be completely unbiased, if a competitive environment does not exist.</li> <li>May not be suitable when market prices can fluctuate widely or quickly.</li> <li>Goods that are transferred may be at an intermediate stage in the production process. At times market price may not be available for such intermediate goods.</li> </ul>

### Shared Profit Relative to Cost Based Transfer Price

Shared profit relative to cost method is an alternative to market price method. Cost incurred by each division indicates the value it has added to the product cost, that is finally used to arrive at the selling price of the final product. The primary advantage of this method is that it *allocates profit based on the proportion of value addition to the product in terms of cost*.

### Cost Based Transfer Price

Cost based pricing models are based on the *internal cost* records of the company. They may be used when the management wants to benchmark performance with the cost targets set within the company or may be an alternative *when market prices for the goods cannot be determined due to lack of comparable market*. Cost based transfer price may consider variable cost, standard cost, full cost and full cost plus mark-up. Therefore, the basis for cost price may be subjective and has to be adapted based on its suitability to the entity.

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>Performance can be benchmarked to internal cost targets (budgets).</li> <li>Information is more easily available as compared to market price.</li> </ul>	<ul style="list-style-type: none"> <li>The cost basis on which transfer pricing is used can be subjective since there can be multiple ways of interpreting costs.</li> <li>Since cost is passed on to another division, there may be instances when managers of the supplying division may find little incentive to lower the cost of production by adopting cost efficient methods.</li> </ul>

### Marginal Cost Based Transfer Price

Transfer price is recorded *marginal cost* required to produce one additional unit:

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>Useful when the supplying division has excess capacity.</li> </ul>	<ul style="list-style-type: none"> <li>No fixed cost or mark-up is allowed to be charged to the purchasing division. Each unit of internal sale will hence result in a loss at approximately fixed cost per unit.</li> </ul>

### Behavioral Consequences

In such a setup, profit evaluation is centralized at the entity level. Therefore, the supplying division may have little incentive to find measures for making cost efficient. Non-recovery of fixed costs would *demotivate the supplying division*. It may oppose certain decisions like capacity expansion or further infusion of investment, that lead to higher fixed costs.

### Standard Cost Based Transfer Price

Transfer price is recorded at a *predetermined cost*, which is based on budgets and certain assumptions regarding factors of productions like capacity utilization, labor hours etc.

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>Performance evaluation can be done against budgeted cost targets.</li> </ul>	<ul style="list-style-type: none"> <li>Profit performance measurement is centralized and cannot be measured for individual divisions.</li> </ul>

### Behavioral Consequences

Budgeted costs are generally based on historic records. Therefore, *little incentive* exists to make costs more efficient to improve profitability.

### Full Cost Based Transfer Price

Transfer price is based on full product cost. It includes *cost of production plus a share of other costs of the value chain* like selling and distribution, general administrative expense, research and development etc.

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>Full cost of goods transferred is recovered, hence the supplying division will not show a loss.</li> </ul>	<ul style="list-style-type: none"> <li>Since mark-up cannot be charged on internal transfers, the supplying division does not record any profit on these sales. This is a disincentive for the supplying division.</li> </ul>

### Cost plus a Mark-up Based Transfer Price

Transfer price is based on *full product cost plus a mark-up*. Mark-up could be a percentage of cost or of capital employed.

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>Since the supplying division makes a profit, this method addresses the disincentive problem discussed above in the full cost method.</li> </ul>	<ul style="list-style-type: none"> <li>Since the transfer price under this method could closely approximate its market price, the purchasing division may bear a share of the selling expenses although none was incurred for such internal sales.</li> </ul>

### Behavioral Consequences

Special orders from purchasing division may typically be placed to meet short term demands. If transfer price is quoted at below full cost, it may be rejected because they could result in a loss for the supplying division. This could lead to **sub-optimization of resources**. Fixed costs remain constant in the short run, while the contribution margin from such special orders may have benefited the company as a whole. In such cases, management intervention has to happen for goal congruence.

### Negotiation Based Transfer Price

This is a go-between between market and cost methods. Managers of the purchasing and supplying divisions independently negotiate and arrive at a mutually agreeable transfer price.

#### Advantages

- Managers are given autonomy to decide whether to purchase (or sell) from its sister unit or source then from (or to) external market.

#### Disadvantages

- This method requires sufficient external information to be available regarding the external market price, terms of trade etc. Internal cost information must also be shared in order to negotiate a reasonable price.

### Behavioral Consequences

While autonomy is given to the managers, top management intervention may be required if decisions lead to **sub-optimal utilization of resources**.

Negotiated prices depend on the ability of the manager to bargain on behalf of the division. This could affect the division's performance. The process may be time consuming that could even lead to conflict among the units.

### Transfer Pricing and Goal Congruence

Since internal transfer pricing develops a competitive setting for managers of each division, it is possible that they may operate in the best interest of their individual performance. This can lead to **sub-optimal utilization of resources**. In such cases, transfer pricing policy may be established to promote goal congruence.

Range of transfer price that promotes goal congruence:

#### (i)

- Minimum Transfer Price (determined by the supplying division) = Additional Outlay Cost per unit + Opportunity Cost per unit.
- Additional Outlay Cost = Marginal Cost + Any Additional Incidental Costs incurred by the supplying division e.g. storage, transportation etc.
- Opportunity Cost is the benefit that is foregone from selling internally rather than externally.

#### (ii)

- Maximum Transfer Price (determined by the purchasing division) = Lower of Net Marginal Revenue and the External Buy-in Price
- Net Marginal Revenue = Marginal Revenue (i.e. Selling Price p.u.) – Marginal Cost to Purchasing Division



### Transfer Pricing Decision, Different Circumstances

#### Different Capacity Levels

When the supplying division has **excess capacity**, the range for transfer pricing would be

#### (i)

- Minimum Transfer Price = Marginal Cost p.u.
- This ensures that the supplying department is able to recoup at least its additional outlay incurred on account of the transfer. Fixed cost is a sunk cost hence ignored.
- Since capacity can be utilized further, it would be optimum for the supplying division to charge only the marginal cost for internal transfer.
- The purchasing division gets the advantage, getting the goods at a lower cost than market.

#### (ii)

- Maximum Transfer Price = Lower of Net Marginal Revenue and the External Buy-in Price

When the supplying division operates at **full capacity**, the range for transfer pricing would be

#### (i)

- Minimum Transfer Price = Marginal Cost p.u. + Opportunity Cost p.u.
- Since the supplying division is operating at full capacity, it has no incentive to sell the goods to the purchasing division at a price lower than the market price.
- If the internal order is accepted, capacity is diverted towards this sale. Hence the supplying division would additionally charge the lost contribution from external sales that had to be curtailed.

#### (ii)

- Maximum Transfer Price = Lower of Net Marginal Revenue and the External Buy-in Price

#### Different Demand Levels

Therefore, while catering to different levels of demand, any **change in cost should also be accounted for** to calculate transfer pricing. The general rule for minimum and maximum range of transfer price applies here too.

### Proposals For Resolving Transfer Pricing Conflict

**Conflict of interest** between interests of individual divisions and the company can also be addressed by following the following systems for transfer pricing:

#### Dual Rate Transfer Pricing System

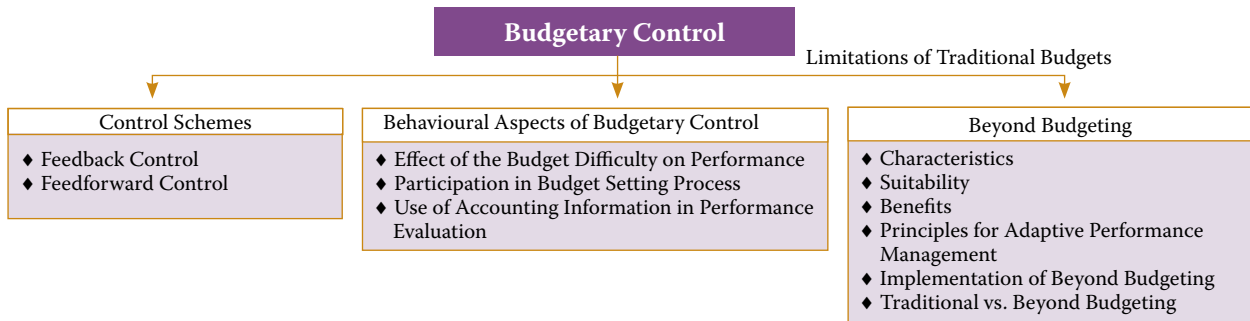
- The supplying division records transfer price by including a normal profit margin thereby showing reasonable revenue.
- The purchasing division records transfer price at marginal cost thereby recording purchases at minimum cost.
- This allows for better evaluation of each division's performance.
- It also improves co-operation between divisions, promoting goal congruence and reduction of sub-optimization of resources.
- Drawbacks of Dual Pricing include: It can complicate the records, thereby may result in errors in the company's overall records. (ii) Profits shown by the divisions are artificial and need to be used only for internal evaluations.

#### Two Part Transfer Pricing System

- This pricing system is again aimed at resolving problems related to distortions caused by the full cost based transfer price.
- Transfer price = marginal cost of production + a lump-sum charge (two part to pricing).
- While marginal cost ensures recovery of additional cost of production related to the goods transferred, lump-sum charge enables the recovery of some portion of the fixed cost of the supplying division.
- Therefore, while the supplying division can show better profitability, the purchasing division can purchase the goods at a lower rate compared to the market price.

## BUDGETARY CONTROL

### Chapter Overview



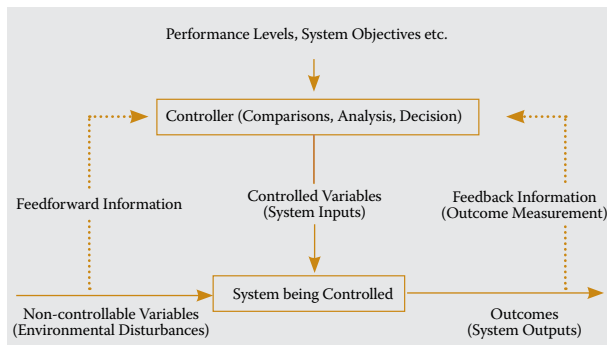
### Budgetary Control

**Budget** is an estimation of revenues and expenses over a specified future period of time which needs to be compiled and *re-evaluated on a periodic basis* based on the needs of the organisation.

**Budgetary Control** is the process by which budgets are prepared for the future period and are compared with the actual performance for finding out variances, if any. In other words, Budgetary Control is a process with the help of which, managers set financial and performance goals, compare the actual results with the budgets, and adjust performance, as it is needed.

### Feedback and Feed-Forward Control

Feedback and Feed-forward are two types of control schemes for systems that react automatically to changing environmental dynamics.



### Feedback Control

Feedback as the name suggests is a reaction after an action has taken place. So, *there has to be an error* if we want to take corrective actions.

According to the CIMA's Official Terminology, *It is defined as: 'Measurement of differences between planned outputs and actual outputs achieved, and the modification of subsequent action and/or plans to achieve future required results. Feedback control is an integral part of budgetary control and standard costing systems.'*

A feedback system would simply compare the actual historical results with the budgeted results.

#### Limitations

Feedback control system does have some operational limitations. First, it *depends heavily on success of the error detection system*. Second, there may be a *time lag between the error detection, error confirmation, and error revision* during which actual results may change again.

### Feed-forward Control

In certain cases, we may be able to measure the amount of error before it has actually taken place. We may thus be able to place a control mechanism *before the error takes place*. Feed-forward Control is one such Controlling system.

According to the CIMA's Official Terminology, *It is defined as the forecasting of differences between actual and planned outcomes and the implementation of actions before the event, to avoid such differences.*

A feed-forward control system operates by comparing budgeted results against a forecast. Control action is triggered by differences between budgeted and forecasted results.

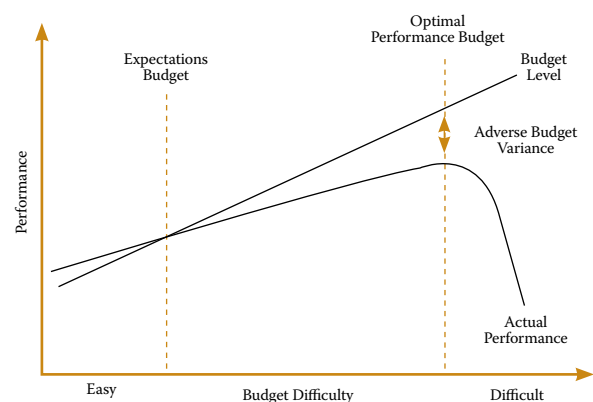
Any manager who ignores feed-forward control will contribute to the downfall of a company.

#### Limitations

The feed-forward process is an evaluation process and is concerned with the estimates of uncertain future. This problem of uncertainty is likely to limit application of the concept.

Study of future is not well developed; neither are the tools that have potential for overcoming the problem of uncertainty.

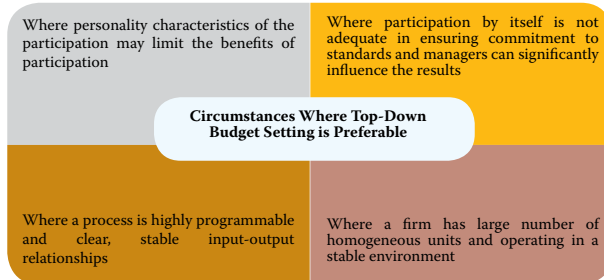
### The Effect of Budget Difficulty on Performance



*"Budget level that motivates the best level of performance may not be achievable. In contrast, the budget that is expected to be achieved motivates a lower level of performance as managers no longer aspire to*

meet the budget target.” The balanced scorecard approach of Kaplan and Norton, and the building block approach of Fitzgerald and Norton can be a great help in ensuring that objectives (or targets), or budgets are set for a very wide range of factors, both financial and non-financial.

## Circumstances Where Top-Down Budget Setting is Preferable



## Use of Accounting Information in Performance Evaluation

Some dysfunctional consequences that arise with accounting measures of performance may not be due to the insufficiency of the performance measures, but rather may be outcome from the way in which the accounting measures are used. The accounting information provided by an *accounting system must be interpreted and used with care.*

Hofstede (1968) found that stress on the actual results in performance evaluation led to more extensive use of budgetary information, and this made the budget more relevant. However, this stress was associated with a feeling that the performance appraisal was unjust. To overcome this problem, the *correct balance must be established when the budgeted performance is evaluated.*

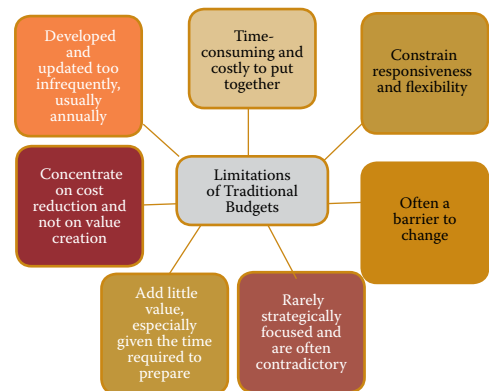
Hopwood (1976) observed three distinct styles of using budget and actual cost information in performance evaluation in manufacturing division of a large US company:

- ♦ **Budget Constrained Style:** The evaluation is based upon the Cost Centre head's ability continually to meet the budget on short term basis.
- ♦ **Profit Conscious Style:** Performance of the Cost Centre's head is linked to ability in increase the general effectiveness of his unit's operations in relation to the long- term goals of the organisation.
- ♦ **Non-Accounting Style:** Accounting data plays a relatively unimportant part in the supervisor's evaluation of the Cost Centre head's performance.

## A Summary of the Effects of Three Styles of Management

	Style of Evaluation		
	Budget-Constrained	Profit - Conscious	Non-Accounting
Involvement with Costs	High	High	Low
Job-related Tension	High	Medium	Medium
Manipulation of Accounting Information	Extensive	Little	Little
Relations with Superiors	Poor	Good	Good
Relations with Colleagues	Poor	Good	Good

## Beyond Budgeting (BB)



To overcome these limitations a tool came into force known as Beyond Budgeting. **Beyond Budgeting** is a leadership philosophy that relates to an alternative approach to budgeting which should be used instead of traditional annual budgeting.

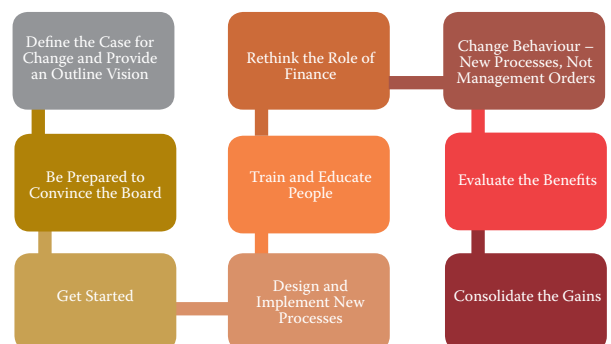
According to CIMA's Official Terminology- 'An idea that companies need to move beyond budgeting because of the inherent flaws in budgeting especially when used to set contracts. It is argued that a range of techniques, such as rolling forecasts and market related targets, can take the place of traditional budgeting.'

BB identifies its two main advantages.

- ♦ It is a more *adaptive process* than traditional budgeting.
- ♦ It is a *decentralised process*, unlike traditional budgeting where leaders plan and control organisations centrally.

## Implementation of Beyond Budgeting

There are nine steps that Hope and Fraser consider to be essential to implementing the Beyond Budgeting approach.



## Conclusion on Budgeting





## CASE STUDY

### Essentials for Case Study

- ◆ Case Study is not about the quantity, but the quality.
- ◆ Prepare a plan for each issue.
- ◆ Decide what models to use and prioritize the issues.
- ◆ Identify the impact and alternative actions that could be taken, as well as the relevant concepts and calculations required.
- ◆ Answer should have a logical flow.
- ◆ Offer a detailed analysis of the issues and conclude with sound, well justified recommendations.
- ◆ Not to spend too much time on calculations.
- ◆ Do not place too much attention and time on the presentation.
- ◆ Quality of discussion on each issue which is most important, not the ranking order.
- ◆ Discuss each of the issues in depth, explaining their impact.
- ◆ Do not leave any of the issues undecided.
- ◆ Recommendations should include 'what to do', 'why to do it' and 'how to do it'.
- ◆ Identify ethical issues and then briefly justify.
- ◆ Recommendation should appear at the end of the report.
- ◆ Practice makes perfect.

#### Note:

Not all topics of SCMPE have been covered in this capsule. However, our selection doesn't attach more importance to some topics and less to others.



### The Institute of Chartered Accountants of India (ICAI) ICAI Commerce Wizard-2017 A Talent Search Test in Commerce Organised By: Career Counseling sub-group under BoS, ICAI

The Commerce Talent Search Test called as Commerce Wizard -2017 is a diagnostic test that measures the concept understanding ability of a student. Unlike regular tests which try only to find out how much a child knows, this test measures how well a student has understood the concepts.

#### ELIGIBILITY

Students appearing in class X/XI/XII and B.Com./BBA/BMS/Allied Subjects Part I, Part II & Part III Examination

#### REGISTRATION FEES

₹100/- per student (upto 31<sup>st</sup> December, 2017)  
After Due Date : ₹150/- each

The Commerce Wizard will be conducted in two levels in English language for Students studying in Class X/XI/XII and B.Com./BBA/BMS/Allied Subjects Part I, Part II & Part III Examination separately.

**Important Date & Timings for Level I Test: On line & Level II Test: Online/Pen & Pencil Mode:**

Class X/XI/XII	Level-I (Online test) 7 <sup>th</sup> January, 2018 (Sunday)	Level-II Test : Online or Pen Pencil Mode in the designated test centre 21 <sup>st</sup> January, 2018 (Sunday)
Class X /B. Com./BBA/BMS/ Allied Subjects Part I	11.45 AM to 1.00 PM	<b>For Class X/XI/XII</b> 10:30 am. To 11.45 a.m. <b>For B.Com./BBA/BMS/Allied Sub- jects Part I/Part II/Part III</b> 3.00 p.m. to 4.15 p.m.
Class XI /B. Com./BBA/BMS/ Allied Subjects Part II	2.00 PM to 3.15 PM	
Class XII/B. Com./BBA/BMS/ Allied Subjects Part II	4.15 PM to 5.30 PM	

For Details and Registration, please visit the Exclusive Website  
for ICAI Commerce Wizard, 2017: [icw.icai.org](http://icw.icai.org)

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