



SATHYABAMA

**INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY)**

PRINCIPLES OF MANAGEMENT AND PROFESSIONAL ETHICS

Subject Code - SBAA4002

UNIT - 4



UNIT - 4

CONTROLLING AND REPORTING

Controlling, system and process of controlling, budgetary and non-budget control technique, use of computer and IT in management control, productivity problems and management, control and performance, direct and preventive control, reporting.



CONTROLLING

DEFINITION

Control is the process through which managers assure that **actual activities conform to planned activities.**

In the words of Koontz and O'Donnell - "Managerial control implies measurement of accomplishment against the standard and the correction of deviations to assure attainment of objectives according to plans."



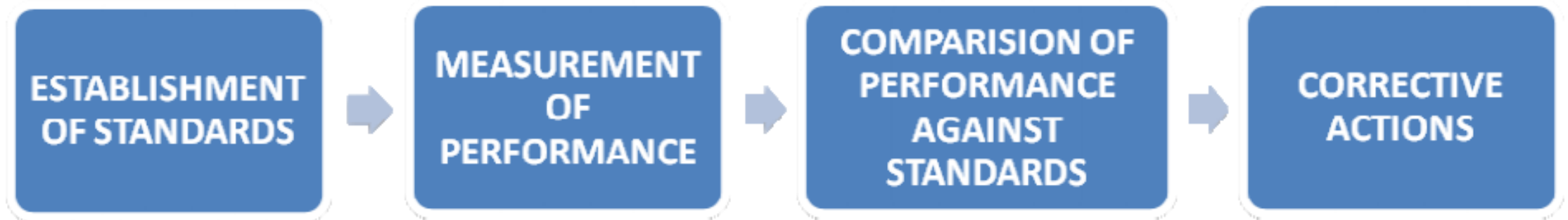
Nature & Purpose of Control

- Control is an essential function of management.
- Control is an ongoing process (Always).
- Control is forward – working because pas cannot be controlled.
- Control involves measurement.
- The essence of control is action.
- Control is an integrated system.



CONTROL PROCESS

- The basic control process involves mainly these steps as shown in Figure



The Establishment of Standards

Because plans are the yardsticks against which controls must be revised, it follows logically that the first step in the control process would be to accomplish plans. Plans can be considered as the criterion or the standards against which we compare the actual performance in order to figure out the deviations.



Measurement of Performance

The measurement of performance against standards should be on a **forward looking basis** so that deviations may be detected in advance by appropriate actions.

The degree of difficulty in measuring various types of organizational performance, of course, is determined primarily by the activity being measured.

For example, it is far more difficult to measure the performance of highway maintenance worker than to measure the performance of a student enrolled in a college level management course.



Comparing Measured Performance to Stated Standards

When managers have taken a measure of organizational performance, their next step in controlling is to **compare this measure against some standard.**

A standard is the **level of activity established** to serve as a model for evaluating organizational performance.

The performance **evaluated can be for the organization** as a whole or for **some individuals working within the organization.**

In essence, standards are the yardsticks that determine whether organizational performance is adequate or inadequate.



Taking Corrective Actions

After actual performance has been measured compared with established performance standards, the next step in the controlling process is to take corrective action, if necessary.

Corrective action is managerial activity aimed at bringing organizational **performance up to the level** of performance standards.



REQUIREMENTS FOR EFFECTIVE CONTROL

The requirements for effective control are

a) Control should be tailored to plans and positions

This means that, **all control techniques and systems should reflect the plans** they are designed to follow. This is because every plan and every kind and phase of an operation has its unique characteristics.

b) Control must be tailored to individual managers and their responsibilities

This means that controls **must be tailored** to the personality of **individual managers**. This because control systems and information are intended to help individual managers carry out their function of control. If they are not of a type that a manager can or will understand, they will not be useful.



c) Control should point up exceptions as critical points

This is because by concentration on exceptions from planned performance, controls based on the time honoured exception principle allow managers to detect those places **where their attention is required** and should be given.

d) Control should be objective

This is because when controls are subjective, a manager's personality may influence judgments of performance inaccuracy. Objective standards can be **quantitative such as costs or man hours per unit or date of job completion.**



f) Control should be economical

This means that control must worth their cost. Although this requirement is simple, its practice is often complex. This is because a manager may find it difficult to know what a particular system is worth, or to know what it costs.

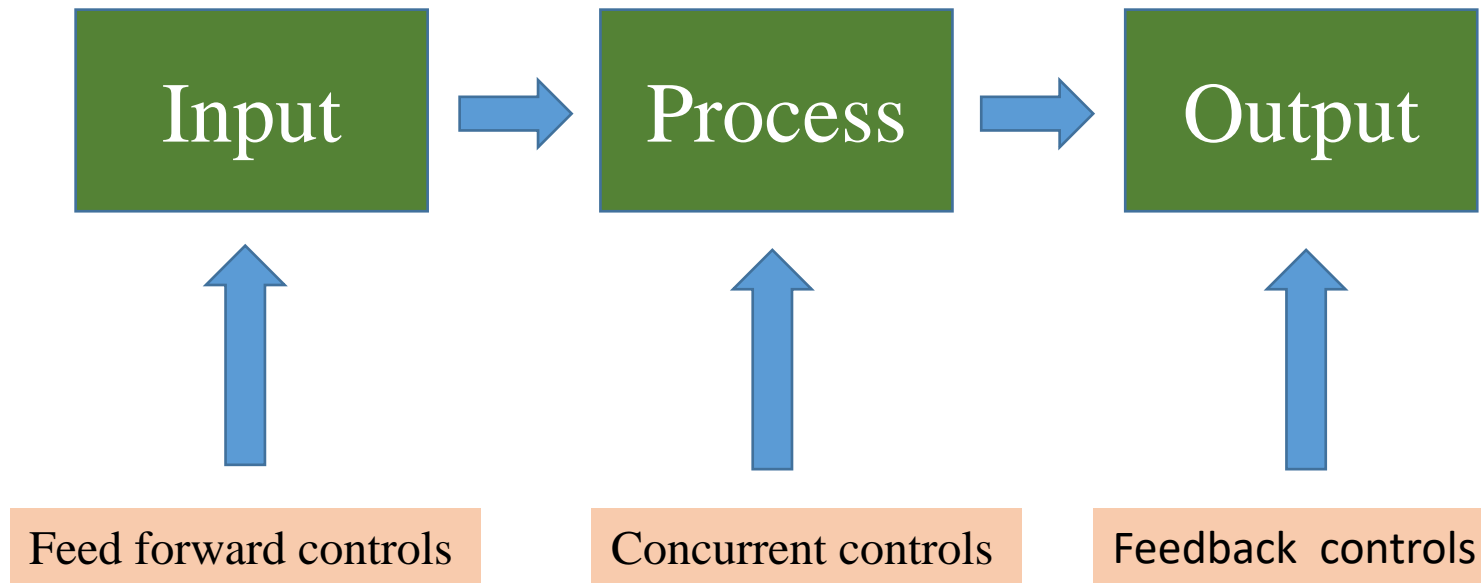
g) Control should lead to corrective actions

This is because a control system will be of little benefit if it does not lead to corrective action, control is justified only if the indicated or experienced deviations from plans are corrected through appropriate planning, organizing, directing, and leading.



TYPES OF CONTROL SYSTEMS

The control systems can be classified into three types namely feed forward, concurrent and feedback control systems.



a) Feed forward controls: They are preventive controls that try to anticipate problems and **take corrective action before they occur.** Example – a team leader checks the quality, completeness and reliability of their tools prior to going to the site.

b) Concurrent controls: They (sometimes called screening controls) **occur while an activity is taking place.** Example – the team leader checks the quality or performance of his members while performing.

c) Feedback controls: They measure activities that have **already been completed.** Thus corrections can take place after performance is over. Example – feedback from facilities engineers regarding the completed job.



BUDGETARY CONTROL

Definition: Budgetary Control is defined as "the **establishment of budgets**, relating the responsibilities of executives to the requirements of a policy, and the continuous comparison of actual with budgeted results either to secure by individual action the objective of that policy or to provide a base for its revision.



CLASSIFICATION OF BUDGETS

Budgets may be classified on the following bases

TIME PERIOD

Long term budget
Short term budget

CONDITION

Basic Budget
Current Budget

CAPACITY

Fixed Budget
Flexible Budget

COVERAGE

Functional Budget
Master Budget



A) BASED ON TIME PERIOD:

(i) Long Term Budget

Budgets which are prepared for periods longer than a year are called Long Term Budgets. Such Budgets are helpful in business **forecasting and forward planning**.

Eg: Capital Expenditure Budget and R&D Budget.

(ii) Short Term Budget

Budgets which are prepared for periods less than a year are known as Short Term Budgets. Such Budgets are prepared in cases where a **specific action has to be immediately taken** to bring any variation under control.

Eg: Cash Budget.



B) BASED ON CONDITION:

(i) Basic Budget

A Budget, which remains unaltered over a long period of time, is called Basic Budget.

(ii) Current Budget

A Budget, which is established for use over a short period of time and is related t

C) BASED ON CAPACITY:

(i) Fixed Budget

It is a Budget designed to remain unchanged irrespective of the level of activity actually attained. It operates on one level of activity and less than one set of conditions. It assumes that there will be no change in the prevailing conditions, which is unrealistic.

(ii) Flexible Budget

It is a Budget, which by recognizing the difference between fixed, semi variable and variable costs is designed to change in relation to level of activity attained. It consists of various budgets for different levels of activity the current conditions, is called Current Budget.



D) BASED ON COVERAGE:

(i) Functional Budget

Budgets, which relate to the **individual functions** in an organization, are known as Functional Budgets, e.g. purchase Budget, Sales Budget, Production Budget and plant Utilization Budget.

(ii) Master Budget

It is a consolidated summary of the various functional budgets. It serves as the **basis upon which budgeted Profit & Loss Account** and forecasted Balance Sheet are built up.



BUDGETARY CONTROL TECHNIQUES

The various types of budgets are as follows

i) Revenue and Expense Budgets:

The most common budgets spell out plans for revenues and operating expenses in rupee terms. The most basic of revenue budget is the sales budget which is a formal and detailed expression of the sales forecast.

ii) Time, Space, Material, and Product Budgets:

Many budgets are better expressed in quantities rather than in monetary terms. e.g. direct-labor-hours, machine-hours, units of materials, square feet allocated, and units produced. The Rupee cost would not accurately measure the resources used or the results intended.

iii) Capital Expenditure Budgets:

Capital expenditure budgets outline specifically capital expenditures for plant, machinery, equipment, inventories, and other items. These budgets require care because they give definite form to plans for spending the funds of an enterprise.



iv) Cash Budgets:

The cash budget is simply a forecast of cash receipts and disbursements against which actual cash "experience" is measured. The availability of cash to meet obligations as they fall due is the first requirement of existence, and handsome business profits do little good when tied up in inventory, machinery, or other noncash assets.

v) Variable Budget:

The variable budget is based on an analysis of expense items to determine how individual costs should vary with volume of output. Some costs do not vary with volume, particularly in so short a period as 1 month, 6 months, or a year. Among these are depreciation, property taxes and insurance, maintenance of plant and equipment, and costs of keeping a minimum staff of supervisory and other key personnel. Costs that vary with volume of output range from those that are completely variable to those that are only slightly variable.

vi) Zero Based Budget:

The idea behind this technique is to divide enterprise programs into "packages" composed of goals, activities, and needed resources and then to calculate costs for each package from the ground up.



NON-BUDGETARY CONTROL TECHNIQUES

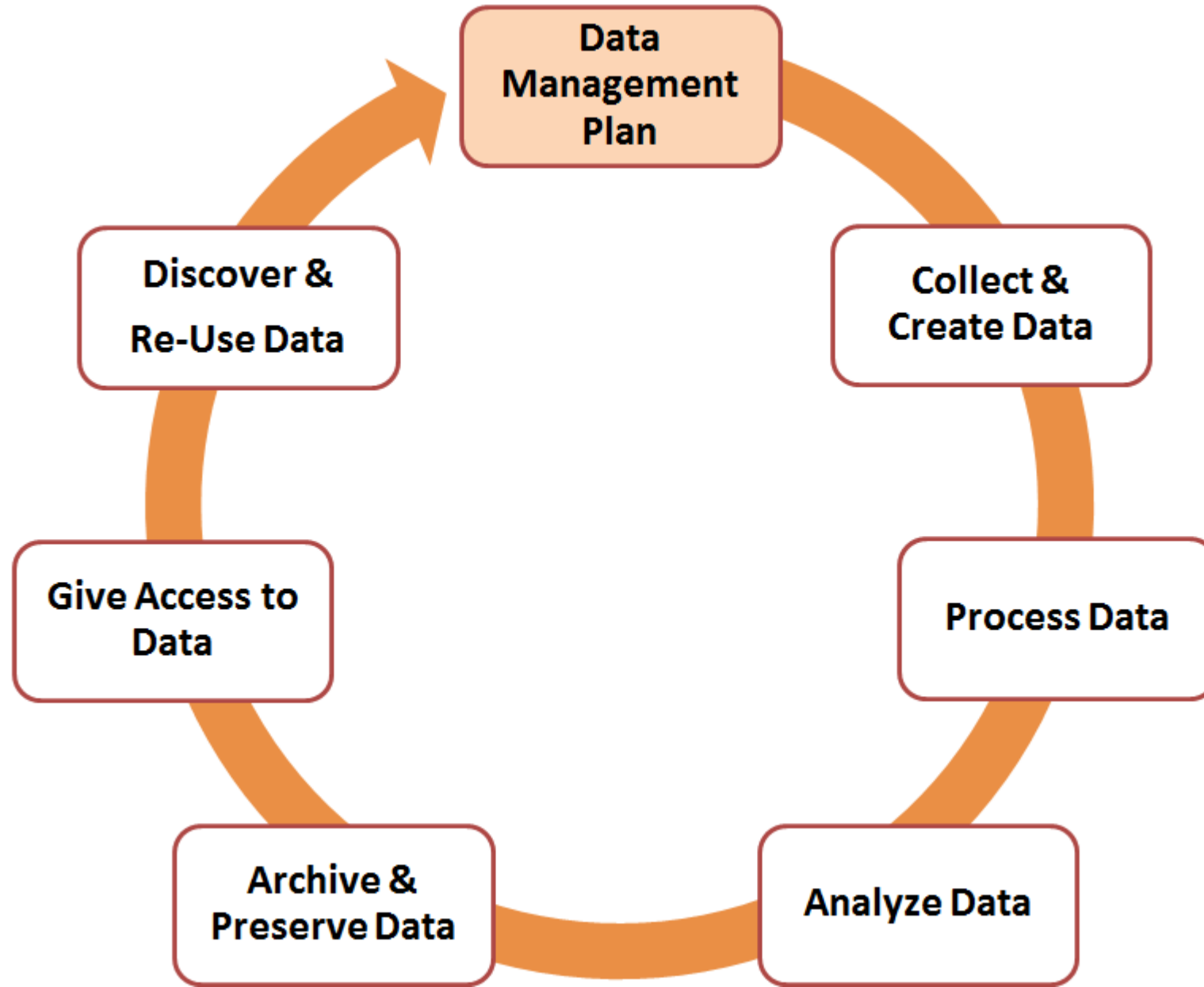
There are, of course, many traditional control devices not connected with budgets, although some may be related to, and used with, budgetary controls. Among the most important of these are: statistical data, special reports and analysis, analysis of break-even points, the operational audit, and the personal observation.

i) Statistical data:

Statistical analyses of innumerable aspects of a business operation and the clear presentation of statistical data, whether of a historical or forecast nature are, of course, important to control. Some managers can readily interpret tabular statistical data, but most managers prefer presentation of the data on charts.



Statistical data



ii) Break- even point analysis:

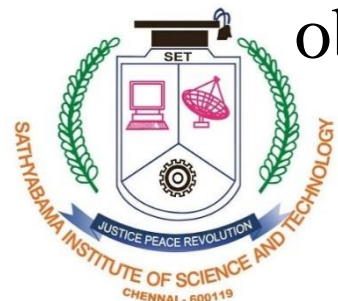
An interesting control device is the break even chart. This chart depicts the **relationship of sales and expenses** in such a way as to show at what volume revenues exactly cover expenses.

iii) Operational audit:

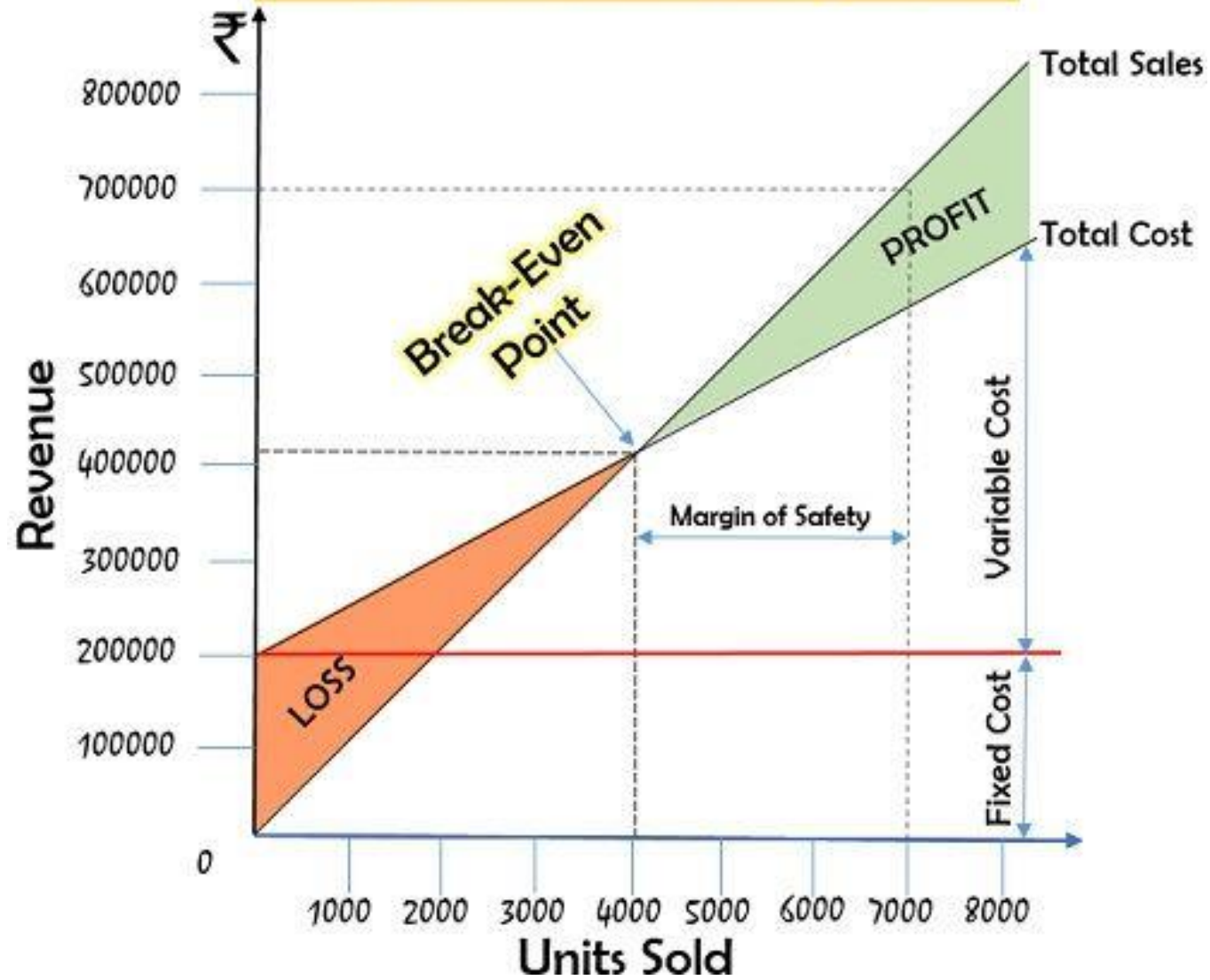
Another effective tool of managerial control is the internal audit or, as it is now coming to be called, the operational audit. Operational auditing, in its broadest sense, is the regular and independent appraisal, by a staff of **internal auditors**, of the **accounting, financial, and other operations of a business**.

iv) Personal observation:

In any preoccupation with the devices of managerial control, one should never overlook the importance of control through personal observation.



Break-Even Analysis



Audit Activities



v) PERT:

The Program (or Project) Evaluation and Review Technique, commonly abbreviated PERT, is a method to analyze the involved tasks in completing a given project, especially the time needed to complete each task, and identifying the minimum time needed to complete the total project.

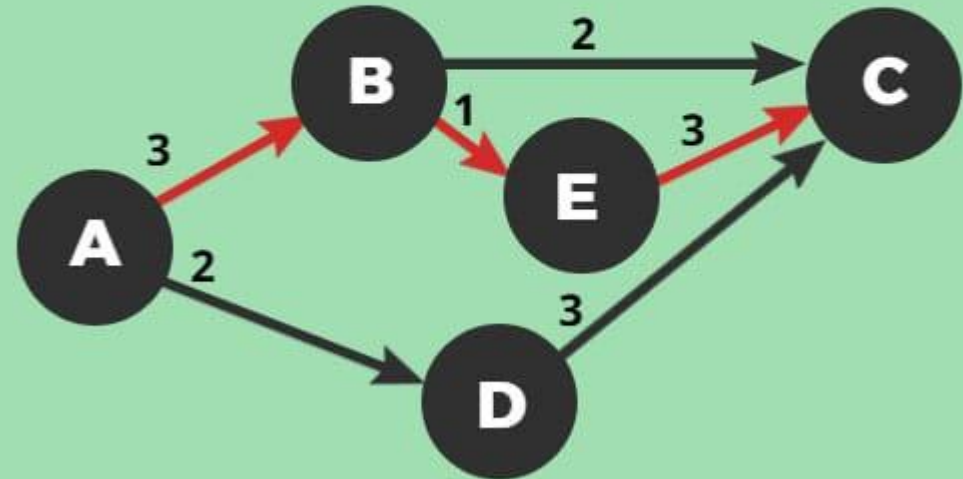
vi) GANTT CHART:

A Gantt chart is a type of bar chart that illustrates a project schedule. Gantt charts illustrate the start and finish dates of the terminal elements and summary elements of a project. Terminal elements and summary elements comprise the work breakdown structure of the project. Some Gantt charts also show the dependency (i.e., precedence network) relationships between activities.

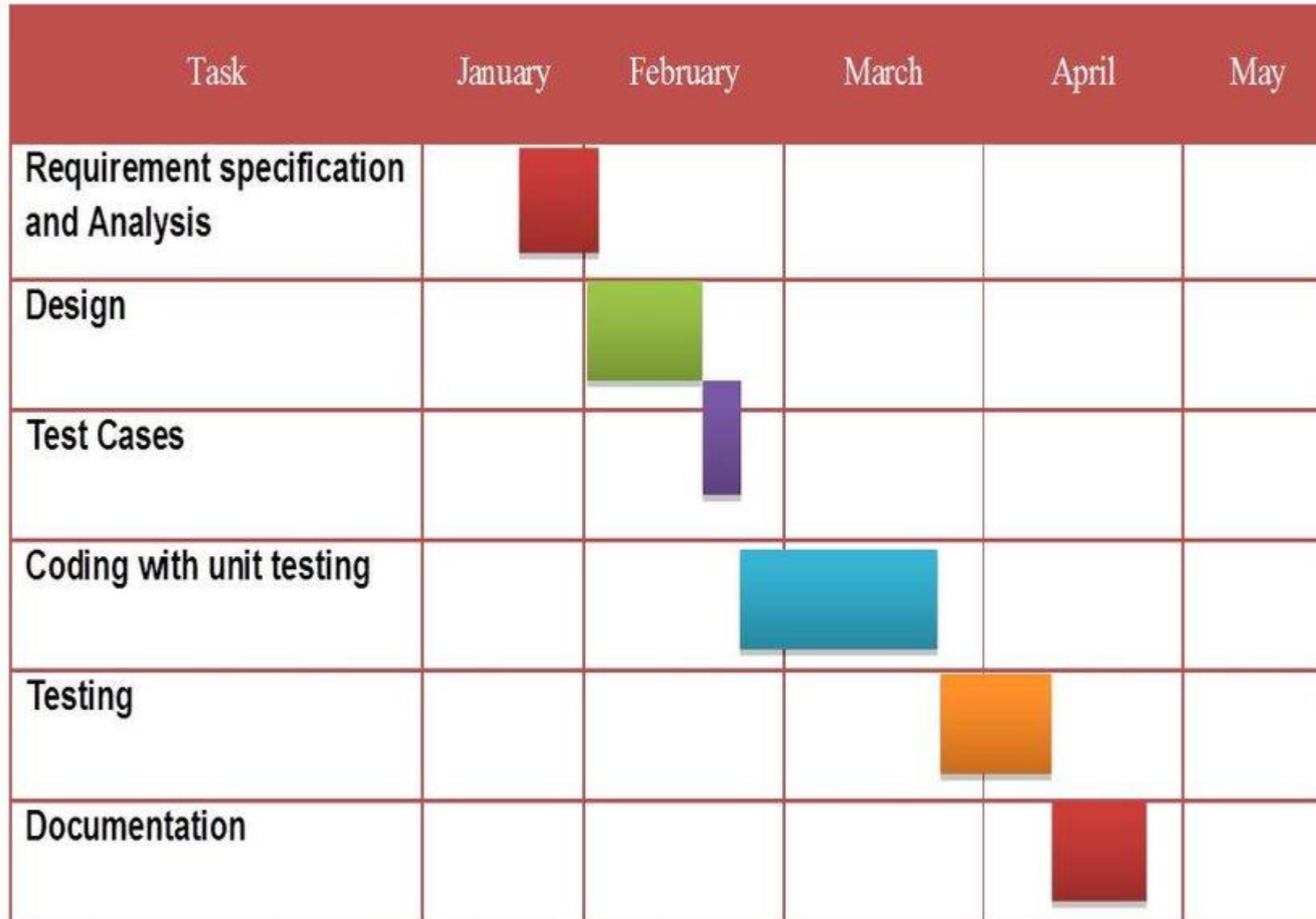


What is PERT?

Program Evaluation and Review Technique, PERT, is a statistical tool used in project management, which was designed to analyze and represent the tasks involved in completing a given project.



GANTT CHART



PRODUCTIVITY

Productivity refers to the ratio between the output from production processes to its input. Productivity may be conceived of as a measure of the technical or engineering efficiency of production. As such quantitative measures of input, and sometimes output, are emphasized.

Typical Productivity Calculations

Measures of size and resources may be combined in many different ways. The three common approaches to defining productivity based on the model of Figure 2 are referred to as physical, functional, and economic productivity. Regardless of the approach selected, adjustments may be needed for the factors of diseconomy of scale, reuse, requirements churn, and quality at delivery.



a) Physical Productivity

This is a ratio of the amount of product to the resources consumed (usually effort). Product may be measured in lines of code, classes, screens, or any other unit of product. Typically, effort is measured in terms of staff hours, days, or months. The physical size also may be used to estimate software performance factors (e.g., memory utilization as a function of lines of code).

b) Functional Productivity

This is a ratio of the amount of the functionality delivered to the resources consumed (usually effort). Functionality may be measured in terms of use cases, requirements, features, or function points (as appropriate to the nature of the software and the development method). Typically, effort is measured in terms of staff hours, days, or months. Traditional measures of Function Points work best with information processing systems. The effort involved in embedded and scientific software is likely to be underestimated with these measures, although several variations of Function Points have been developed that attempt to deal with this issue.



c) Economic Productivity

This is a ratio of the value of the product produced to the cost of the resources used to produce it.

Economic productivity helps to evaluate the economic efficiency of an organization.

Economic productivity usually is not used to predict project cost because the outcome can be affected by many factors outside the control of the project, such as sales volume, inflation, interest rates, and substitutions in resources or materials, as well as all the other factors that affect physical and functional measures of productivity.

However, understanding economic productivity is essential to making good decisions about outsourcing and subcontracting. The basic calculation of economic productivity is as follows:

$$\text{Economic Productivity} = \text{Value} / \text{Cost}$$



PROBLEMS IN MEASUREMENT OF PRODUCTIVITY OF KNOWLEDGE WORKERS

Productivity implies measurement, which in turn, is an essential step in the control process. Although there is a general agreement about the need for improving productivity, there is little consensus about the fundamental causes of the problem and what to do about them.

The blame has been assigned to various factors. Some people place it on the greater proportion of less skilled workers with respect to the total labour force, but others disagree.



COST CONTROL

Cost control is the measure taken by management to assure that the cost objectives set down in the planning stage are attained and to assure that all segments of the organization function in a manner consistent with its policies.

Steps involved in designing process of cost control system

Establishing norms: To exercise cost control it is essential to establish norms, targets or parameters which may serve as yardsticks to achieve the ultimate objective. These standards, norms or targets may be set on the basis of research, study or past actual.



Appraisal: The actual results are compared with the set norms to ascertain the degree of utilization of men, machines and materials. The deviations are analysed so as to arrive at the causes which are controllable and uncontrollable.

Corrective measures: The variances are reviewed and remedial measures or revision of targets, norms, standards etc., as required are taken.

Advantages of cost control

- Better utilization of resources
- To prepare for meeting a future competitive position.
- Reasonable price for the customers
- Firm standing in domestic and export markets.



PURCHASE CONTROL

Purchase control is an element of material control. Material procurement is known as the purchase function. The functional responsibility of purchasing is that of the purchase manager or the purchaser. Purchasing is an important function of materials management because in purchase of materials, a substantial portion of the company's finance is committed which affects cash flow position of the company.

a) Continuous availability of materials: It ensures the continuous flow of materials. so production work may not be held up for want of materials. A manufacturer can complete schedule of production in time.

b) Purchasing of right quantity: Purchase of right quantity of materials avoids locking up of working capital. It minimizes risk of surplus and obsolete stores. It means there should not be possibility of overstocking and understocking.



d) Economy in purchasing: The purchasing of materials is a highly specialized function. By purchasing materials at reasonable prices, the efficient purchaser is able to make a valuable contribution to the success of a business.

e) Works as information centre: It serves as a function centre on the materials knowledge relating to prices, sources of supply, specifications, mode of delivery, etc. By providing continuous information to the management it is possible to prepare planning for production.

f) Development of business relationship: Purchasing of materials from the best market and from reliable suppliers develops business relationships. The result is that there may be smooth supply of materials in time and so it avoid disputes and financial losses.



g) Finding of alternative source of supply: If a particular supplier fails to supply the materials in time, it is possible to develop alternate sources of supply. the effect of this is that the production work is not disturbed.

h) Fixing responsibilities: Effective purchase control fix the responsibilities of operating units and individuals connected with the purchase, storage and handling of materials.



MAINTENANCE CONTROL

Maintenance department has to exercise effective cost control, to carry out the maintenance functions in a pre-specified budget, which is possible only through the following measures:

First line supervisors must be apprised of the cost information of the various materials so that the objective of the management can be met without extra expenditure on maintenance functions

A monthly review of the budget provisions and expenditures actually incurred in respect of each centre/shop will provide guidelines to the departmental head to exercise better cost control.



QUALITY CONTROL

Quality control refers to the technical process that gathers, examines, analyse & report the progress of the project & conformance with the performance requirements

The steps involved in quality control process are

- 1) Determine what parameter is to be controlled.
- 2) Establish its criticality and whether you need to control before, during or after results are produced.
- 3) Establish a specification for the parameter to be controlled which provides limits of acceptability and units of measure.
- 4) Produce plans for control which specify the means by which the characteristics will be achieved and variation detected and removed.
- 5) Organize resources to implement the plans for quality control.
- 6) Install a sensor at an appropriate point in the process to sense variance from specification.
- 7) Collect and transmit data to a place for analysis.
- 8) Verify the results and diagnose the cause of variance.
- 9) Propose remedies and decide on the action needed to restore the status quo.
- 10) Take the agreed action and check that the variance has been corrected.



PLANNING OPERATIONS

An operational planning is a subset of strategic work plan. It describes short-term **ways of achieving milestones** and explains how, or what portion of, a strategic plan will be put into operation during a given operational period, in the case of commercial application, a fiscal year or another given budgetary term. An operational plan is the basis for, and justification of an annual operating budget request. Therefore, a five-year strategic plan would need five operational plans funded by five operating budgets.

Operational plans should establish the activities and budgets for each part of the organization

for the next 1 – 3 years. They link the strategic plan with the activities the organization will deliver and the resources required to deliver them.



An operational plan draws directly from agency and program strategic plans to describe agency and program missions and goals, program objectives, and program activities. Like a strategic plan, an operational plan addresses four questions:

1. Where are we now?
2. Where do we want to be?
3. How do we get there?
4. How do we measure our progress?



The OP is both the first and the last step in preparing an operating budget request. As the first step, the OP provides a plan for resource allocation; as the last step, the OP may be modified to reflect policy decisions or financial changes made during the budget development process. Operational plans should be prepared by the people who will be involved in implementation. There is often a need for significant cross-departmental dialogue as plans created by one part of the organization inevitably have implications for other parts.

Operational plans should contain:

- clear objectives
- activities to be delivered
- quality standards
- desired outcomes
- staffing and resource requirements
- implementation timetables
- a process for monitoring progress.



Thank you...