Q2. Budgetary and Non Budgetary control techniques →

Budgetary Control is defined as "the establishment of budgets" relating the responsibilities of executives with the requirements of the policy.

Budgets may be classified as follows →

- Time period → Long term budget
  → Short term budget
- Condition → Basic budget
  → Current budget
- Capacity → Fixed budget
  → Flexible budget
- Coverage → Functional budget
  → Master budget

Budgetary control techniques →

i) Revenue and expense budgets:

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

ii) Time, Space, Material and Product Budgets -

- Many budgets are expressed in terms of quantities rather than monetary terms.
  eg. labour hours, machine hours, units of material, square feet allocated, units produced etc.
- The Rupee cost would not accurately measure the resources.

iii) Capital Expenditure Budgets-

- They specifically outline capital expenditures for machinery, equipment, and other items.
- These budgets require care because they give definite form to the plans to spend the funds of an enterprise

iv) Cash budgets -

- Cash budgets are simply the cash reciepts and disbursements against which the actual cash experience is measured.
- The availability of cash to meet obligations is the first requirement of existence, since handsome business profits do little good when tied up to inventory, machinery or other non cash assets.

v) Variable Budget -

- The variable budget is based on analysis of ~~business~~ expense items to determine how individual costs vary with volume of output

- Some costs do not vary with volume, especially in short periods of time, such as 1 month, 6 months or 1 yr.

- Among these are depreciation, property taxes and insurance, maintenance of plant and equipment, cost of keeping a minimum staff and other key personnel etc.

- Costs that vary with volume can range from those that are completely variable to those that are only slightly variable.

vi) Zero Based Budget -

- The idea is to divide the enterprise programs into "packages" consisting of goals, activities and needed resources, and then calculating cost for each package ground up.

Non Budgetary Control Techniques →

There are many traditional control techniques not connected with budgets, although some may be related to or used with budgetary controls.

Among the most important include:

i) Statistical data:

- It is important to control statistical analysis of innumerable aspects of business operation, and the clear presentation of statistical data (historical or forcast nature)
- Some managers can readily interpret tabular statistical data, but most prefer presentation on charts.

ii) Break-even point analysis:

- Another interesting control device is the break even chart.
- This chart depicts the relationship of sales and expenses in such a way that shows what volume of revenues exactly cover expenses.

iii) Operational audit:

- Operational auditing, in the broadest sense, is the regular and independent appraisal by ~~the~~ a staff of the 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.

v) PERT :

- The Program / Project Evaluation and Review Technique, commonly abbreviated as PERT is a method to analyse the tasks involved 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.
- It shows the start and finish dates of the terminal and summary elements of a project.
- The terminal and summary elements comprise the work breakdown ~~of~~ structure of the project.

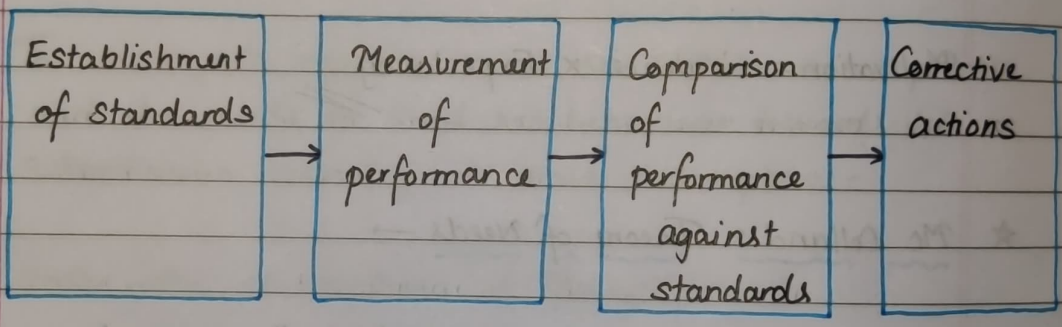
Unit - 4

Q1. Controlling process, requirements and types

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

Control process →

The basic control process involves mainly these steps as shown in the figure:



1. Establishment of standards →

- The first step of the control process would be to accomplish plans
- Plans can be considered as the criterion or standards against which we would compare the actual performance in order to figure out deviations.

2. Performance Measurement →

- 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 of measuring the various types of organizational performance depends upon the activity being measured.

3. Comparing measured performance against standards-

- The next step in controlling that the managers must perform is the comparison of this measurement against some standard.

- The performance evaluated can be for the organization as a whole or ~~the~~ some individuals working in the org.

- Standards act as the yardsticks that determine if the organizational performance is adequate on inadequate.

4. Taking Corrective Actions →

- The next step after measurement and comparison is to take any corrective action if necessary.

- Corrective action is the managerial activity aimed at bringing the 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 all control techniques should reflect the plans they are designed to follow.
- This is because every plan and every phase of operation ~~is~~ has it's own unique characteristics.

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

- Controls must be tailored to the personalities of individual managers.
- Control systems are intended to help managers carry out their function of control, so if they are not the type that a manager can or will understand, then they will not be useful.

c) Control should point up exceptions as critical points -

- By concentration on exceptions from planned performance, controls allow managers to detect the places where their attention is required and should be given.

d) Control should be objective -

- If controls are subjective, then manager's personality may influence judgements of performance inaccuracy
- ~~Controls~~ Objective standards can be quantitative, such as cost, date of job completion, man hours per unit, etc.

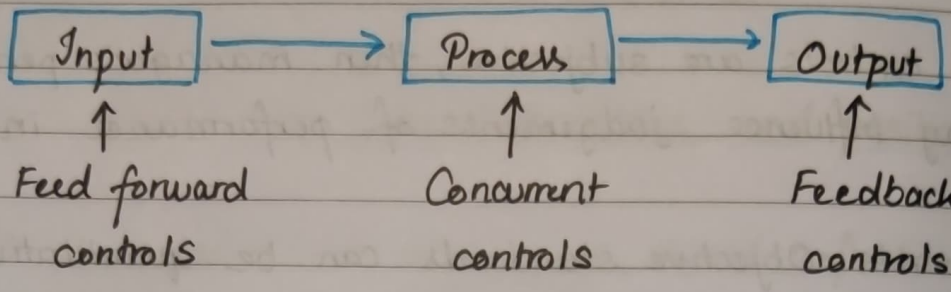
e) Control should be economical -

- This means, control must be worth the cost
- This requirement may seem simple, but is complex in practice because manager may find it difficult to know what a particular system is worth, or what is it's cost.

f) Control should lead to corrective actions -

- A control system ~~whi~~ will not be of much benefit if it does not lead to corrective action.
- Control is justified only if the indicated and experienced deviations are corrected through appropriate planning, organizing, directing and leading.

Types of Control systems →



The control systems can be classified into the following three types →

1. Feed forward controls -

They are preventive controls that try to anticipate problems and take corrective actions before they occur

2. Concurrent control -

Also called as screening controls, they occur while an activity is taking place.

3. ~~Output~~ Feedback control -

They measure activities that have already been completed. Thus correction takes place after the performance is over

Q3. Productivity

- Productivity refers to the ratio between the output from production processes to it's input
- Productivity can be considered as the measure of the technical or engineering efficiency of production.
- Quantitative measures of input and sometimes outputs are emphasized.

Typical Productivity Calculations →

The three common approaches to defining productivity are referred to as →

- physical productivity
- functional productivity
- economic productivity

Regardless of the approach selected, adjustment may be needed for factors such as diseconomy of sales, reuse, requirements churn and quality at delivery.

a) Physical Productivity →

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

b) Functional Productivity →

- This is the ratio of the amount of functionality delivered to the amount of 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)
- Traditional measures of function points work best with information processing system.

- The efforts involved in embedded and scientific software are likely to be underestimated by these measures

- Several variations of function points have been developed that attempt to deal with this issue.

c) Economic productivity -

- Economic productivity is the ratio of the value of the product produced to the cost of the resources used to produce it.

- It helps evaluate the economic efficiency of an organisation

- Economic productivity is usually not used to predict the project cost, because the outcome can be affected by many factors outside of the control of the project, such as sales volume, inflation, interest rates, substitutions in resources or materials etc.

- Understanding the economic productivity is essential to making good decisions about outsourcing and subcontracting

- The basic calculation of economic productivity is as follows:

economic productivity = value / cost

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Page

Problems in Measurement of Productivity of knowledge workers →

→ Productivity implies measurement, which is in turn an essential step of the control process

→ Although there is general ~~eor~~ agreement on the need for improving productivity, there is little ~~consesu~~ 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.