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Control Technique: As A Tool

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Control is a foreseeing function. It is a technique which used to check the errors and to take the corrective action so that deviation from standards are minimized and stated goals of the organization are achieved in a desired manner. It is a management, continues and end process. It can be grouped on three general basis such as open or ended, man or machine, organizational or operational basis. Management control systems are tools to aid management for steering an organization toward its strategic objectives and competitive advantage. Management controls are only one of the tools which managers use in implementing desired strategies. However strategies get implemented through management controls, organizational structure, human resources management and culture.

Keywords: Control Technique, Types of Control, Tools.

Introduction

Definition

Managerial control is one of the primary functions of management, and it involves setting performance standards, measuring performance, and taking corrective actions when necessary.

Control, or controlling, is one of the managerial functions like planning, organizing, staffing and directing. It is an important function because it helps to check the errors and to take the corrective action so that deviation from standards are minimized and stated goals of the organization are achieved in a desired manner.

According to modern concepts, control is a foreseeing action whereas earlier concept of control was used only when errors were detected. Control in management means setting standards, measuring actual performance and taking corrective action.

In 1916, Henri Fayol formulated one of the first definitions of control as it pertains to management:

Control of an undertaking consists of seeing that everything is being carried out in accordance with the plan which has been adopted, the orders which have been given, and the principles which have been laid down. Its object is to point out mistakes in order that they may be rectified and prevented from recurring.

According to EFL Brech: Control is checking current performance against pre-determined standards contained in the plans, with a view to ensure adequate progress and satisfactory performance.

Management control can be defined as a systematic effort by business management to compare performance to predetermined standards, plans, or objectives in order to determine whether performance is in line with these standards and presumably in order to take any remedial action required to see that human and other corporate resources are being used in the most effective and efficient way possible in achieving corporate objectives.

Also control can be defined as "that function of the system that adjusts operations as needed to achieve the plan, or to maintain variations from system objectives within allowable limits". The control subsystem functions in close harmony with the operating system. The degree to which they interact depends on the nature of the operating system and its objectives. Stability concerns a system's ability to maintain a pattern of output without wide fluctuations. Rapidity of response pertains to the speed with which a system can correct variations and return to expected output.[3]

A political election can illustrate the concept of control and the importance of feedback. Each party organizes a campaign to get its candidate selected and outlines a plan to inform the public about both the candidate's credentials and the party's platform. As the election nears, opinion polls furnish feedback about the effectiveness of the campaign and about each candidate's chances to win. Depending on the nature of this feedback, certain adjustments in strategy and/or tactics can be made in an attempt to achieve the desired result.

Aim of the Study

1. To define the control technique
2. To identify and classification ofthe types of control technique.

Characteristics

1. Control is a continuous process.
2. Control is a management process
3. Control is embedded in each level of organizational hierarchy.
4. Control is forward looking.
5. Control is closely linked with planning.
6. Control is a tool for achieving organizational activities.
7. Control is an end process.
8. Control compares actual performance with planned performance.*
9. Control point out the error in the execution process.
10. Control helps in minimizing cost.
11. Control helps in achieving standard.
12. Control saves the time.

Elements

The four basic elements in a control system:

1. The characteristic or condition to be controlled.
2. The sensor.
3. The comparator.
4. The activator.

Kinds

Control may be grouped according to three general classifications:

1. The nature of the information flow designed into the system (open- or closed-loop control).
2. The kind of components included in the design (man or machine control systems).
3. The relationship of control to the decision process (organizational or operational control).

Open- and Closed-Loop Control

A street-lighting system controlled by a timing device is an example of an open-loop system. At a certain time each evening, a mechanical device closes the circuit and energy flows through the electric lines to light the lamps. Note, however, that the timing mechanism is an independent unit and is not measuring the objective function of the lighting system. If the lights should be needed on a dark, stormy day the timing device would not recognize this need and therefore would not activate energy inputs. Corrective properties may sometimes be built into the controller (for example, to modify the time the lights are turned on as the days grow shorter or longer), but this would not close the loop. In another instance, the sensing, comparison, or adjustment may be made through action taken by an individual who is not part of the system. For example, the lights may be turned on by someone who happens to pass by and recognizes the need for additional light.

An essential part of a closed-loop system is feedback; that is, the output of the system is measured continually through the item controlled, and the input is modified to reduce any difference or error toward zero. Many of the patterns of information flow in organizations are found to have the nature of closed loops, which use feedback. The reason for such a condition is apparent when one recognizes that any system, if it is to achieve a predetermined goal, must have available to it at all times an indication of its degree of attainment. In general, every goal-seeking system employs feedback.

Man and Machine Control

The elements of control are easy to identify in machine systems. For example, the characteristic to be controlled might be some variable like speed or temperature, and the sensing device could be a speedometer or a thermometer. An expectation of precision exists because the characteristic is quantifiable and the standard and the normal variation to be expected can be described in exact terms. In automatic machine systems, inputs of information are used in a process of continual adjustment to achieve output specifications. When even a small variation from the standard occurs, the correction process begins. The automatic system is highly structured, designed to accept certain kinds of input and produce specific output, and programmed to regulate the transformation of inputs within a narrow range of variation.

For an illustration of mechanical control: as the load on a steam engine increases and the engine starts to slow down, the regulator reacts by opening a valve that releases additional inputs of steam energy. This new input returns the engine to the desired number of revolutions per minute. This type of mechanical control is crude in comparison to the more sophisticated electronic control systems in everyday use. Consider the complex missile-guidance systems that measure the actual course according to predetermined mathematical calculations and make almost instantaneous corrections to direct the missile to its target.

Machine systems can be complex because of the sophisticated technology, whereas control of people is complex because the elements of control are difficult to determine. In human control systems, the relationship between objectives and associated characteristics is often vague; the measurement of the characteristic may be extremely subjective; the expected standard is difficult to define; and the amount of new inputs required is impossible to quantify. To illustrate, let us refer once more to a formalized social system in which deviant behavior is controlled through a process of observed violation of the existing law (sensing), court hearings and trials (comparison with standard), incarceration when the accused is found guilty (correction), and release from custody after rehabilitation of the individual has occurred. The speed limit established for freeway driving is one standard of performance that is quantifiable, but even in this instance, the degree of permissible variation and the amount of the actual variation are often a subject of disagreement between the patrolman and the suspected violator. The complexity of our society is reflected in many of our laws and regulations, which establish the general standards for economic, political, and social operations. A citizen may not know or understand the law and consequently would not know whether or not he was guilty of a violation.

Most organized systems are some combination of man and machine; some elements of

control may be performed by machine whereas others are accomplished by man. In addition, some standards may be precisely structured whereas others may be little more than general guidelines with wide variations expected in output. Man must act as the controller when measurement is subjective and judgment is required. Machines such as computers are incapable of making exceptions from the specified control criteria regardless of how much a particular case might warrant special consideration. A pilot acts in conjunction with computers and automatic pilots to fly large jets. In the event of unexpected weather changes, or possible collision with another plane, he must intercede and assume direct control.

Organizational and Operational Control

The concept of organizational control is implicit in the bureaucratic theory of Max Weber. Associated with this theory are such concepts as "span of control", "closeness of supervision", and "hierarchical authority". Weber's view tends to include all levels or types of organizational control as being the same. More recently, writers have tended to differentiate the control process between that which emphasizes the nature of the organizational or systems design and that which deals with daily operations. To illustrate the difference, we "evaluate" the performance of a system to see how effective and efficient the design proved to be or to discover why it failed. In contrast, we operate and "control" the system with respect to the daily inputs of material, information, and energy. In both instances, the elements of feedback are present, but organizational control tends to review and evaluate the nature and arrangement of components in the system, whereas operational control tends to adjust the daily inputs.

The direction for organizational control comes from the goals and strategic plans of the organization. General plans are translated into specific performance measures such as share of the market, earnings, return on investment, and budgets. The process of organizational control is to review and evaluate the performance of the system against these established norms. Rewards for meeting or exceeding standards may range from special recognition to salary increases or promotions. On the other hand, a failure to meet expectations may signal the need to reorganize or redesign. .

Problem

One problem of control relates to the improper timing of information introduced into the feedback channel. Improper timing can occur in both computerized and human control systems, either by mistakes in measurement or in judgment. The more rapid the system's response to an error signal, the more likely it is that the system could overadjust; yet the need for prompt action is important because any delay in providing corrective input could also be crucial. A system generating feedback inconsistent with current need will tend to fluctuate and will not adjust in the desired manner.

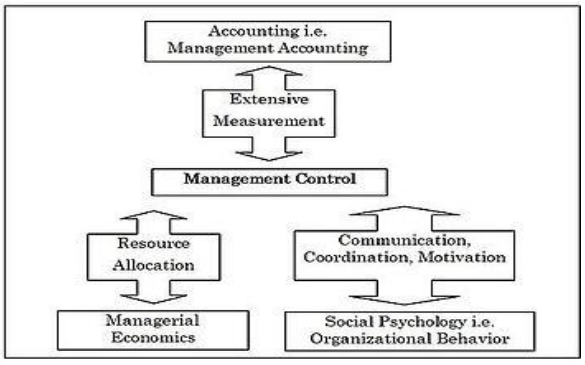
The most serious problem in information flow arises when the delay in feedback is exactly one-half cycle, for then the corrective action is superimposed on a variation from norm which, at that moment, is in the same direction as that of the correction. This causes the system to overcorrect, and then if the reverse adjustment is made out of cycle, to correct too much in the other direction, and so on until the system fluctuates ("oscillates") out of control. This phenomenon is illustrated in Figure 1. “Oscillation and Feedback”. If, at Point A, the trend below standard is recognized and new inputs are added, but not until Point B, the system will overreact and go beyond the allowable limits. Again, if this is recognized at Point C, but inputs are not withdrawn until Point D, it will cause the system to drop below the lower limit of allowable variation.

One solution to this problem rests in anticipation, which involves measuring not only the change but also the rate of change. The correction is outlined as a factor of the type and rate of the error. The difficulty also might be overcome by reducing the time lag between the measurement of the output and the adjustment to input. If a trend can be indicated, a time lead can be introduced to compensate for the time lag, bringing about consistency between the need for correction and the type and magnitude of the indicated action. It is usually more effective for an organization to maintain continuous measurement of its performance and to make small adjustments in operations constantly (this assumes a highly sensitive control system). Information feedback, consequently, should be timely and correct to be effective. That is, the information should provide an accurate indication of the status of the system.

Setting Standards

Setting the proper standards or control limits is a problem in many systems. Parents are confronted with this dilemma in expressing what they expect of their children, and business managers face the same issue in establishing standards that will be acceptable to employees. Some theorists have proposed that workers be allowed to set their own standards, on the assumption that when people establish their own goals, they are more apt to accept and achieve them.
Standards should be as precise as possible and communicated to all persons concerned. Moreover, communication alone is not sufficient; understanding is necessary. In human systems, standards tend to be poorly defined and the allowable range of deviation from standard also indefinite. For example, how many hours each day should a professor be expected to be available for student consultation? Or, what kind of behavior should be expected by students in the classroom? Discretion and personal judgment play a large part in such systems, to determine whether corrective action should be taken.

Most control problems relate to design; thus the solution to these problems must start at that point. Automatic control systems, provided that human intervention is possible to handle exceptions, offer the greatest promise. There is a danger, however, that we may measure characteristics that do not represent effective performance (as in the case of the speaker who requested that all of the people who could not hear what he was saying should raise their hands), or that improper information may be communicated.



A management control system (MCS) is a system which gathers and uses information to evaluate the performance of different organizational resources like human, physical, financial and also the organization as a whole considering the organizational strategies.

Management control system influences the behavior of organizational resources to implement organizational strategies. Management control system might be formal or informal.

Overview

Management control systems are tools to aid management for steering an organization toward its strategic objectives and competitive advantage. Management controls are only one of the tools which managers use in implementing desired strategies. However strategies get implemented through management controls, organizational structure, human resources management and culture.

According to Simons (1995), Management Control Systems are the formal, information-based routines and procedures managers use to maintain or alter patterns in organizational activities Anthony & Young (1999) showed management control system as a black box. The term black box is used to describe an operation whose exact nature cannot be observed.

History

One of the first authors to define management control systems was Ernest Anthony Lowe, Professor of Accounting and Financial Management at the University of Sheffield, in his 1972 article "On the idea of a management control system." He listed the following four reasons for the need for a planning and control system:

The need for a planning and control system within a business organization flows from certain general characteristics of the nature of business enterprises, the chief of which are follows:

1. Firstly, the enterprise has (by definition) organizational objectives, as distinct from the separable and individual ones of the members constituting the 'managerial coalition';
2. Secondly, the managers of the sub-units of the enterprise must necessarily be ambivalent in view of their own personal goals, as well as have a good deal of discretion in deciding how they should behave and in formulating their part of any overall plan to achieve organizational objectives;
3. Thirdly, business situations (and people's behaviour) are full of uncertainty, internally as well as externally to the business enterprise.
4. Fourthly, there is a necessity to economize, in human endeavours we are invariably concerned with an allocation of effort and resources so as to achieve a given set of objectives... The term 'management control' was given of its current connotations by Robert N. Anthony (Otley, 1994).

Management Control System Techniques

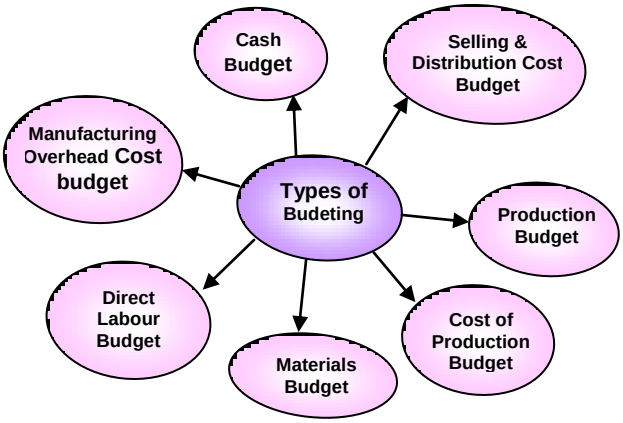
According to Horngren et al. (2005), management control system is an integrated technique for collecting and using information to motivate employee behavior and to evaluate performance. Management control systems use many techniques such as

1. Activity-based costing
2. Balanced scorecard
3. Benchmarking and Benchtrending
4. Budgeting
5. Capital budgeting
6. JIT
7. Kaizen (Continuous Improvement)
8. Program management techniques
9. Target costing
10. Total quality management (TQM)

Budgeting

A budget is the monetary or/and quantitativeexpasion of business plans and policies to be pursued in the future period of time. The term budgeting is used for preparing budgets and other procedures for planning, co-ordination and control of business enterprise. So a budget is a pre-determined statement of management policy during a given period which provides a standard for comparison with the results actually achieved.

Types of Budgets



Sales Budget

A sales budget is an estimate of expected sales during a budget period.A sales budget is known as a nerve centre or backbone of the enterprise a sales budget is the starting point on which other budgets are also based.

A sales budget lays down potential sales figures in value as well as in quantity. He uses all possible information available from internal and external sources. The following factors are taken into account while preparing sales budget :

1. Past sales figures
2. Assesment and reports by salesman
3. Availibility of raw materials
4. Seasnol fluctuations

5. Avalaibility of finances
6. Plant capacity

Selling and Distribution Cost Budget

Selling and distribution cost budget forecasts the cost of selling and distributing the products.This budget depends upon the sales budget. These expenses may be estimates per unit of sales or some percentage own sales, etc.The persons incharge of sales and distribution should sit together to prepare this budget.

Production Budget

The production budget is prepared in relation to the sales budget whatever is to be sold should be produced in time so that it is delivered to the customer. Production budget is prepared for the number of units to be produced and also for the cost to be incurred on materials, labour and factory overheads. Two important considerations involved in the preparation of production budget are:

1. what is to be produced?
2. When is to be produced?

The preparation of production budget involves the following stages:

1. Production planning
2. Consideration of plant capacity
3. Stock quantity to be held
4. Sales budget figures.

Cost of Production Budget

The materials budget is concerned with determining the quantity of raw materials required for production. The programme for purchasing raw materials is adjusted according to the production budget. The requirements of materials are determined product wise. The number of units to be produced multiplied by the rate of consumption (raw materials required for producing one unit) will give the figure of materials required. The unit of materials required multiplied by the rate per unit of raw materials will give us figure of materials cost.The raw material cost. The raw materials budget will serve the following purposes:

1. The purchased departmentwill be able to plan the purchase of raw materials at different times.
2. It will enable the fixation of minimum stock lavel, maximum stock lavel and re-ordering lavel.
3. The raw materials purchase budget will be determined.
4. The budgeted cost of raw materials will be determined.

Direct Lavel Budget

The labour required for production may be classified into direct and indirect labour. The labour required manufacturing the production is known as direct labour. The labour which cannot be spacific with production is called indirect labour.

The labour content of each item is determinedin terms of grades of workers required as per production budget. The labour time needed for each job, process and operation is determined with the help of time and motion study.

Labour budget is useful for anticipating labour time required for production. It also helps in determining the financing required for labour. The personal department is able to make arrangements for recruitment of workers, etc.

Cash Budget

A cash budget is an estimate of cash receipts abd disbursements during a future period of time.It precedes various other budgets like materials budget, labour budget, overheads cost budget, capital expanditure budget and research and development budget. It is an analysis of flow of cash in a business over a future short or long period of time. It is forecast of expected cashintake and outlay.

The cash receipts from various sources are anticipated.The estimate cash collections from sales, debts, bills receivables, interests, dividends and other incomes and sales of investments and other assets will be taken into account.

The cash budget should be co-ordinate with other activities of the business. The functional budgets may be adjusted according to the cash budget. The available funds should be fruitfully used and the concern should not suffer for want to funds.

Zero-Based Budgeting (ZBB)

Zero-base budgeting is the latest technique of budgeting and it has an increased use as managerial tool. This technique was firstused in America in 1962. The former president of America, Jimmy carter used this technique when he was the Governer of Georgia for controlling state axpenditure.
As the name suggests it is starting from a ‘scratch’. The normal technique of budgeting is to use previous year’s cost levels as a base for preparing this year’s budget. This method carries previous year’s inefficiencies to the present year because we take last year as a guide and decide ‘what is to be done this year when this much was the performance of the last year’. In zero-base budgeting every year is taken as new year and previous year is not taken as a base.The budget for this year will have to be justified according to presnt situation.

Peter A. Pyher,”A planning and budgeting process which requires each manager to justify his entire budget request in detail from scratch (hence zero-base) and shifts the burden of proof to each manager to justify why he should spend money at all. The approach requires that all activities be analysed in decision packages’ which are evaluated by systematic analysis and ranked in order of importance.”

In zero-base budgeting a manager is to justify whyhe wants to spend. The preference of spending on various activities will depend upon their justification and priority for spending will be drawn. It will have to be proved that an activity is essential and the amounts asked for are really reasonable taking into accunt the volume of activity.

Techniques and Types of Control

Specification and goals. If there is a discrepancy between the outputs and specification, corrective action is taken.

Organizational Control Techniques

Control techniques provide managers with the type and amount of information they need to measure and monitor performance. The information from various controls must be tailored to a specific management level, department, unit, or operation.

To ensure complete and consistent information, organizations often use standardized documents such as financial, status, and project reports. Each area within an organization, however, uses its own specific control techniques, described in the following sections.

After the organization has strategies in place to reach its goals, funds are set aside for the necessary resources and labor. As money is spent, statements are updated to reflect how much was spent, how it was spent, and what it obtained. Managers use these financial statements, such as an income statement or balance sheet, to monitor the progress of programs and plans. Financial statements provide management with information to monitor financial resources and activities. The income statement shows the results of the organization's operations over a period of time, such as revenues, expenses, and profit or loss. The balance sheet shows what the organization is worth (assets) at a single point in time, and the extent to which those assets were financed through debt (liabilities) or owner's investment (equity).

Financial audits, or formal investigations, are regularly conducted to ensure that financial management practices follow generally accepted procedures, policies, laws, and ethical guidelines. Audits may be conducted internally or externally. Financial ratio analysis examines the relationship between specific figures on the financial statements and helps explain the significance of those figures:

1. Liquidity ratios measure an organization's ability to generate cash.
2. Profitability ratios measure an organization's ability to generate profits.
3. Debt ratios measure an organization's ability to pay its debts.
4. Activity ratios measure an organization's efficiency in operations and use of assets.

In addition, financial responsibility centers require managers to account for a unit's progress toward financial goals within the scope of their influences. A manager's goals and responsibilities may focus on unit profits, costs, revenues, or investments.

Budget Controls

A budget depicts how much an organization expects to spend (expenses) and earn (revenues) over a time period. Amounts are categorized according to the type of business activity or account, such as telephone costs or sales of catalogs. Budgets not only help managers plan their finances, but also help them keep track of their overall spending.

A budget, in reality, is both a planning tool and a control mechanism. Budget development processes vary among organizations according to who does the budgeting and how the financial resources are allocated. Some budget development methods are as follows:

1. Top-down budgeting. Managers prepare the budget and send it to subordinates.
2. Bottom-up budgeting. Figures come from the lower levels and are adjusted and coordinated as they move up the hierarchy.
3. Zero-based budgeting. Managers develop each new budget by justifying the projected allocation against its contribution to departmental or organizational goals.
4. Flexible budgeting. Any budget exercise can incorporate flexible budgets, which set “meet or beat” standards that can be compared to expenditures.

Marketing Controls

Marketing controls help monitor progress toward goals for customer satisfaction with products and services, prices, and delivery. The following are examples of controls used to evaluate an organization's marketing functions:

1. Market research gathers data to assess customer needs—information critical to an organization's success. Ongoing market research reflects how well an organization is meeting customers' expectations and helps anticipate customer needs. It also helps identify competitors.
2. Test marketing is small-scale product marketing to assess customer acceptance. Using surveys and focus groups, test marketing goes beyond identifying general requirements and looks at what (or who) actually influences buying decisions.
3. Marketing statistics measure performance by compiling data and analyzing results. In most cases, competency with a computer spreadsheet program is all a manager needs. Managers look at marketing ratios, which measure profitability, activity, and market shares, as well as sales quotas, which measure progress toward sales goals and assist with inventory controls.

Unfortunately, scheduling a regular evaluation of an organization's marketing program is easier to recommend than to execute. Usually, only a crisis, such as increased competition or a sales drop, forces a company to take a closer look at its marketing program. However, more regular evaluations help minimize the number of marketing problems.

Human Resource Controls

Human resource controls help managers regulate the quality of newly hired personnel, as well as monitor current employees' developments and daily performances.

On a daily basis, managers can go a long way in helping to control workers' behaviors in organizations. They can help direct workers' performances toward goals by making sure that goals are clearly set and understood. Managers can also institute policies and procedures to help guide workers' actions. Finally, they can consider past experiences when developing future strategies, objectives, policies, and procedures.

Common control types include performance appraisals, disciplinary programs, observations, and training and development assessments. Because the quality of a firm's personnel, to a large degree, determines the firm's overall effectiveness, controlling this area is very crucial.

Conclusion

In short, we conclude that control is a tool of measurement. By control a person can measure its standard action with actual action and find out deviation.

Without control a person cannot compare actions and cannot find out deviation.

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