PLANNING, BUDGETING AND BUDGETARY CONTROL

TECHNIQUES AND ESSENTIALS

BY DR. MBONIGABA CELESTIN

IJSCIA

DR. MBONIGABA CELESTIN (PHD)

Planning, Budgeting and Budgetary Control Techniques and Essentials

1st Edition, 2021

IJSCIA

International Journal of Scientific Advances

Publishing

Planning, Budgeting And Budgetary Control

Techniques and Essentials

Dr. Mbonigaba Celestin (PhD)

1st Edition, 2021

TABLE OF CONTENTS

CHAPTER I: PLANNING

1.1 Introduction

There is a popular saying which goes thus, “if you don’t know where you are going, any road will get you there”, perhaps there is also truth in the thought’ if you don’t know where you are going, no road will get you there”. Whichever view is taken, it is clear that individual and organizational activity without a plan is likely to be ineffective. However, a more popular and by now a universal cliché tells us that “failing to plan is planning to fail”. This cliché clearly conveys the importance of planning. Individuals, groups and organizations need to plan if they are to avoid failure in any activity since they know that their environment is constantly changing and these changes could bring opportunities which they are expected to exploit and at the same time, the environment could pose threats which the organization should strive to reduce or outrightly eliminate and perhaps, change the threats into opportunities.

The unpredictable changes occurring in this environment of organization include socio-cultural change, economic change, technological change, political environment e.t.c. The most readily example is information technology (IT) that emanates from our technological environment which is surely going to affect the operation and performance of our business organizations. Changes in IT frequently require organizations to redesign entire work processes and work relationship. Inflation which is an example of economic changes in the organizational environment is also a factor that could affect the operation of our business since the business organizations know that it has the money to purchase the raw materials (inputs), machine and so on which are not readily available since inflation is an economic condition which there is more money chasing few goods and services.

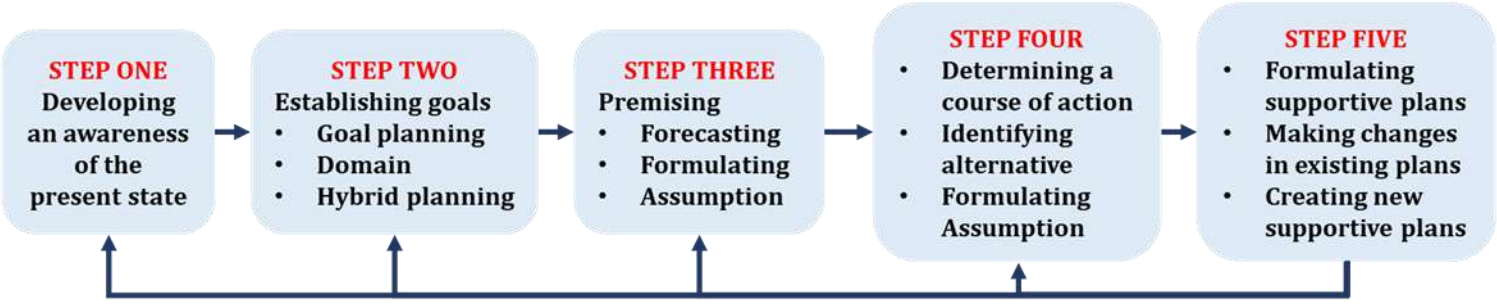
The important thing is that these changes must be anticipated so that the organizations can meet their demands and prepare for them so that the business can operate unhindered. This is where planning comes in.

1.2 Planning defined

Firstly, according to the Oxford Advanced Learners' dictionary New 7th edition, planning is the act or process of making plans for something. This will make us go back to what plan is. Plan is something that you intend to do or achieve. Relating planning to business or management, planning is the first function performed by managers that determines the pattern of actions needed for meeting situations in the future in order to attain organizational goals. Plans are predetermined courses of action made in the present to guide future implementation towards the goals of the organization. Plans and planning are therefore, the means by which managers can exert their impact on the future of the organization. However, planning can also be seen as the process by which managers analyses present conditions to determine ways of reaching a desired future state. Planning is also a management function that produces and integrates objectives, policies and strategies. From the above, it is evident that planning is defined as the process of deciding what objectives will be pursued within a future time frame and what will be done in order to achieve those objectives.

1.3 The planning process

The essence of planning is to see opportunities and threats in the future and respectively exploit the opportunities and combat the threats as the case may be. A planning process is a set of interrelated and interdependent activities towards achieving the planning goals. This can be explicitly expressed with the aid of diagram of the planning process depicted below.



All these steps shall be taken one after the other

***Step One*:** Developing an awareness of the present state

It is at this stage that managers create a foundation from which they will develop this plans for the next planning period. Before taking this management course, for example, you might have had to find out whether you had taken the necessary prerequisite and whether the course schedule fits your total academic program. The foundation constructed during this stage specifies an organization's current location, pinpoints its commitment, recognizes its strengths and weaknesses, and sets forth a vision of expected gains. Because the past is instrumental in determining where an organization expects to go in the future, managers at this point must understand their organizations and history. "The further you look back, the further you can see ahead".

Step Two: Establishing Goals

Specific goals are established during the second stage of planning just as your goal in this course might be to get a certain grade, managers set specific goals of various levels in the organization's hierarchy, for example, plans established by a university's business department's curriculum committee must fit and support the plans of the department, which contributes to the goals of the school of Business, whose plans, in turn, must support the goals of the university. Managers, therefore, have to develop elaborate network of organizational plans to achieve the overall goals of their organizations. Not only do managers create plans at various levels within an organization, but they also create different kinds of plans. Not every organizational plan has a goal embedded in it. There is evidence of both goal and domain planning. In goal planning, people set specific goals and then create action statements. For example, a male undergraduate has decided that he wants a Bachelor of Science Degree in Business and this is the goal. He, then, constructs a four-year academic plan that will make this goal a reality. He is engaging in goal planning. He, first, identifies a goal and then develops a course of action to realize his goal.

Another approach to planning is domain planning which is also known as directional planning; in which managers develop a course of action that moves an organization toward one identified domain. Within the chosen domain may lie a number of acceptable specific goals. For example, Emeka, a secondary school leaver has decided that he wants to major in

a business-related discipline when he gets into the university. During the next four years, he will select a variety of courses from the school of Business curriculum but never specify a major. After conveniently earning credits within the chosen domain, Emeka will accumulate enough credits to graduate with a major in marketing.

Emeka has never engaged in goal planning, but in the end, he will realize one of many acceptable goals within an accepted domain. Unlike goal planning which moves an organization toward a specific goal, domain planning simply moves an organization in a particular direction. Occasionally, merging of domain and goal planning occurs, creating a third approach called hybrid planning. In this approach, managers begin with the more general domain planning and establish their commitment to move in a particular direction. As time passes, their preferences sharpen and managers are able to make the transition to goal planning as they identify increasingly specific targets within the selected domain.

Step Three: Premising

During this stage of the planning process, managers establish the premises, or assumption on which their action statements are built. The quality and success of any planning depends on the quality of assumption on which it is based throughout the planning process, assumptions must be brought to the surface, monitored and updated. Managers derive information by scanning their organization's internal and external environments. They use this information to make assumptions about the likelihood of future events. In the next phase of the planning process, they will develop action statements based on these assumptions. This is where forecasting comes in. Organizations try to answer such question as: "what technological advances are on the horizon?" forecasting may be based either on personal experience and expectation or on systematic, empirical research. In both cases, managers base their forecasts on assumptions. In a nutshell, premising involves forecasting what is likely to happen inside and outside an organization's movement toward its goal and use these forecasts to generate information for their action statements, they are engaged in the premising activity

Step Four: Determining a course of Action

In this fourth stage of the planning process, managers decide how to move from their current position toward their goal or into their identified domain. They develop an action statement that details what needs to be done, when, how and by whom. The way in which an organization gets from its current position to its desired future position is determined by the course of action that managers choose. Choosing a course of action involves; determining alternatives by drawing on research, experiment and experience; evaluating alternatives in the light of how well each would help the organization reach its goals or approach its desired domain and selecting a course of action after identifying and carefully considering the merits and demerits of each alternative.

Step Five: Formulating supportive plans

The planning process seldom stops with the adoption of a general plan. Managers often need to develop one or more supportive or derivative plans to bolster and explain their basic plans. Suppose an organization decides to switch from a five-day, forty-hour workweek to a four-day, forty-hour workweek in an attempt to reduce employee turnover. This major plan would require the creation of a number of supportive plans. Managers might find it necessary, for instance, to develop a new plan for personnel polices dealing with the payment of daily overtime. New administrative plans would be needed for scheduling meetings, handling phone calls and dealing with customers and suppliers. Even a new maintenance arrangement for cleaning the facilities would be required. It has to be borne in mind that each of these stages can never be done in isolation to make an effective planning. They have to be carried out one after the other to make up effective planning.

1.4 Types of plans

Plans can be categorized under different classification

(1) Hierarchical plans

- ✓ Strategic plans
- ✓ Administrative plans
- ✓ Operating plans

(2) Frequency of use plans (Repetitiveness)

- ✓ Standing plans
- ✓ Single-use plans

(3) Time frame plans

- ✓ Short-range plans
- ✓ Medium-ranged plans
- ✓ Long-range plans

(4) Organization scope plans

- ✓ Business/divisional level plans
- ✓ Unit/functional-level

(5) Contingency plans

All these types of plans shall be taken in turn.

(1) Hierarchical plans

Strategic plans: They are usually associated with the institutional level. They define an organization's long-term vision; specify what business the organization hopes to be in and stipulate how the organization intends to make its vision a reality. To a large extent, strategic plans define how an organization will integrate itself into its task environment.

Administrative plans: Managers use this plan to allocate organizational resources and to coordinate their organization's internal sub-division. These plans, therefore, are associated with the organizational responsibility of middle management.

Operating plans: They cover day-to-day operations of an organization and thus, govern the workings of an organization's technical core. The network of organizational plans discussed earlier suggests that an organization's operating plans are nested within and support its sub-division's administrative plans, which nested within and support its strategic plans.

(2) Frequency of use plans

***Standing plans*:** They are designed to cover issues that managers face repeatedly. For example, managers may be concerned about employees' tardiness, a problem that may occur often in the entire workforce. These managers might decide to develop a standing policy to be implemented each time an employee is late for work. The procedure involved under such a standing plan is called a standard operating procedure (SOP). Some of the most common standing plans are policies, rules and procedures.

***Single use plans*:** They are developed for unique situations or problems and are usually replaced after one use. Managers generally use three types of single-use plans, programs, projects and budgets.

(3) Time-Frame plans

***Short-range plans*:** It is also known as operational planning; it covers a period of one year or less. It covers activities that unfold relatively quick. The most widely used short-range planning mechanism is the operating budgeting system and management by objective mechanism.

Medium-range plans: It focuses on the development of major plans that extend beyond the traditional operating period which normally is one year. The typical planning period for medium-range plans is between one and five years.

***Long range plans*:** It usually covers the period of over five years. It tends to be strategic planning. That is, it focuses on a long-time horizon and also tends to be consequently in terms of import, resources deployed and actions required. Also, it focuses on the organization's basic goals and strategies for growth and development.

(4) Organizational scope plans

Business/divisional-level plans: For an organization that operates multiple divisions or a number of different businesses, it is usually applicable to it. Divisional-level plans focus on a division's competitive position in the market and on the ways in which it can complement other divisions.

Unit/Functional-level plans: Plans at this level are focused on the day-to-day operation of a lower-level organizational units i.e., the functional areas of an organization namely, production, marketing, human resources and the finance departments.

(5) Contingency Plan

They are created to deal with what might happen if these assumptions turn out to be wrong. Contingency planning, thus, is the development of alternative courses of actions to be implemented if events disrupt a planned course of action. A contingency plan allows management to act immediately if an unplanned occurrence such as a strike, boycott, natural disaster or major economic shift renders existing plans inappropriate.

1.5 Basic consideration in planning

(1) Evaluation of present conditions

A major task in the planning process is to recognize the inadequacies in the present situation. Such inadequacies will point to the desirability for change. Dissatisfaction with the current goals, programs or activities can generate planning as a way to achieve improvement. The dissatisfactions may arise from lack of progress towards goals, from the need for new goals or from the recognition of political problems. Planning is needed to prevent or correct problems and to give the organization its forward momentum.

(2) The Time Factor

Planning is essentially about deciding in advance what will happen in the future. As such, ft is time oriented. The time covered by planning offers a useful way of categorizing plans. It must be noted that as the time span that is anticipated in the plan increases, the accuracy of planning tends to decrease.

Because a greater span of time affords more opportunity for unanticipated events to occur, the more remote of the future the manager is considering, the more difficult it becomes to foresee what will happen.

(3) Forecasting

Forecasting embodies procedures and techniques for predicting conditions or events that are expected to prevail in the future. Forecasting may apply to any relevant aspect of the future, but the most important focus is on the general level of conditions in the economic, political and social sectors in which the organization operates. Uncertainties abound and for this reason; many organizations employ professional economists and other experts to make careful and detailed forecasts for use in planning.

(4) Collection and Analysis of Data

A fourth important element in planning is information. Effective planning depends on the quality and quantity of data available to the planner. Planners need to establish reliable sources of information and get the information in a timely manner. The information must be organized, evaluated and distributed to those who need it. Storage and retrieval systems must be established.

Great skill is required by the planner, not only in collecting and organizing information, but also in interpreting facts and drawing conclusions. Information can be gotten from primary and secondary sources. An organization might want to apply primary sources such as interviews, intuition, judgments, and administering questionnaires to get first-hand information. Also, the organization might deem it fit to apply secondary sources of information such as bulletins, statistics, newspapers, journals and so on. A significant factor in the use of information is the cost of obtaining and storing it.

1.6 The Coordination of Plans

Plans form a hierarchy, corresponding approximately to the levels of the organization. That is plans range from those of a broad, long-run scope which are set primarily at the top of an

organization, while short-run plans are oriented towards day-today operating problems that are faced by managers at the lower levels in the organization. As an individual goes from the lower levels of the organizations to the higher levels, the scope and coverage of planning tends to become broader and longer-range.

Obstacles to Effective planning till date, the lack of effective planning is the bane of many organizations. For this to be ameliorated, the organization must nurture and emphasize continuous, integrated planning throughout the organization. The major obstacles to effective planning can be grouped into two broad categories;

- **Administrative problems, and**
- **Human problems**

Administrative problems

The central administrative problem in planning is how to create anorganizational climate in which planning thrives. The principal administrative problems lie in the following;

***The flow of information*:** Planning may be inhibited by lack of sufficient information or by deficiencies in accuracy or quality of the information. Managers have access to immense amounts of general information and such information poses a problem because it must be sifted, organized, interpreted and related to specific needs. This process entails complex judgments.

***Authority and Responsibility for Planning*:** Another administrative obstacle to effective planning is failure to relate the responsibility for individual manager planning to various types of specialist planning groups. The work of formal planning units necessarily overlap that of individual planners who may also be responsible for accomplishing the plans.

***The cost of planning*:** Planning is costly; it requires money, time and information. The planning costs include not only the salaries of the executives who plan, but also the costs of false starts that result when planning as it often will be, is incomplete or incorrect. Costs are

incurred in acquiring, storing and retrieving planning data and in training planners. These costs often repel organizations from planning.

Human Problem

Planning is also beset by human problems. The problems arise from the fact that the planning activity is done by human beings who are believed to be fallible. Some of the human problems are psychological in character. One major psychological barrier to planning is that managers, like most people, have more regard for the present than for the future. This problem can also be compounded if the manager in charge of planning is risk averse in nature. Another psychological problem comes from the natural tendency of some people to resist change. Planning often depends on the recognition of needed changes that many would prefer to ignore. For example, a manager who is told to coach and groom a subordinate for advancement may understandably feel insecure. A final obstacle to planning occurs when plans, once made is not acted upon. The investment of time and effort will be wasted and top management may loss integrity. Plans should be kept flexible and up-to date.

1.7 Controlling; an integral part of planning

According to Koontz, et al (1980), controlling implies measurement of accomplishment of events against the standard of plans and the correction of deviations to ensure the attainment of objectives in accordance with plans. Once a plan becomes operational, control is necessary to measure progress, to uncover deviations from plans and to indicate corrective action. However, sometimes, a corrective action may simply be a change in leadership. At other times, adequate control may result in setting new goals, formulating new plans, changing the organizational structure, improving staffing or instituting major changes in the techniques of leading.

Controlling cannot be operational if there is no plan. The two managerial functions to are just like two sides of the same coin. Planning precedes controlling since controlling can only take place after planning has been operationalized which ensures that the plan does not deviate from what it was intended to achieve. However, Megginson et al (1983) see control as the process of assuring that organizational and managerial objectives are accomplished

while they define controlling as a basic management function by which ways and means are devised to assure that planned performance is actually achieved. From these definitions and explanations, it can be seen that planning and controlling are inextricably bound to each other, that both are geared towards the achievement of goals and objectives.

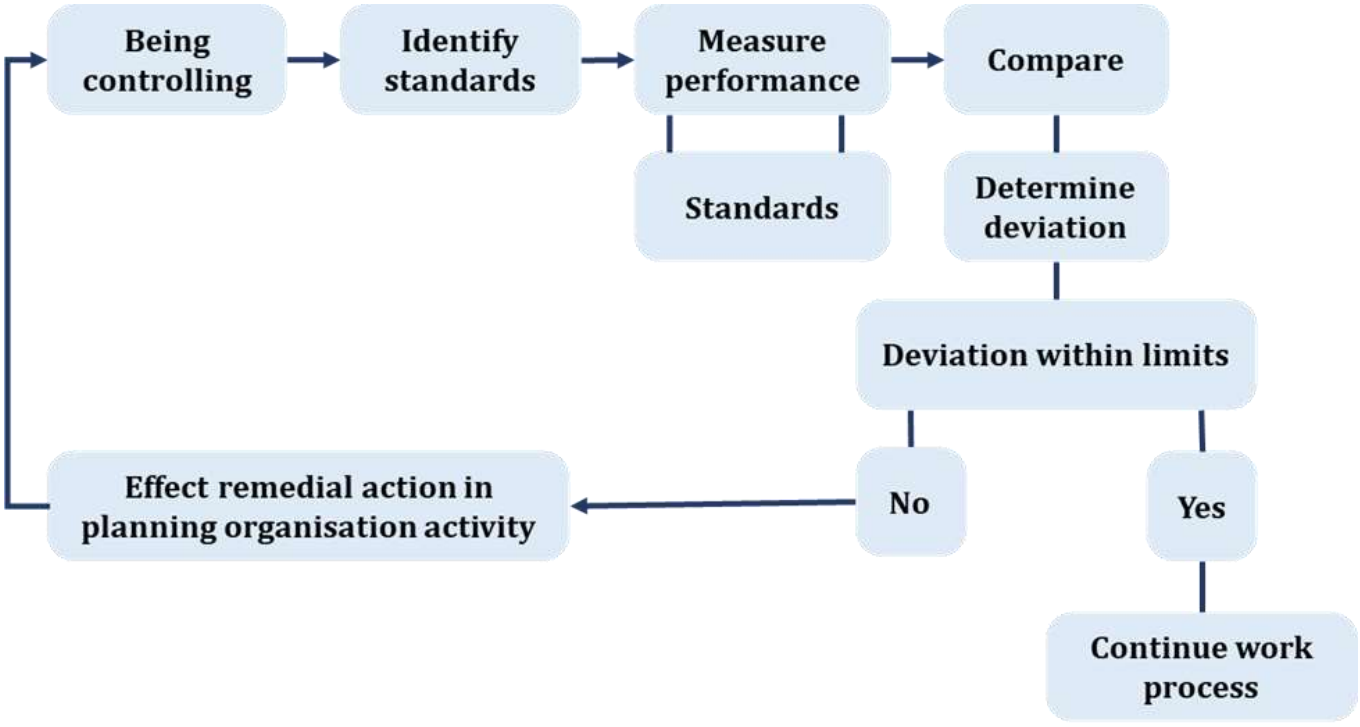
The control processes

The basic control process, wherever it is found and whatever it controls involves four major steps:

namely

- Establishing or identifying standards
- Measuring performance
- Comparing performance with standards and determining the deviation, if any.

Correcting unfavorable deviation from standards by means of remedial action. All these can be enunciated with the use of the diagram below:



Source: *Adopted from Management: A Nigerian Perspective: Edited by BA. Agbodudu and F. 1.0. Iyayi.*

CHAPTER II: BUDGETING

2.1 Introduction

The term 'Budget' appears to have been derived from the French word 'baguette' which means 'little bag' , or a container of documents and accounts. A budget is an accounting plan. It is a formal plan of action expressed in monetary terms. It could be seen as a statement of expected income and expenses under certain anticipated operating conditions. It is a quantified plan for future activities – quantitative blue print for action.

Every organization achieves its purposes by coordinating different activities. For the execution of goals efficient planning of these activities is very important and that is why the management has a crucial role to play in drawing out the plans for its business. Various activities within a company should be synchronized by the preparation of plans of actions for future periods. These comprehensive plans are usually referred to as budgets. Budgeting is a management device used for short-term planning and control. It is not just accounting exercise.

2.2 Meaning and Definitions

Budget:

According to CIMA (Chartered Institute of Management Accountants) UK, a budget is "A plan quantified in monetary terms prepared and approved prior to a defined period of time, usually showing planned income to be generated and, expenditure to be incurred during the period and the capital to be employed to attain a given objective."

In a view of Keller & Ferrara, "a budget is a plan of action to achieve stated objectives based on predetermined series of related assumptions." G.A. Welsh states, "a budget is a written plan covering projected activities of a firm for a definite time period."

A budget is a quantified expectation for what a business wants to achieve. Its characteristics are:

- The budget is a detailed representation of the future results, financial position, and cash flows that management wants the business to achieve during a certain period of time.
- The budget may only be updated once a year, depending on how frequently senior management wants to revise information.
- The budget is compared to actual results to determine variances from expected performance.
- Management takes remedial steps to bring actual results back into line with the budget.
- The budget to actual comparison can trigger changes in performance-based compensation paid to employees.

Forecast:

A forecast is an estimate of what will actually be achieved. Its characteristics are:

- The forecast is typically limited to major revenue and expense line items. There is usually no forecast for financial position, though cash flows may be forecasted.
- The forecast is updated at regular intervals, perhaps monthly or quarterly.
- The forecast may be used for short-term operational considerations, such as adjustments to staffing, inventory levels, and the production plan.
- There is no variance analysis that compares the forecast to actual results.
- Changes in the forecast do not impact performance-based compensation paid to employees.

Budgetary slack is a built-in cushion in a budget that seeks to increase the chances of the actual performance being better than the budget. There are two ways to accomplish budgetary slack: underestimate the amount of revenue or income to be generated or overestimate the amount of expenses that are to be incurred.

The principal budget factor is the factor that limits the activities of functional budgets of the organization. The early identification of this factor is important in the budgetary planning

process because it indicates which budget should be prepared first. In general sales volume is the principal budget factor.

A budget committee is an official group that creates and oversees the standards and best practices to implement and update an organization's spending and resource allocation plans while maintaining fiscal responsibility.

A budget manual is a set of rules and instructions used by large organizations to prepare their budgets and related reports. ... Instead, budgeting across the enterprise must be carefully coordinated among various actors.

The following are the some of the important contents of budget

- Introduction and brief explanation of the objects, benefits and principles of budgetary control system.
- Clear-cut definition of lines of authority and responsibility;
- Organization charts with titles of line managers.
- Duties and responsibilities of line managers, budget committee and budget officer.
- The method of preparation of department budget and master budget.
- Time schedules for budget preparation.
- Time lag between two budget reports i.e. performance report.
- Instructions for preparing, submission and approval of budgets.
- The procedure to be followed for obtaining approval for budgets.
- Number and names of budget centers are clearly stated.
- Account codes to be used in budgets.
- The purpose, specimen form and number of copies to be used for each report and statement.
- Length of budget periods and control periods are clearly stated.
- Brief explanation of follow-up procedures.
- Explanation about main budgets and their accounting relationship with each other.
- Explanation of key budgets.

One can elicit the explicit characteristics of budget after observing the above definitions. They are…

(1) It is mainly a forecasting and controlling device.

(2) It is prepared in advance before the actual operation of the company or project.

(3) It is in connection with a definite future period.

(4) Before implementation, it is to be approved by the management.

(5) It also shows capital to be employed during the period.

2.3 Principal budget factor

As previously discussed, the budget needs to be prepared in stages Ð for example we normally will need to know the budget production (in units) before we can budget how much material will be needed (in kg).

The first thing that the person in charge of the budget process must do is decide where to start! For most companies the starting point will be a sales budget. Once it has been decided how many units the company expects to sell it is then possible to produce a production budget and so on.

However, this will not always be the starting point. Suppose, for example, that the company is a manufacturer of desks for which wood is the main material. Suppose also that during the coming year there is expected to be only a limited supply of wood available. In this situation the starting point will be to budget the amount of wood available, then budget how many units the company is capable of producing (a production budget) and then how many they expect to sell (a sales budget).

In general terms, the first budget to be prepared should be whatever factor it is that limits the growth of the company Ð it may be the level of demand (so a sales budget will be prepared first) or, as for the example in the previous paragraph, it may be the availability of raw material (so a material budget will be prepared first).

The factor that limits the company is known as the principal budget factor. The management accountant needs to identify the principal budget factor and it is this factor that will be budgeted first.

2.4 Essentials of Effective Budgeting

- **Support of top management**: If the budget structure is to be made successful, the consideration by every member of the management not only is fully supported but also the impulsion and direction should also come from the top management. No control system can be effective unless the organization is convinced that the management considers the system to be important.

- **Team Work**: This is an essential requirement, if the budgets are ready from "the bottom up" in a grass root manner. The top management must understand and give enthusiastic support to the system. In fact, it requires education and participation at all levels. The benefits of budgeting need to be sold to all.

- **Realistic Objectives**: The budget figures should be realistic and represent logically attainable goals. The responsible executives should agree that the budget goals are reasonable and attainable.

- **Excellent Reporting System**: Reports comparing budget and actual results should be promptly prepared and special attention focused on significant exceptions i.e. figures that are significantly different from expected. An effective budgeting system also requires the presence of a proper feed-back system.

- **Structure of Budget team**: This team receives the forecasts and targets of each department as well as periodic reports and confirms the final acceptable targets in form of Master Budget. The team also approves the departmental budgets.

- **Well defined Business Policies**: All budgets reveal that the business policies formulated by the higher-level management. In other words, budgets should always be after taking into account the policies set for particular department or function. But for this purpose, policies should be precise and clearly defined as well as free from any ambiguity.

- **Integration with Standard Costing System**: Where standard costing system is also used, it should be completely integrated with the budget program, in respect of both budget preparation and variance analysis.

- **Inspirational Approach**: All the employees or staff other than executives should be strongly and properly inspired towards budgeting system. Human beings by nature do not like any pressure and they dislike or even rebel against anything forced upon them.

2.5 Advantages of budgets and budgetary control systems

i) Agreed targets

Budgets establish targets for each aspect of the company's operations. These targets are set in conjunction with each manager with each manager in this way managers are committed to achieving their budgets. The commitment also acts as a motivator

ii) Problems are identified

Budgets systematically examine all aspect of a business and identify factors which may prevent it from achieving its objectives. Identifying problems in advance allows the firm to take the necessary corrective action to alleviate difficulty

iii) Scope for improvement is identified

Budges will identify all the areas that can be improved thereby increasing efficiency and profitability

iv) Improved coordination

All the managers' plans are combined and evaluated so that a total budget for the company can be prepared. During the process the company will ensure that each individual plan fits in the company's overall objectives

v) Control

Achievement of the budget will be aided by the use of budgetary control system which constantly monitors the performance against the budget. All variances will be monitored and positive action taken in order to correct those areas of the business that are failing to perform.

vi) Raising finance

Any provider of finance will want to satisfy itself that the company is being managed correctly and that funds advanced will be repaid and interest commitments honored. The fact that a company has established a budgetary system will demonstrate that it is being managed correctly ad the budget will show tat the company will be able to meet it commitments.

2.6 Mechanics of budgeting

Stages in the budgeting process

i) Communication of the details of a budget policy and guidelines to those people responsible for the preparation of budgets

It is essential that all managers be made aware of the policy of top management for implementing the long-term plan in the current year's budget so that common guidelines can be established. The process also indicates to managers responsible for preparing the budgets how they should respond to expected environmental changes

ii) Determining the factors that restricts output

In every organization there is a factor that restricts performance for a given period. In many organizations the factor is sales demand, but it is also possible for production capacity to

restrict performance if sales demand is in excess of production capacity. It is this factor that determines the point at which that annual budgeting process should beging.

iii) Preparation of the sales budget

When sales is the factor restricting performance the preparation of the sales budget becomes the starting point of the budgeting process. It is therefore the most important budget since other budgets are based on it and most difficult to prepare because it is based on the action of customers, the state of the economy and competitors

iv) Initial preparation of various budgets

Managers responsible for meeting the budgeted performance should prepare the budgets for those areas from which they are responsible. A bottom- up process is usually preferable

v) Negotiation of budgets with superiors

To implement a participative approach to budgeting, the budget should be originated at the lower levels of management. The managers at this level should submit their budgets to their superiors for approval who in turn submit the budgets to their superiors for approval and so on

vi) Coordination and review of budgets

As the individual budgets move up in the organizational hierarchy in the negotiation process, they must be examined in relation to each other. This examination may indicate that some budgets are out of balance with each other and need modifying so that they will be compatible with other conditions, constraints and plans that are beyond a manger's knowledge or control

vii) Final acceptance of budgets

When budgets are in harmony with each other they are summarized into a muster budget consisting of a budgeted profit and loss account, balance sheet and cash flow statement the master budget is then approved by the responsibility center manager and then passed down through the organization

viii) Ongoing review of budgets

Periodically usually on monthly basis the actual results are compared with budgeted results. This enables management to identify those items not proceeding according to plan, reasons investigated and if the reasons are within managements control corrective action is taken

2.7 Preparation of budgets

Timetable

Each company prepares its budgets at a specific time of the year. The process is very time-consuming and allowance must be made for:

- Each manager to prepare his estimates
- The accumulation of the managers' estimates so that a provisional budget can be built up for the whole company
- The provisional budget to be reviewed and any changes to be agreed

A large company with a January to December financial year will therefore probably commence its budget preparation in August of the preceding year. This will allow 4-5 months for the work to be completed. If it is to be completed successfully, it is essential that a timetable is prepared detailing what information is required and the dates by which it must be submitted. The preparation of budgets is a major project and it must be managed correctly.

Organization

As we have just said, the preparation of budgets is a very important task which is given a high level of visibility within the company. The overall co-ordination of the budgeting process is therefore handled at a high level.

Budgeting may be the responsibility of the Finance Director, who will have responsibility for bringing together the directors and managers' initial estimates. The Finance Director will specify the information that is required and the dates by which it is required. S/he will also circulate a set of economic assumptions so that all directors and managers are preparing their forecasts against the same economic background.

The Financial Director will eliminate most of the obvious inconsistencies from the initial estimates and submit a preliminary budget to the Chairman of the company and its Board of Directors. The Board will consider the overall framework of this preliminary budget so as to ensure that the budget is acceptable and that it gives the desired results.

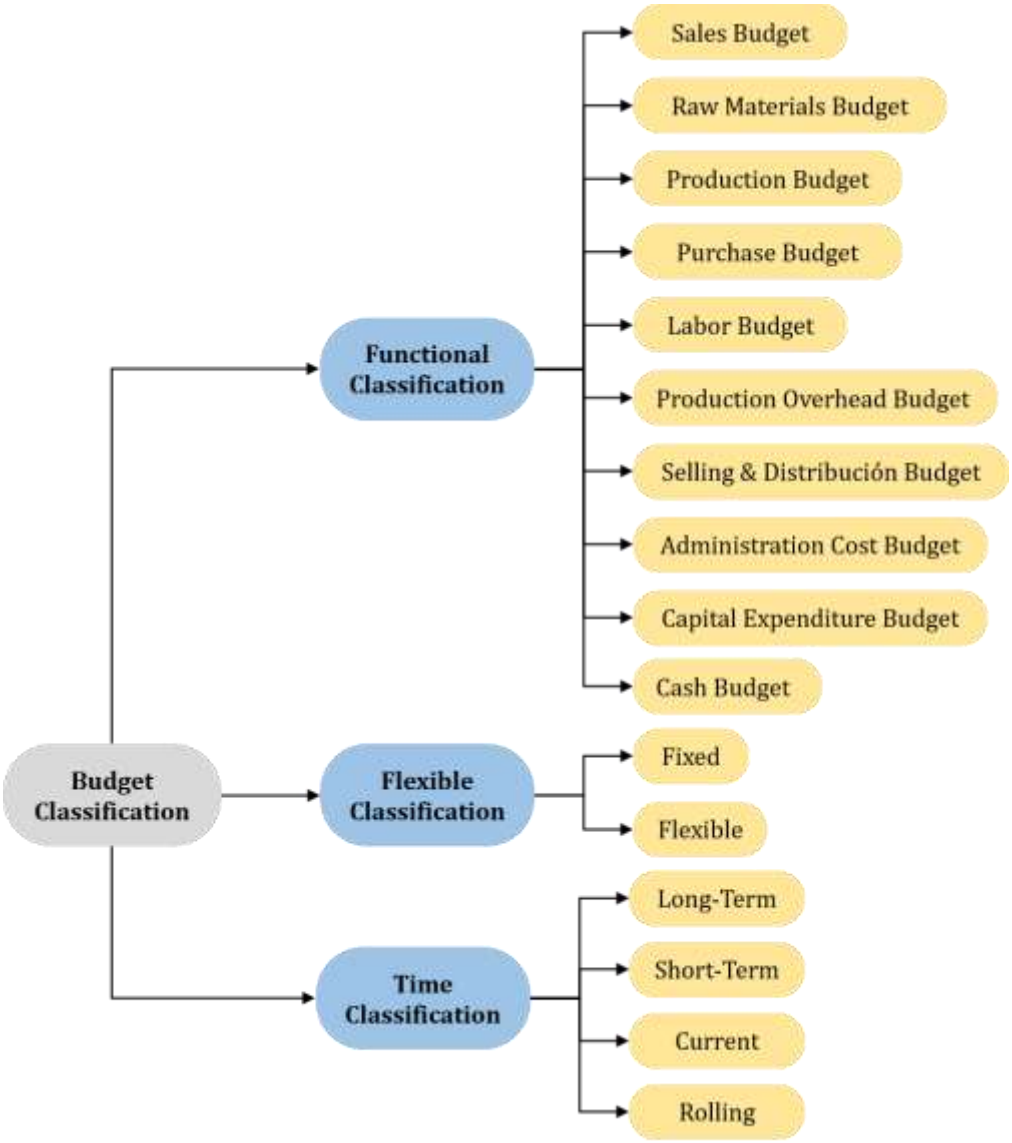
The Board must also ensure that the budget is realistic and achievable. If the Board does not accept any part of the budget, then it will be referred back to the relevant managers for further consideration.

Some companies set up a budget committee to co-ordinate the budgeting process. This committee carries out similar functions to those we described earlier, but will involve more of the company's senior directors and managers. This committee will probably be chaired by the Chairman of the company.

The final budget must be accepted by the Board of Directors. It will then form the agreed plan for the following year against which performance will be monitored and controlled.

2.8 Classification of Budget

The extent of budgeting activity varies from firm to firm. In a smaller firm there may be a sales forecast, a production budget, or a cash budget. Larger firms generally prepare a master budget. Budgets can be classified into different ways from different points of view. The following are the important basis for classification:



2.8.1 Functional Classification

Sales Budget:

The sales budget is an estimate of total sales which may be articulated in financial or quantitative terms. It is normally forming the fundamental basis on which all other budgets are constructed. In practice, quantitative budget is prepared first then it is translated into economic terms. While preparing the Sales Budget, the Quantitative Budget is generally the starting point in the operation of budgetary control because sales become, more often than not, the principal budget factor. The factor to be consider in forecasting sales are as follows:

- Study of past sales to determine trends in the market.
- Estimates made by salesman various markets of company products.
- Changes of business policy and method.

- Government policy, controls, rules and Guidelines etc.
- Potential market and availability of material and supply.

Production Budget:

The production budget is prepared on the basis of estimated production for budget period. Usually, the production budget is based on the sales budget. At the time of preparing the budget, the production manager will consider the physical facilities like plant, power, factory space, materials and labor, available for the period. Production budget envisages the production program for achieving the sales target. The budget may be expressed in terms of quantities or money or both. Production may be computed as follows: Units to be produced = Desired closing stock of finished goods + Budgeted sales – Beginning stock of finished goods.

This budget shows the estimated cost of production. The production budget demonstrates the capacity of production. These capacities of production are expressed in terms of cost in production cost budget. The cost of production is shown in detail in respect of material cost, labor cost and factory overhead. Thus, production cost budget is based upon Production Budget, Material Cost Budget, Labor Cost Budget and Factory overhead.

Raw-Material Budget:

Direct Materials budget is prepared with an intention to determine standard material cost per unit and consequently it involves quantities to be used and the rate per unit. This budget shows the estimated quantity of all the raw materials and components needed for production demanded by the production budget. Raw material serves the following purposes:

- It supports the purchasing department in scheduling the purchases.
- Requirement of raw-materials is decided on the basis of production budget.
- It provides data for raw material control.
- Helps in deciding terms and conditions of purchase like credit purchase, cash purchase, payment period etc.

It should be noted that raw material budget generally deals with only the direct materials whereas indirect materials and supplies are included in the overhead cost budget.

Purchase Budget:

Strategic planning of purchases offers one of the most important areas of reduction cost in many concerns. This will consist of direct and indirect material and services. The purchasing budget may be expressed in terms of quantity or money. The main purposes of this budget are:

- It designates cash requirement in respect of purchase to be made during budget period; and
- It is facilitating the purchasing department to plan its operations in time in respect of purchases so that long term forward contract may be organized.

Labor Budget:

Human resources are highly expensive item in the operation of an enterprise. Hence, like other factors of production, the management should find out in advance personnel requirements for various jobs in the enterprise. This budget may be classified into labor requirement budget and labor recruitment budget. The labor necessities in the various job categories such as unskilled, semi-skilled and supervisory are determined with the help of all the head of the departments. The labor employment is made keeping in view the requirement of the job and its qualifications, the degree of skill and experience required and the rate of pay.

Production Overhead Budget:

The manufacturing overhead budget includes direct material, direct labor and indirect expenses. The production overhead budget represents the estimate of all the production overhead i.e., fixed, variable, semi-variable to be incurred during the budget period. The reality that overheads include many different types of expenses creates considerable problems in:

1) Fixed overheads i.e., that which is to remain stable irrespective of vary in the volume of output,
2) Apportion of manufacturing overheads to products manufactured, semi variable cost i.e., those which are partly variable and partly fixed.
3) Control of production overheads.
4) Variable overheads i.e., that which is likely to vary with the output.

The production overhead budget engages the preparation of overheads budget for each division of the factory as it is desirable to have estimates of manufacturing overheads prepared by those overheads to have the responsibility for incurring them. Service departments cost are projected and allocated to the production departments in the proportion of the services received by each department.

Selling And Distribution Cost Budget:

The Selling and Distribution Cost budget is estimating of the cost of selling, advertising, delivery of goods to customers etc. throughout the budget period. This budget is closely associated to sales budget in the logic that sales forecasts significantly influence the forecasts of these expenses. Nevertheless, all other linked information should also be taken into consideration in the preparation of selling and distribution budget. The sales manager is responsible for selling and distribution cost budget. Naturally, he prepares this budget with the help of managers of sub-divisions of the sales department.

The preparation of this budget would be based on the analysis of the market condition by the management, advertising policies, research programs and many other factors. Some companies prepare a separate advertising budget, particularly when spending on advertisements are quite high.

Administration Cost Budget:

This budget includes the administrative costs for non-manufacturing business activities like directors fees, managing directors' salaries, office lightings, heating and air condition etc. Most of these expenses are fixed so they should not be too difficult to forecast.

There are semi-variable expenses which get affected by the expected rise or fall in cost which should be taken into account. Generally, this budget is prepared in the form of fixed budget.

Capital- Expenditure Budget:

This budget stands for the expenditure on all fixed assets for the duration of the budget period. This budget is normally prepared for a longer period than the other functional budgets. It includes such items as new buildings, land, machinery and intangible items like patents, etc. This budget is designed under the observation of the accountant which is supported by the plant engineer and other functional managers. At the time of preparation of the budget some important information should be observed:

- Overfilling on the production facilities of certain departments as revealed by the plant utilization budget.
- Long-term business policy with regard to technical developments.
- Potential demand for certain products.

Cash Budgets:

The cash budget is a sketch of the business estimated cash inflows and outflows over a specific period of time. Cash budget is one of the most important and one of the last to be prepared. It is a detailed projection of cash receipts from all sources and cash payments for all purposes and the resultants cash balance during the budget. It is a mechanism for controlling and coordinating the fiscal side of business to ensure solvency and provides the basis for forecasting and financing required to cover up any deficiency in cash budget thus plays a vital role in the financing management of a business undertaken.

Cash budget assists the management in determining the future liquidity requirements of the firm, forecasting for business of those needs, exercising control over cash So, cash budget thus plays a vital role in the financial management of a business enterprise.

Function of Cash Budget:

- It makes sure that enough cash is available when it is required.

- It designates cash excesses and shortages so that steps may be taken in time to invest any excess cash or to borrow funds to meet any shortages.
- It shows whether capital expenditure could be financed internally.
- It provides funds for standard growth.
- It provides a sound basis to manage cash position.

Advantages of Cash Budget:

(1) *Usage of Cash:* Management can plan out the use of cash in accord with the changes of receipt and payment. Payments can be planned when sufficient cash is available and continue the business activity with the minimum amount of working capital.

(2) *Allocation for Capital Investment:* It is dual benefits such as capital expenditure projects can be financed internally and can get an idea for cash availability of capital investment.

(3) *Provision of Excess Funds:* It reveals the availability of excess cash In this regard management can decide to invest excess funds for short term or long term according to the requirements in the business.

(4) *Pay-out Policy:* This budgetary system may help the management for future pay-out policy in the form of dividend. In case the cash budget liquid position is not favorable, the management may reduce the rate of dividend or maintain dividend amount or skip dividend for the year.

(5) *Provision for acquiring Funds:* It gives the top-level management ideas for acquiring funds for a particular time duration and sources to be explored.

(6) *Profitable Use of Cash:* Business person can take decision for the best use of liquidity to make more profitable transaction. It can be used at the time of bulk purchase payments and one get the benefit of discount.

Limitation of Cash Budget:

(1) *Complex Assumption:* Business is full of uncertainties, so it is very difficult to have near perfect estimates of cash receipts and payments, especially for a longer duration. It can be predicted for short duration such as of three to four months.

(2) *Inflexibility:* If the finance manager fails to show flexibility in implementing the cash budget, it will incur adverse effects. If the manager follows strictly adheres to the

estimates of cash inflow it may negatively result in losing customers. Likewise, loyalty in payments may lead to deterioration of liquid position.

(3) *Costly:* Application of this technique necessitates collecting of statistical information from various sources and expert personnel in operation research would be the costliest deal. It becomes expensive which may not be affordable to small business houses. In addition, finding out experts is not always possible. In this situation the long-term predictions do not prove correct.

Methods:

(1) *Receipt and payment:* It is a most popular method and is universally used for preparing cash budget. The assumption of statistical data is arrived at calculated on the basis of requirements like monthly, weekly or fortnightly. On account of elasticity, this method is used in forecasting cash at different time periods and thus it helps in controlling cash distributions.

(a) Cash receipts from customers are based on sales forecast. The term of sale, lag in payment etc., are generally taken into consideration

(b) Cash receipts from other sources, such as dividends and interest on trade investment, rent received, issue of capital, sale of investment and fixed assets.

(c) Cash requirements for purchase of materials, labor and salary cost and overhead expenses based on purchasing, personnel and overhead budgets.

(d) Cash requirements for capital expenditure as per the capital expenditure budget.

(e) Cash requirements for other purposes such as payment of dividends, income-tax liability, fines and penalties.

(i) Estimating Cash Receipts: Generally main sources of cash receipts are sales, interest and dividend, sales of assets and investments, capital borrowings etc. The Company estimates time-lag on the basis of past experience of cash receipts on credit sales while cash sales can be easily determined.

(ii) Estimating Cash Payments: It can be decided on the basis of various operating budgets prepared for the payment of credit purchase, payment of labor cost, interest and dividend, overhead charges, capital investment etc.

(2) *Adjusted Profit and Loss Account:* This method is based on cash and non-cash transactions. This method estimates closing cash balance by converting profit into cash the hypothesis of this method is that the earning of profit brings equal amount of cash into the business. The net profit shown by profit and loss account does not signify the actual cash flow into the business. This also leads to another assumption, that is the business will remain static, i.e. there will be no wearing out or increase of assets and changes of working capital so that the total cash on hand for the business would be equal to the profit earned.

(3) *Budgeted Balance Sheet Method:* This method looks like the Adjusted Profit and Loss Account method only, except that in this method a Balance Sheet is projected and in that method Profit and Loss Account is adjusted. In this method Balance Sheet is prepared with the projected amount of all assets and liabilities except cash at the end of budget period. The cash balance will find out balancing amount. If assets side is higher than liability side it would be the bank overdraft while liability side is higher than assets side it gives bank balance. This method is used by the stable business houses.

(4) *Working Capital Differential Method:* It is based on the estimate of working capital. It begins with the opening working capital and is added to or deducted from any changes made in the current assets except cash and current liabilities. At the end of the budget period balance shows the real cash balance. This method is quite similar to the Balance Sheet method.

Model of Cash Budget

Particular	January	February	March
Opening Balance	-	-	-
Add: Receipts:			
Cash Sales	-	-	-
Receipts from Debtors	-	-	-
Interest and Dividend	-	-	-
Sale of fixed assets	-	-	-
Sale of Investments	-	-	-
Bank Loan	-	-	-
Issue Shares & Debenture	-	-	-
Others	-	-	-
Total Receipts (A)	-	-	-
Less: Payments			
Cash Purchases	-	-	-
Payment to creditors	-	-	-
Salaries & wages	-	-	-
Administrative expenses	-	-	-
Selling expenses	-	-	-
Dividend payable	-	-	-
Purchase of Fixed Assets	-	-	-
Repayment of Loan	-	-	-
Payment of taxes	-	-	-
Total Payments (B)	-	-	-
Closing Balance (A - B)	-	-	-

Illustration

The opening cash balance on 1 January was expected to be Frw 30,000. The sales budgeted were as follows:

Months	Frw
November	80,000
December	90,000
January	75,000
February	75,000
March	80,000

Analysis of records shows that debtors settle according to the following pattern.

60% within the month of sale

25% the month following

15% the month following

Extracts from the purchases budget were as follows:

Months	Frw
December	60,000
January	55,000
February	45,000
March	55,000

All purchase are on credit and past experience shows that 90% are settled in the month of purchase and the balance settled the month after. Wages are Frw 8, 000 has to be settled in February and the company will receive settlement of an insurance claim oFrw 25,000 in March.

Required:

Prepare a cash budget for January, February and March.

Solution:

Workings	**Receipts from sales**
	January
	Cash, Frw
November (15% x 80,000)	12,000
December (25% x 90,000)	22,500
January (60% x 75,000)	45,000
	79,500
	February
	Cash, Frw
November (15% x 90,000)	13,500
December (25% x 75,000)	18,750
January (60% x 8,000)	45,000
	77,250
	March
	Cash, Frw
November (15% x 75,900)	11,250
December (25% x 75,000)	18,750
January (60% x 8,000)	48,000
	78,000

Payments for purchases

	January Cash, Frw
December (10% x 60,000)	6,000
January (60% x 50,000)	49,500
	55,500

	February Cash, Frw
January (10% x 50,000)	5,500
February (90% x 45,000)	40,500
	46,000

	March Cash, Frw
February (10% x 45,000)	4,500
March (90% x 55,000)	49,500
	54,000

Cash Budget	**January Frw**	**February Frw**	**March Frw**
Opening balance	30,000	24,000	17,250
Receipts from sales	79,500	77,250	78,000
Insurance claim			25,000
= Total cash available	**109,500**	**101,250**	**120,250**
Payments			
Purchases	55,000	46,000	54,000
Wages	15,000	15,000	15,000
Overheads (less depreciation)	15,000	15,000	15,000
Taxation	-	8,000	-
Total payments	**85,500**	**84,000**	**84,000**
Closing balance	**24,000**	**17,250**	**36,250**

2.8.2 Fixed and flexible budget

1. Fixed Budget:

A fixed budget is prepared for one level of output and one set of condition. This is a budget in which targets are tightly fixed. It is known as a static budget. According to CIMA, "A budget which is designed to remain unchanged irrespective of the level of the activity attained. "It is firm and prepared with the assumption that there will be no change in the budgeted level of motion. Thus, it does not provide room for any modification in expenditure due to the change in the projected conditions and activity. Fixed budgets are prepared well in advance.

This budget is not useful because the conditions go on the changing and cannot be expected to be firm. The management will not be in a position to assess, the performance of different heads on the basis of budgets prepared by them because to the budgeted level of activity. It is hardly of any use as a mechanism of budgetary control because it does not make any difference between fixed, semi-variable and variable costs and does not provide any space for alteration in the budgeted figures as a result of change in cost due to change in the level of activity. Fixed budget can be revised in the light of changing situations, yet the rigidity and control over costs and expenses would be lost in such cases. Fixed budgets should be prepared only where sales, production and costs can be accurately estimated.

2. Flexible Budget:

This is a dynamic budget. In comparison with a fixed budget, a flexible budget is one "which is designed to change in relation to the level of activity attained." The underlying principle of flexibility is that a budget is of little use unless cost and revenue are related to the actual volume of production. The statistics range from the lowest to the highest probable percentages of operating activity in relation to the standard operating performance. Flexible budgets are a part of the feed advance process and as such are a useful part of planning. An equally accurate use of the flexible budgets is for the purposes of control.

Flexible budgeting has been developed with the objective of changing the budget figures so that they may correspond with the actual output achieved. It is more sensible and practical,

because changes expected at different levels of activity are given due consideration. Thus, a budget might be prepared for various levels of activity in accord with capacity utilization.

Flexible budget may prove more useful in the following conditions:

- Where the level of activity varies from period to period.
- Where the business is new and as such it is difficult to forecast the demand.
- Where the organization is suffering from the shortage of any factor of production. For example, material, labor, etc. as the level of activity depends upon the availability of such a factor.
- Where the nature of business is such that sales go on changing.
- Where the changes in fashion or trend affects the production and sales.
- Where the organization introduces the new products or changes the patterns and designs of its products frequently.
- Where a large part of output is intended for the export.

Uses of Flexible Budget:

In flexible budgets numbers are adjustable to any given set of operating conditions. It is, therefore, more sensible than a fixed budget which is true only in one set of operating environments.

Flexible budgets are also useful from the view point of control. Actual performance of an executive should be compared with what he should have achieved in the actual circumstances and not with what he should have achieved under quite different circumstances. At last, flexible budgets are more realistic, practical and useful. Fixed budgets, on the other hand, have a limited application and are suited only for items like fixed costs.

Preparation of a Flexible Budget

The preparation of a flexible budget requires the analysis of total costs into fixed and variable components. This analysis of course is, not unusual to the flexible budgeting, is more important in flexible budgeting then in fixed budgeting. This is so because in flexible budgeting, varying levels of output are considered and each class of overhead will be different for each level. Thus, the flexible budget has the following main distinguishing features:

- It is prepared for a range of activity instead of a single level.
- It provides a dynamic basis for comparison because it is automatically related to changes in volume.

The formulation of a flexible budget begins with analyzing the overhead into fixed and variable cost and determining the extent to which the variable cost will vary within the normal range of activity. In a simple equation form it could be put as: Y=a+bx and it is illustrated as below:

Cost	Flexible budget		Y = a + b x
Fixed	Rs.5000	+	Rs. 0(x)
Variable	Rs.0	+	Rs.2.5(x)
Semi-Variable	Rs.500	+	Rs.1.0(x)
	Rs.5500	+	Rs.3.5(x)

There are two methods of preparing such a budget:

(i) Formula Method / Ratio Method: This is also known as the Budget Cost Allowance Method. In this method the budget should be prepared as follows:

(a) Before the period begins:

- Budget for a normal level of activity,
- Segregate into fixed and variable costs,
- Compute the variable cost per unit of activity

(b) At the end of the period:

- Ascertain the actual activity
- Compute the variable cost allowed for this level, add the fixed cost to give the budget cost allowance.

The whole process is expressed in the formula:

Allowed cost = Fixed cost + (Actual units of activity for the period)

(Variable cost per unit of activity)

(ii) Multi-Activity Method: This method involves computing a budget for every major level of activity. When the actual level of activity is known, the allowed cost is found "interpolating" between the budgets of activity levels on either side.

Different levels of activity are expressed in terms of either production units or sales values. The levels of activity are generally expressed in production units or in terms of sales values.

The fixation of the budget cost gives allowance for the budget centres. According to CIMA London, the budget cost allowance means, "the cost which a budget centre is expected to incur during a given period of time in relation to the level of activity attained by the budget centre."

The determination of the different levels of activity for which the flexible budget is to be prepared.

(ii) Graphic Method: In this method, estimates of budget are presented graphically. In these costs are divided into three classes, viz., fixed, variable and semi-variable cost. Values of costs are obtained for different levels of production. These values are signified in the form of a graph.

Model of Flexible Budget

No.	Particulars	Capacity Utilization		
		60%	80%	100%
1.	Prime Cost:			
	- Direct Material	-	-	-
	- Direct Labor	-	-	-
	- Direct expenses (if any)	-	-	-
	Total (A)	-	-	-

No.	Particulars	Capacity Utilization		
		60%	80%	100%
2.	Variable overheads:			
	- Maintenance & repairs	-	-	-
	- Indirect Labor	-	-	-
	- Indirect Material	-	-	-
	- Factory overheads	-	-	-
	- Administrative Overheads	-	-	-
	- Selling & distribution O/H	-	-	-
	Total (B)	-	-	-
3.	Marginal Cost (A + B)	-	-	-
4.	Sales	-	-	-
5.	Contribution (Sales - MC)	-	-	-
6.	Fixed cost			
	- Factory overheads	-	-	-
	- Administrative Overheads	-	-	-
	- Selling & distribution O/H	-	-	-
	Total (C)	-	-	-
7.	Profit or Loss (C- FC)	-	-	-

2.8.3 Time budget

With regard to time, budgets may be classified into four categories:

(a) *Long-term Budget*: These budgets are prepared on the basis of long-term projection and portray a long-range planning. These budgets generally cover plans for three to ten years. In this regard it is mostly prepared in terms of physical quantities rather than in monetary values.

(b) *Short-term Budget*: In this budget forecasts and plans are given in respect of its operations for a period of about one to five years. They are generally prepared in monetary units and are more specific than long-term budgets.

(c) *Current Budgets*: These budgets cover a very short period, may be a month or a quarter or maximum one year. The preparation of these budgets requires adjustments in short-term budgets to current conditions.

(d) *Rolling Budgets*: A few companies follow the practice of preparing a rolling or progressive budget. In this case companies prepare the budget for a year in advance. A new budget is prepared after the end of each month or quarter for a full year in advance. The figures for the month or quarter which has rolled down are dropped and the statistics for the next month or quarter are added.

2.8.4 Master budget

The master budget is a review budget which combines all functional budgets and it may take the form of Financial Statements at the end of budget period. It is also called the operating budget. It embraces the impact of both operating decisions and financing decisions. It provides the necessary plan for operations during the period when all detailed budgets have been completed. A master budget becomes a principal document for the operations of the industry during the period it covers. Actually, budgets have to be amended several times before the position disclosed by the summary budget is accepted. A master budget is an annual profit plan, which may be broken into months or quarters.

As a result, a master budget is:

- A statement of a company's operating policy for the budget period, and
- A budgeted profit and loss account for the budget period and abalance sheet as at the end the period.

Merits of the Master Budget:

- A review of all the functional budgets in specific form is available in one report.
- It presents an overall profit position of the organization for the budget.
- It also contains the information regarding the forecast balance sheet.
- It examines the fitness of all the functional budgets

2.8.5 Performance Budgeting (PB)

This term was used for the first time in the United States by the Hoover Commission. In India, Performance Budgeting was first discussed in 1954 during the Lok-Sabah debates. But it was only in 1961 that the government of India issued general orders drawing the attention of the administrative ministries to the recommendations of the Estimates Committee, and requesting them to consider the issuance of suitable instructions. It was left to the Administrative Reforms Commission to come out with more elaborate emphasis on PB in 1967.Performance budgeting is a budgeting system, which involves the assessment of the performance of the business, and both its specific and overall objectives. It gives clarity about organizational objectives and provides an exact direction to each employee in the business.
Meaning:

The term performance implies results or outputs. 'A performance budget is one which presents the purposes and objectives for which funds are required, the costs of the programs proposed for achieving those objectives, and quantitative data measuring the accomplishments and work performed under program. Thus, PB is a technique of presenting budgets for costs and revenues in terms of functions, programs and activities and correlating the physical and financial aspects of the individual items comprising the budget.

As per the National Institute of Bank Management, PB technique is, "the process of analyzing, identifying, simplifying and crystallizing specific performance objectives of a job to be achieved over a period in the framework of the organizational objectives, the purpose and objectives of the job. The technique is characterized by its specific direction towards the business objectives of the organization." As a result, performance budget accentuates the execution of specific goals over a period of time. Steps in Performing Budgeting (PB):

- Establishment of performance targets
- Establishment of responsibility centre
- Estimating financial requirements
- Comparison of actual with budgeted performance
- Reporting and action

2.8.6 Zero Base Budgeting

The 'Zero-Base' refers to a 'nil-budget' as the starting point. It starts with a presumption that the budget for the next period is 'zero' until the demand for a function, process, or project is not justified for single penny. The assumption is that without such justification, no expenditure will be allowed. In effect, each manager or functional head is required to carry out cost-benefit analysis of each of the activities, etc. under his control and for which he is responsible.

The method of ZBB suggests that the business should not only make decision about the proposed new programs but it should also, regularly, review the suitability of the existing programs. This approach of preparing a budget is called incremental budgeting since the budget process is concerned mainly with the increases or changes in operations that are likely to occur during the budget period.

This method for the first time was used by the Department of Agriculture, U.S.A. in the 19th century. Other State Governments of the U.S.A. found this method helpful and so almost all the states took deep interest in the ZBB method. A number of states of America use this technique even today. The ICAI has brought out a research in the form of a monograph showing the application of the ZBB method that worries in tandem with the concerns for national environment and its requirements. In India, however, the ZBB approach has not been fully accepted and actualized.

"ZBB is a management tool, which provides a systematic method for evaluating all operations and programs, current or new, allows for budget reductions and expansions in a rational manner and allows re-allocation of sources from low to high priority programs." David Lieninger

ZBB is a planning, resource allocation and control tool. It, however, presupposes that

(a) There is an efficient budgeting system within the enterprise.

(b) Managers can develop quantitative measures for use in performance evaluation.

(c) Among the new suggestions and programs, along with old ones are put to a strict scrutiny.

(d) Funds are diverted from low-priority suggestions to high priority suggestions.

Procedure of Zero-base Budgeting:

(1) **Determination of the objective:** This is an initial step for determining the objective to introduce ZBB. It may result into the decreased cost in personnel overheads or debunk the projects which do not fit in the business structure or which are not likely to help accomplish the business objectives.

(2) **Degree at the ZBB is to be introduced:** It is not possible every time to evaluate every activity of the whole business. After studying the business structure, the management can decide whether ZBB is to be introduced in all areas of business activities or only in a few selected areas on the trial basis.

(3) **Growth of Decision units:** Decision units submit their data as to which cost benefit analysis should be done in order to arrive at a decision that helps them decide to continue or abandon. It could be a functional department, a program, a product-line or a sub-line. Here the decision units exist independent of all the other units so that when the cost analysis turns unfavorable that particular unit could be closed down.

(4) **Growth of Decision packages:** Decision units are to be identified for preparing data relating to the proposals to be included in the budget, concerned manager analyzes the activities of his or her own decision units. His job is to consider possible different ways to fulfill objectives. The size of the business unit and the volume of goods it deals with determine the number of decision units and packages. The decision package has to contain all the information which helps the management in deciding whether the information is necessary for the business, what would be the estimated costs and benefits expected from it.

(5) **Assessment and Grading of decision packages:** These packages invented and formulated are submitted to the next level of responsibility within the organization for ranking purposes. Ranking basically decides as to whether or not to include the proposals in the budget. The management ranks the different decision packages in the order from decreasing benefit or importance to the organization. Preliminary ranking is done by the unit manager himself and for the further review it is sent to the superior officers who consider overall objectives of the organization.

(6) **Allotment of money through Budgets:** It is the last step engaged in the ZBB process. According to the cost benefit analysis and availability of the funds management has ranks and thereby a cut-off point is established. Keeping in view reasonable standards, the approved designed packages are accepted and others are rejected. The funds are then allotted to different decision units and budgets relating to each unit are prepared.

Advantages:

- ZBB rejects the attitude of accepting the current position in support of an attitude of inquiring and testing each item of budget.
- It helps improve financial planning and management information system through various techniques.
- It is an educational process and can promote a management team of talented and skillful people who tend to promptly respond to changes in the business environment.
- Its facilities recognition of inefficient and unnecessary activities and avoid wasteful expenditure.
- Cost behavior patterns are more closely examined.
- Management has better elasticity in reallocating funds for optimum utilization of the funds.

Disadvantages:

- It is an expensive method as ZBB incurs a huge cost every in its preparation.
- It also requires high volume of paper work, hence sometimes it becomes a tedious job.
- In ZBB there is a danger of emphasizing short-term benefits at the expenses of long-term ones.

- This is not a new method for evaluating various alternatives, and cost-benefit analysis.
- The psychological effects can also not be ignored. It holds out high hopes as a modern technique, claiming to raise the profitability and efficiency of the business.

2.8.7 Budgets Reports

Ascertaining budget in itself is of no use unless there is a constant flow of budget reports showing assessment of the actual and the budget figures. It should be prepared at regular intervals like every month showing results of the difference between actual and budgeting figure. The reports should be prepaid in such a way that they establish responsibility for the variances. Reports should also disclose whether or not variances are favorable and that they are controllable.

The contents of the budget report vary according to the need of the managerial level. Reports are prepared in such a way that the concerned manager is directly concerned to be provided with detailed information. As the level grows higher, the amount of detail becomes less although the coverage of the report will widen.

Essentials of a Budget Report:

The following essentials should be kept in view while preparing budget reports:

- The budget reports should be simple, appropriate and understandable for the concerned person.
- The report should be presented in time.
- The report should be precise. However, its accuracy should not be at the cost of clarity.
- The principle of exemption should be utilized, where possible.
- It should contain only necessary information according to the need of the concerned person.

Example: The following illustration is adapted from (Drury 2004: 601)

XTC Company manufactures two products; alpha and beta which are produced by department 1 and 2 respectively. The following information is available for 200X

(i) Standard material and labor costs:

Material X	Frw 7.20 per unit
Material Y	Frw 16.00 per unit
Direct labor	Frw 12.00 per hour

(ii) Overhead is recovered on a direct labor hour basis

(iii) The standard material and labor usage for each product are as follows:

	alpha	beta
Material X	10 units	8 units
Material Y	5 units	9 units
Direct labor	10 hrs.	15 hrs.

(iv) Finished products:

	alpha	beta
Forecast sales (units)	8,500	1,600
Selling price per unit (Frw)	400	560
Required ending inventory(units)	1,870	90
Beginning inventory(units)	170	85

(v) Direct material:

	Material X	Material Y
Beginning inventory	8,500	8,000
Required ending inventory	10,200	1,700

(vi) Budgeted variable overhead rates per direct labor hour:

	Dept 1(Frw)	Dept 2(Frw)
Indirect materials	1.20	0.80
Indirect labor	1.20	1.20
Power (variable portion)	0.60	0.40
Maintenance (variable portion)	0.20	0.40

(vii) Budgeted fixed overheads:

	Dept 1(Frw)	Dept 2(Frw)
Depreciation	100,000	80,000
Supervision	100,000	40,000
Power (variable portion)	40,000	2,000
Maintenance (variable portion)	45,600	3,196

(viii) Estimated non-manufacturing overheads:

	(Frw)
Administration - stationary etc	4,000
Salaries: -Sales	74,000
-Office	28,000
Commissions	60,000
Vehicle expenses(sales)	22,000
Advertising	80,000
Miscellaneous (office)	8,000
Total	276,000

(ix) Budgeted cash flows:

	Quarter 1 (Frw)	Quarter 2 (Frw)	Quarter 3 (Frw)	Quarter 4 (Frw)
Receipts from customers	1,000,000	1,200,000	1,120,000	985,000
Payments: Materials	400,000	480,000	440,000	547,984
Payments for wages	400,000	440,000	480,000	646,188
Other costs & expenses	120,000	100,000	72,016	13,642

(x) The balance sheet for the previous year end 200X was as follows:

		Frw	Frw	Frw
Fixed assets:	Land		170,000	
	Buildings and equipment		1,292,000	
	Less depreciation	255,000	1,037,000	1,207,000
Current asset:	Stocks -Finished goods		99,076	
	Raw materials		189,200	
	Debtors		289,000	
	Cash		34,000	
			611,276	
Less current liabilities:	Creditors	248,800		362,476
Net assets				1,569,476
Represented by Shareholder's Funds:				
1,200,000 ordinary shares Frw1 each			1,200,000	
Reserves			369,467	1,569,476

Required:

Prepare a master budget for the year 200X and the following budgets

(i) Sales budget

(ii) Production budget

(iii) Direct material usage budget

(iv) Direct material purchase budget

(v) Direct labor budget

(vi) Factory overhead budget

(vii) Selling and administration budget

(viii) Cash budget

Solution:

(i) Sales/revenue budget

It shows the quantities of each product the company plans to sell and the intended selling price. It is the foundation of all other budgets since all expenditure s ultimately depended on the volume of sales.

Sales budget for the year 200X

Product	(1) Units sold	(2) Selling price	(3) Total revenue= (1) × (2)
Alpha	8,500*	400*	3,400,000
Beta	1,600*	560*	896,000
			4,296,000

*See information item (iv) - finished products

In practice total sales budget for the year is broken down into subsidiary monthly sales budgets

(ii) Production budget

This budget is expressed in units only and the responsibility of the production manager. The objective is to ensure that production is sufficient to meet sales demand and that economic inventory levels are maintained

Annual production budget

	alpha	beta
Units to be sold*	8,500	1,600
Required closing inventory*	1,870	90
Total units required for sale and inventory	10,370	1,670
Less Beginning inventory*	170	85
Units to be produced	10,200	1,605

*See information item (iv) - finished products

Total production for each department should also be analyzed monthly

(iii) Direct material usage budget

Supervisors for each department should prepare estimated of materials required to meet the production budgets

Annual direct material usage budget

	Dept 1			Dept 2			
	(1) Unit price (Frw)	(2) Unit to be used	(3) Cost = (1)× (2)	(4) Unit to be used	(5) Cost = (1)× (4)	(6) Total units to be used =(2)+(4)	(7) Total
Material X	7.20	102,000*	734,400	12,840***	92,448	114,840	826,848
Material Y	16.00	51,000**	816,000	14,445****	231,120	65,445	1,047,120
			1,550,400		323,568		1,873,968

* The 10,200 units to be produced by dept 1 as shown in the production budget above × 10 the standard material usage of material X as shown in information item (iii)

** The 10,200 units to be produced by dept 1 as shown in the production budget above × 5 the standard material usage of material Y as shown in information item (iii)

***The 1,605 units to be produced by dept 2 as shown in the production budget above × 8 the standard material usage of material X as shown in information item (iii)

****The 1,605 units to be produced by dept 2 as shown in the production budget above × 9 the standard material usage of material Y as shown in information item (iii)

(iv) Direct material purchase budget

This is the done by the purchasing manager who is responsible for obtaining the planed quantities of raw materials to meet the production requirements. The objective is to

purchase the materials at the right time and at the planned purchase price taking into consideration the planned inventory levels

Annual direct material purchase budget

	Material X	Material Y
Quantity necessary to meet production		
(as per material usage budget - column 6)	114,840	65,445
Required closing inventory*	10,200	1,700
	125,040	67,145
Less beginning inventory*	8,500	8,000
Total units to be purchased	116,540	59,145
Planned unit purchase price (Frw)	× 7.20	× 16
Total purchases of each material (Frw)	839,088	946,320
Total purchase budget (839,088 + 946,320)	1,785,408	

* See information item (v) -direct material

(v) Direct labor budget

This is the responsibility of the departmental managers; they will prepare the estimates of the department's labor hour requirement to meet the planned production the budgeted rate per labor hour is usually determined by the industrial relations or human recourses department.

Annual direct labor budget

	Dept 1	Dept 2	Total
Budgeted production (units)*	10,200	1,605	
Production hours per unit**	×10	×15	
Total budgeted hours	102,000	24,075	126,075
Budgeted wage rate per hour (Frw)***	×12	×12	×12
Total wages (Frw)	1,224,000	288,900	1,512,900

* See annual production budget

** See information item (iii) - direct labor usage

** See information item (ii) - direct labor cost

(vi) Factory overhead budget

This is the responsibility of the respective production department managers. The overhead budget will depend on the behavior of the costs of the individual overhead items in relation to anticipated level of production. The overheads are analyzed according to whether they are variable or fixed. Annual overhead budget: anticipate activity - 102,000 direct labor hrs for dept 1 and 24,075 direct labor hrs for dept 2

	Rate per hour		Variable overhead Overheads		Total
	Dept 1	Dept 2	Dept 1	Dept 2	
	(102,000)		(24,075)		
Variable overheads					
Indirect material	1.20	0.80	122,400	19,260	
Indirect labor	1.20	1.20	122,400	28,890	
Power (variable portion)	0.60	0.40	61,200	9,630	
Maintenance (variable portion)	0.20	0.40	20,400	9,630	
			326,400	67,410	393,810
Fixed overheads					
Depreciation			100,000	80,000	
Supervision			100,000	80,000	
Power (variable portion)			40,000	2,000	
Maintenance (variable portion)			45,600	3,196	
			285,600	125,196	410,796
Total overhead (variable + fixed o/h)			612,000	192,606	804,606
Budgeted departmental overhead rate (Total overhead ÷budgeted hrs for each dept)			6.00	8.00	

(vii) Prepare ending inventories budget

Direct materials	Material X	Material Y	Total
Required closing inventory	10,200	1,700	
Planned unit purchase price (Frw)	× 7.20	× 16	
Total value of each material (Frw)	73,440	27,200	100,640
Finished products	Alpha	Beta	
Required closing inventory	1,870	90	
Planned finished goods cost*	× 332	× 501.6	
Total value of each finished product	620,840	45,144	665,984
Total planned closing inventory			766,624

*Finished goods cost is calculated as follows:

		Alpha		Beta	
	Cost	Units used	Frw	Units used	Frw
Direct materials					
X	7.20	10	72.00	8	57.60
Y	16.00	5	80.00	9	144.00
Direct labor	12	10	120.00	15	180.00
Factory overheads:					
Dept 1	6	10	60.00	-	-
Dept 2	8	-	-	15	120.00
			332.00		501.60

(viii) Prepare the cost of goods sold budget

	Frw
Opening inventories:	
Finished products (170 × 332.00) + (85× 501.60)	99,076
Direct materials (8,500×7.20) + (8,000×16.00)	189,200
Direct material purchases *	1,785,408
Direct labor *	1,512,900
Factory overheads*	804,606

Less closing inventories*	(766,624)
Cost of goods sold	3,624,566

* See respective budgets

(ix) Prepare non-manufacturing/selling and administration budget

	Frw	Frw
Selling: Salaries	74,000	
Commissions	60,000	
Car expenses	22,000	
Advertising	80,000	236,000
Administration: Stationary	4,000	
Salaries	28,000	
Miscellaneous	8,000	40,000
		276,000

(x) Prepare the cash budget

The objective of the cash budget is to ensure that sufficient cash is available at all times to meet the level of operations outlined in the various budgets. Cash budgets can help avoid surplus cash balances by enabling management to make advance arrangements for their investment and also planned ahead to fill any anticipated shortfalls in cash

Cash budget for the year 200X

	Quarter 1 (Frw)	Quarter 2 (Frw)	Quarter 3 (Frw)	Quarter 4 (Frw)	Total (Frw)
Opening balance	34,000	114,000	294,000	421,984	34,000
Receipts from customers	1,000,000	1,200,000	1,120,000	985,000	4,305,000
	1,034,000	1,314,000	1,414,000	1,406,984	4,339,000
Payments: Materials	400,000	480,000	440,000	547,984	1,867,984
Payments for wages	400,000	440,000	480,000	646,188	1,966,188
Other costs & expenses	120,000	100,000	72,016	13,642	305,658
	920,000	1,020,000	992,016	1,207,814	4,139,830
Closing balance	114,000	294,000	421,984	199,170	199,170

(xi) Prepare the budgeted income statement

Budgeted profit and loss account for the year ending 200X

	Frw
Sales -(sales budget)	4,296,000
Less cost of good sold -(cost of goods sold budget)	(3,624,566)
Gross profit	671,434
Less non mfg cost/selling and administration expenses - (Selling and Administration expenses budget)	(276,000)
Budgeted operating profit for the year	395,434

(xii) Prepare the budgeted balance sheet

Budgeted balance sheet for the as at 31st December 200X

	Frw	Frw
Fixed assets:		
Land		170,000
Building and Equipment	1,292,000	
Less accumulated depreciation*	(435,000)	857,000
		1,027,000
Current assets:		
Raw materials	100,640	
Finished goods	665,984	
Debtors **	280,000	
Cash -(closing cash balance figure in cash budget)	199,170	
	1,245,794	
Less current Liabilities:		
Creditors***	(307,884)	937,910
		1,964,910
Represented by shareholder's funds:		
1,200,000 ordinary shares oFrw1 each	1,200,000	
Reserves	369,476	
Profit and loss account	395,434	1,964,910

* Opening balance for depreciation (255,000), see previous year balance sheet; plus, current year depreciation for department 1 (100,000) and for department 2 (80,000) i.e.
(255,000+ 180,000)
** Opening balance for debtors (289,000) see previous year balance sheet; plus sales (4,296, 000) see
sales budget; minus total cash received (4,305,000) see cash budget i.e.
(289,000 + 4,296,000 - 4,305,000)
*** Opening balance for creditors (248,800) see previous year balance sheet; plus purchases (1,785,408) see direct material purchases budget; plus indirect materials (141,660) see factory overhead budget; minus total cash paid (1, 867,984) see cash budget i.e.
(248,800 + 1,785,408 + 141,660 - 1, 867,984)

(xiii) Prepare the departmental budgets*
Departmental budges may be prepared for judging how effective managers are in controlling expenditure for which they are responsible the department annual budget for department 1 will be as follows:
Annual budget for department 1

	Frw	Budget (Frw) Actual (Frw)
Direct labor (see direct labor budget):		
102,000 at Frw 12		1,224,000
Direct material (see direct material usage budget):		
102,000 units of material X at Frw 7.20 per unit		734,400
51,000 units of material Y at Frw 16 per unit		816,000
		1,550,400
Variable overheads (see factory overheads budget):		
Indirect material	122,400	
Indirect labor	122,400	
Power (variable portion)	61,200	
Maintenance (variable portion)	20,400	326,400
Fixed overheads (see factory overheads budget):		

Depreciation	100,000	
Supervision	100,000	
Power (variable portion)	40,000	
Maintenance (variable portion)	45,600	285,600
		3,386,400

2.9 Benefits of budgeting

- It is the major formal way in which the organizational objectives are translated into specific plans, tasks and objectives related to individual management and supervisors. It should provide clear guidelines for current operations
- It is an important medium of communication for organizational plan, objectives and of the progress towards meeting those objectives.
- The development of budgets (done properly) helps to achieve co-ordination between the various departments and functions of the organization.
- The involvement of all levels of management with setting budgets, the acceptance of defined targets, the two-way flow of information and other facets of a properly organized budgeting system all help to promote coalition of interest and to increase motivation.

2.10 Problems associated with budgeting

Various problems and difficulties which may occur in connection with budgeting given below but it does not necessarily follow that they will occur in any given organization

(a) There may be too much reliance on the technique as a substitute for good management

(b) The budgetary system, perhaps because of undue pressure or poor human relations, may cause antagonism and decrease motivation.

(c) Variances are just as frequently due to changing circumstances, poor forecasting or general uncertainties as due to managerial performance.

(d) Budgets are developed round existing organizational structures and departments which may be inappropriate for current conditions and may not reflect the underlying economic realities.

(e) The very existence of well documented plans and budgets may cause inertia and lack of flexibility in adapting to change.

(f) There is a major problem in setting the levels of attainment to be included in budgets and standards.

CHAPTER III: BEHAVIOURAL ASPECTS OF BUDGETING

3.1 Introduction

In the previous chapter we looked at how budgets are prepared. In this chapter we will consider how the budget can affect the behavior of managers.

3.2 Motivation

An important use of budgets is for them to become the targets for managers. This will only work if our managers are motivated to attempt to achieve (or to perform better than) the targets that have been set.

It is therefore important that consideration is given as to how best to motivate the managers.

3.3 Factors that influence motivation

The main factors influencing how well the managers will be motivated are:

- To what extent they were involved in preparing the budgets and therefore in setting the targets
- How easy or difficult will it be for the managers to achieve the targets
- How the managers will be rewarded for achieving their targets (or punished for not achieving them!)

We will consider each of these factors briefly in the following paragraphs.

3.4 Participation in the preparation of budgets

There are two basic approaches to the way budgets are prepared:

- One approach is for top management to prepare the budgets and then to impose them on their managers. This is known as top-down budgeting
- The alternative approach is to get the managers to prepare their own budgets and for top management to then approve them (after obviously due discussion). This is known as bottom-up budgeting.

The second approach Ð bottom-up budgeting is a participative approach and is regarded as being more motivational for the managers because they were involved in setting their own targets.

The danger is that they deliberately budget targets that are easy for them to achieve it is up to top management to be aware of this and to question the managers well before approving the budgets.

3.5 The impact of targets

It is important that the targets are demanding of the managers Ð the purpose of them is to help improve the performance of the business Ð but at the same time they need to be achievable by the managers. If the manager feels that it is simply not possible to achieve his or her target, then there is the danger that they just stop trying completely.

3.6 Incentive schemes

The most common way of motivating managers to improve is to reward them - the level of the reward being dependent on the degree to which they achieve, or better, their targets.

3.7 The reward can be given in several ways, such as the following:

- The promise of promotion
- An increase in salary
- A cash bonus
- A bonus given in shares in the company

3.8 Behavioral implications

Budgetary control is a very powerful tool which highlights all departures from the agreed budget. It is therefore vitally important that all managers are involved in the budget-setting process so that they feel committed to achieving their targets. It also needs to be recognized that managers will play the 'budget game' and endeavor to ensure they have achievable targets. It is quite common to find that the company's first budget estimates show it plunging into massive losses. Sales and marketing staff have been cautious with their sales estimates

and views on price increases, whilst line managers have been unduly pessimistic about costs and endeavor to secure the maximum capital budget so that they can implement all their projects.

It takes time to tease out their genuine expectations, and this process must be handled very carefully in order to avoid the appearance of imposing budgetary targets on managers. The eventual target should be realistic but stretching - so as to provide a challenge to the people involved.

Having constructed the budget, it is also important to recognize that some managers may attempt to bend the system so that adverse variances are not reported in their area. It is not unknown for managers to put incorrect codes on their purchase orders so that costs are shown in another manager's operating statement, or reported elsewhere on their own. Naturally this does nothing to help define better budgets in the following years.

It is also essential that the basis of the budget -setting process is understood. In practice it is often based on the company's current position and then updated for changes expected in the forthcoming year. This can lead to established inefficiencies being built into next year's targets. An alternative approach is called zero -based budgeting, which challenges the accepted way of doing things and attempts to construct budgets based on the way operations would be established if they were being set up for the first time. The budget must obviously start from the company's current position, but this type of analysis should encourage the company to progress towards a better way of structuring its activities

CHAPTER IV: PUBLIC SECTOR BUDGETS_RWANDAN VIEW POINT

Budgeting in the public sector context shares many similarities with the private sector but contains a greater focus on the relationship with policy development, performance monitoring and statutory objectives.

The key objectives of public sector budgeting are:

- assisting in planning expenditure to meet policy requirements;
- policy implementation and control;
- measuring and monitoring performance;
- to determine the total expenditure of the organization and ensure that it is consistent with total revenues (e.g., fixing the rate of local taxation);
- provide the basis for authorizing expenditure and collection of fees and charges;
- provide the basis for budgetary control;
- satisfaction of statutory requirements

4.1 Preparation of the Budget

This section details specific steps in the budget preparation process, as it's one of the core functions of the Chief Budget Manager. The budget preparation process is coordinated by the National Budget Department at MINECOFIN and all the budget related documents are posted at their website

4.2 The First Budget Call Circular

The budget preparation call circular is triggered by the issuance of the First Budget Call Circular (BCC). The BCC is issued in accordance with Article 28 of OBL, and provides information to guide the Chief Budget Managers in the preparation of the budget. The 1st BCC is normally issued in October and it is important that Chief Budget Managers start using it from October.

The 1st BCC is not intended to seek budget submissions from budget agencies but is rather aimed at giving advance information to facilitate timely coordination and effective planning within the sectors to allow formulation of policy-based budgets within individual budget agencies at a later stage. The 1st BCC is aimed at inducing discussions at the sector level on priority activities to be funded through the Government budget for the following financial year. These priorities should be reflected in joint sector review report and should be the basis for submission of the budget requests in response to the 2nd BCC, normally issued in early December.

4.3 The Second Budget Call Circular

As indicated above, the 1st BCC issued in October is meant to provide advance information to budget agencies to better prepare and make informed plans and budgets. The 2nd Budget Call Circular is issued in early December requiring budget agencies to prepare detailed budget submissions for the following financial year. The 2nd BCC, which is also prepared by National Budget Department, includes:

- The total indicative resource envelope derived from the macro-fiscal framework consistent with the broad policy objectives. The indicative ceilings are issued at high level at line ministries, provinces and other high level government institutions. This is to allow coordination and prioritization of activities at the high level of Government programs. The parent institutions (Ministries and other high-level institutions) that have been allocated ceilings are required to immediately undertake consultative process with all affiliated agencies to agree on individual agency ceilings that shall be the basis for the detailed budget estimates to be entered in the budget system (SmartFMS).

- Budget submission formats (Annexes) to be submitted by each budget agency to assist in preparation of the Finance Law (including externally and internally financed projects, internally generated revenues, earmarked transfers to districts, Agency MTEFs, Strategic Issues Papers (SIPs).

4.4 Strategic Issues Papers (SIPs)

The Strategic Issues Papers (SIPs) and Agency MTEFs are prepared by line ministries after consultation with their affiliated agencies, projects and districts. At this stage, information is gathered regarding projects support and sector budget support.

The SIPs and agency MTEFs are submitted to MINECOFIN and analyzed by NBD. Budget consultations are then held between line ministries and MINECOFIN (in March) to agree on final ceilings to submit to Cabinet & Parliament.

As indicated above, budget preparation is one of the most important responsibilities for a Chief Budget Manager. Chief Budget Managers should ensure that the contents of the guidelines are strictly adhered to and all issues therein are addressed in their draft budget estimates

4.5 Submission and approval of budgets

The procedures for preparation, presentation and approval of budgets are provided for under Chapter III Articles 28-45.

It should be noted that no budget should be provided for urgent and unforeseen expenditures with a budget of a central government agency as provided in article 31 of the OBL. Such a budget is only provided under the budget of Ministry of Finance and Economic Planning. However, each district may provide for such expenditure in its own budget as provided under article 32 of the law.

Article 35: Expenditure estimates shall be prepared by budget Agencies, based on the available resources and the guidelines issued by the Minister. Each budget Agency shall have a separate budgetary line (vote) in the budget. Expenditure estimates of each budget Agency are organized in a programmatic, economic and functional classification, in line with international classification standards.

Article 6 of the OBL obliges government institutions to reflect all the revenues including grants and all expenditures within their budgets. Chief Budget Managers should ensure during budget preparation that this requirement is respected.

In order to meet the constitutional obligation as per Article 79 to submit the draft budget estimates and MTEF to parliament before commencement of the budget session, the draft estimates of Budget Agencies should reach MINECOFIN not later than January 28th, in hard copies and electronically through SmartFMS. This gives NBD time to analyze the budgets and conduct Budget Hearings for all Sector Ministries. In months 8-9 (February/March), the detailed draft budget is prepared by MINECOFIN along with accompanying Budget Framework Paper (BFP).

The BFP sets out the macroeconomic context of the draft budget as well as the key policy choices underlying the proposed resource allocation. The BFP is discussed by Cabinet and recommendations are incorporated. The BFP and draft Budget is discussed with donors at the second Joint Budget Support Review. It is at this point that Development Partners make firm commitments for the coming year.

In accordance with article 79 of the Constitution of the Republic of Rwanda of June 4, 2003 as amended to date, the Cabinet shall submit the draft budget to the Chamber of Deputies before the beginning of the budget session. This is further elaborated in Article 42 of OBL. The Minister presents the draft estimates and BFP to Parliament in the 10th month of the financial year (April).

The Parliamentary Committee on Budget and State Property in collaboration with other sectoral committees scrutinizes the BFP and the draft budget estimates and submits a report to plenary containing recommendations to the Executive for improvement of the BFP and draft budget estimates. This report is normally submitted before the end of May and becomes the basis for revising the BFP and preparing the draft Finance Law.

After the approval of the draft finance law by Cabinet around the first week of June, the draft finance is submitted to Parliament and is officially laid before the Parliament by the Minister of Finance and Economic Planning during the second week of June. The budget is ordinarily voted and approved by Parliament before commencement of the next fiscal year

4.6 Preparation and approval of Local Government Budgets

The Intergovernmental Fiscal Relations Unit (IGFR) in MINECOFIN acts as the coordinating unit between the district and national budget cycle.

Districts carry out their own review of last year's performance which is discussed at the Joint Action Forum in month 2 (August). During budget preparation, districts participate in consultations with line ministries on Earmarked Transfers. MINECOFIN (IGFR) sends out the District Budget Call Circular for Districts to prepare their budgets. Following the finalization of the BFP at the national level, districts prepare their detailed budget based on final resource envelopes agreed at Districts' Joint Action Forum and transfers from Central Government communicated by the Ministry of Finance and Economic Planning.

As required under article 43 of the OBL, the draft budgets of local administrative entities shall be submitted to the executive committee of such an entity for further analysis before submission to the local council of such an entity for examination and approval. When the draft budget of local administrative entities has been approved by Council, they shall make it public to the general meeting of the residents convened by the Executive Committee of the local administrative entity, in each sector.

4.7 Revised Budget

Article 45 of OBL provides for revision of budget after six months of implementing the budget. The proposed changes shall be consistent with the approved medium-term strategies and budget framework; and if they are different from the approved budget framework, the reasons thereof shall be notified to the Parliament or to the local Council of such an entity.

Accordingly, the Chief Budget Managers are required to monitor closely the implementation of their budget by keeping a close eye on issues that might require revision after six months of implementing the budget. These should be the issues that cannot be handled through budget re-allocation like information on project funds that has just been communicated by the donor, under- spending of a project that might require some adjustment in the procurement plan and thus budget revision etc.

Requests for budget revision should be communicated to the Ministry of Finance and Economic Planning by the first week of December to have an informed decision of whether a budget revision is warranted or not by the end of December.

4.8 Distinction between budgeting and budgetary control in the private and public sectors

Public Sector Budgeting Theory and Strategy

Main Types of Budgets

Budgets can cover a variety of activities and purposes. Each budget type will be produced for a specific reason and there will be differences in content and approach:

- budgets can be produced for either capital or revenue; resource budgets (e.g. for labor) can also be produced. This would be seen as a way of planning or controlling labor inputs;
- budgets can be produced for sales, income and revenues;
- working capital budgets, e.g., for stock or cash It is essential that cash flow is effectively managed and the optimum benefit obtained from cash resources. Budgets for stock, debtors and creditors can be seen as a way of controlling the use of current assets and liabilities;
- aggregate or consolidated budgets can be prepared for the organization as a whole;
- budgets can be subjective based (i.e., what expenditure is on, e.g., wages, premises or supplies) or objective based (i.e., what the budget is being spent on, e.g. the cost charged to a particular service or activity). The latter is usually preferred as it enables decision makers make rational choices but the former is simpler from the control

perspective. These budgets can be produced at multiple levels throughout the organization for example, at a service level, for a group of services or a single unit.

Environment and Objectives Public and private sector organizations operate in different environments and some of the approaches taken to budget setting will differ. Some of the essential differences between the two sectors are summarized in the table below.

Private and public sector objectives - a comparison

Private sector	**Public sector**
Market driven	Resource constrained (i.e. funded by taxation)
Resources influenced by market demand	Resources controlled by government through grant settlements
Reliance upon external sales	Activity generally determined politically
Need for flexibility	Fixed budgets
Profit oriented	Service/community oriented
Single or limited number of objective(s)	Multi (and often conflicting) objectives
Outputs identifiable and measurable	Outputs subjective and qualitative
Decisions made by:	Decisions made by:
Shareholders	Electorate
Customers	Service Users
Workforce	Employees
Management	Management
Board	Politicians

The boundaries between the two sectors have however become less apparent in recent years due to the effects of externalization, competitive tendering, the development of both internal and external trading activities and an increasing emphasis on partnerships amongst both statutory agencies and the private sector.

Nevertheless, these key differences will influence the approach which public sector bodies take to budgeting particularly in relation to the need for processes and procedures to be

adapted to reflect the external environment in which they operate and translate this into the setting of budget requirements.

Satisfying external and internal environments

In common with private sector organizations those operating in the public sector must also adapt their budgeting processes to reflect their internal and external environments. Public sector budget preparation will be influenced by a number of internal factors including:

- the proposed income and expenditure of the organization's services;
- the revenue consequences of any proposed capital expenditure;
- the use of balances and reserves;
- contributions from trading activities and any surpluses or deficits from the collection fund (local authorities only);
- growth and savings. Public sector bodies do not operate in a vacuum and their actions have a significant effect on the national economy as they are funded by some form of taxation. They also have an effect on the Public Sector Borrowing Requirement (PSBR) by borrowing money to fund expenditure.

By aggregating budgets throughout the public sector central government can then monitor its activities against its plans or targets (as set through Comprehensive Spending Reviews and Public Service Agreements) and take appropriate action to ensure that these are met.

The revenue expenditure of public bodies is funded at national level by either taxation or fees/charges and at local government level by government grants, local taxation and fees/charges. Statutory frameworks also exist to ensure that public sector organizations set balanced budgets. Balanced budgets are ones where the organization's estimated revenue expenditure can be met from all sources together with contributions from reserves

Objectives of public sector budgeting

Budgeting in the public sector context shares many similarities with the private sector but contains a greater focus on the relationship with policy development, performance monitoring and statutory objectives. The key objectives of public sector budgeting are:

- assisting in planning expenditure to meet policy requirements;
- policy implementation and control;
- measuring and monitoring performance;
- to determine the total expenditure of the organization and ensure that it is consistent with total revenues (e.g., fixing the rate of local taxation);
- provide the basis for authorizing expenditure and collection of fees and charges;
- provide the basis for budgetary control;
- satisfaction of statutory requirements.

Current developments in the public sector and their impact on budgeting theory

Over recent years the public sector has faced many challenges due to the rapid pace of change both in the way services are delivered and in organizational structures and relationships. These changes have meant that the finance and budgetary function has had to adapt itself to accommodate radically different ways of working and delivering services and to play a key role in developing and maintaining an effective. As new policy developments are introduced the need for effective governance and budgetary control arrangements to ensure probity and sound financial management remain undiminished.

Overview of the Relationship between Budgeting and Strategy Formulation, Long Term Planning and Control

The budget is a financial and quantitative statement of an organization's activities which is prepared prior to a definitive period of time. It provides managers and policy makers with financial information to assist them in taking strategic decisions for which they are responsible.

In any large organization, and particularly in the public sector, there will be conflicting policy objectives all of which will have different resource implications which may have either capital or revenue consequences.

An effective budgeting process should allow all of the financial implications of alternative policy objectives to be assessed thereby enabling policy makers to appraise them and compare the costs against available resources.

As External Environment to Budgeting has illustrated, public authorities are not only restricted by resource implications but also by the external environment and political context in which they operate. The budget allows policy makers to assess their alternative plans and identify their priorities within their affordable limits

Budgets are a key element of effective strategy planning. Medium- and Long-Term Financial Planning covers the differences between, and objectives of, long term or strategic planning, medium term and short-term financial planning.

The budget is a financial/resource representation of corporate objectives and also a plan of action for the period covered. Once the budget is adopted by a public authority it's delivery is placed within the remit of the accountable management who will have approval to incur expenditure in line with stated financial regulations and a scheme of delegation. The budget forms the basis of a controlling mechanism for the various resources of a public authority. Budgetary control can be applied at all managerial levels provided that managers are made accountable for the budgets for which they are responsible. The budget can also highlight variations from expectations so that senior management can take remedial action to ensure that expenditure is contained within the budget and remains consistent with corporate objectives and policies.

CHAPTER V: BUDGETARY CONTROL

5.1 Meaning

Budgetary Control is a method of managing costs through preparation of budgets. Budgeting is thus only a part of the budgetary control. According to CIMA, "Budgetary control is the establishment of budgets relating to the responsibilities of executives of a policy and the continuous comparison of the actual with the budgeted results, either to secure by individual action, the objective of the policy or to provide a basis for its revision."

5.2 The main features of budgetary control are:

- Establishment of budgets for each purpose of the business.
- Revision of budget in view of changes in conditions.
- Comparison of actual performances with the budget on a continuous basis.
- Taking suitable remedial action, wherever necessary.
- Analysis of variations of actual performance from that of the budgeted performance to know the reasons thereof.

5.3 Objectives of Budgetary Control

Budgeting is a forward planning. It serves basically as a tool for management control; it is rather a pivot of any effective scheme of control.

G. A. Welsch in his book, 'Budgeting - Profit Planning and Control' has rightly pointed out that 'Budgeting is the principal tool of planning and control offered to management by accounting function.' The objectives of budgeting may be summarized as follows:

Planning: Planning has been defined as the design of a desired future position for an entity and it rests on the belief that the future position can be attained by uninterrupted management action. Detailed plans relating to production, sales, raw-material requirements, labor needs, capital additions, etc. are drawn out. By planning many problems estimated long before they arise and solution can be thought of through careful study. In short, budgeting

forces the management to think ahead, to foresee and prepare for the anticipated conditions. Planning is a constant process since it requires constant revision with changing conditions.

- **Co-ordination:** Budgeting plays a significant role in establishing and maintaining coordination. Budgeting assists managers in coordinating their efforts so that problems of the business are solved in harmony with the objectives of its divisions. Efficient planning and business contribute a lot in achieving the targets. Lack of co-ordination in an organization is observed when a department head is permitted to enlarge the department on the specific needs of that department only, although such development may negatively affect other departments and alter their performances. Thus, co-ordination is required at all vertical as well as horizontal levels.

- **Measurement of Success:** Budgets present a useful means of informing managers how well they are performing in meeting targets they have previously helped to set. In many companies, there is a practice of rewarding employees on the basis of their accomplished low budget targets or promotion of a manager is linked to his budget success record. Success is determined by comparing the past performance with a previous period's performance.

- **Motivation**: Budget is always considered useful tool for encouraging managers to complete things in line with the business objectives. If individuals have intensely participated in

  the preparation of budgets, it acts as a strong motivating force to achieve the goals.

- **Communication**: A budget serves as a means of communicating information within a firm. The standard budget copies are distributed to all management people that provides not only sufficient understanding and knowledge of the programs and guidelines to be followed but also gives knowledge about the restrictions to be adhered to.

- **Control**: Control is essential to make sure that plans and objectives laid down in the budget are being achieved. Control, when applied to budgeting, as a systematized effort is to keep the management informed of whether planned performance is being achieved or not.

5.4 Control mechanism

The budget will detail all aspects of the company's operations. The company will prepare monthly profit and loss accounts, operating statements, cash flow statements and balance sheets. Each of the figures in these documents will be compared with the budget. Variances will be calculated (the differences between actual and budgeted results). Excessive costs and inadequate sales will be highlighted and positive action will be required in order to ensure that the company corrects any adverse variances.

Management by Exception

When a system of budgetary control is in operation, the principle of management by exception can be applied, i.e., when presenting information on actual results to management, attention should be given mainly to those areas where there is a deviation from budget.

Regular Presentation of Information

The accounting function should be organized to produce the actual figures for comparison with the budgets at the earliest possible point of time. The accounts headings should be the same as the budget headings, so that the minimum processing work is necessary on the figures.

The expense involved in collecting the cost figures must be borne in mind. A balance should be struck between keeping costs to the minimum and obtaining the maximum amount of useful information.

The budget committee should be in possession of the comparison between actual and budget expenses within two to three weeks from the close of an accounting period.

Each period should be examined in detail by the budget committee, and managerial action taken where necessary.

Prompt presentation of information is important because any adverse trends will probably be continuing while data is being collected and analyzed. If action is to be taken to contain the results for the succeeding period, it must be taken quickly, so the time required to collect and analyses the data must be minimized.

Variance Interpretation

Any variances shown by the budget statements should be interpreted by the budget officer. He should give his view on whether the variance is regarded as controllable or non-controllable.

This part of the operation is most important. The skill and experience of the budget officer will be of the greatest value to management, who wish to know not only the extent of any deviation from plan, but more importantly, the reasons for it and any action being taken to correct it

Note that the purpose of such information is not to punish any individual for not keeping to his budget (though it may sometimes be necessary to point out that results are unacceptable) but rather to obtain information that will assist management to ensure that future budgets are accurate and that greater effort is made to achieve them. The budget may also need to be updated in the light of results achieved to date, by preparing a re-forecast.

Remember that one possible cause of variances is poor initial forecasting and budgeting.

Techniques should be kept under constant review and improved over time in the light of experience.

5.5 Advantages of Budgetary control

In the light of above discussion one can see that, coordination and control help the planning. These are the advantages of budgetary control. But this tool offers many other advantages as follows:

Agreed Targets

Budgets establish targets for each aspect of a company's operations. These targets are set in conjunction with each manager. In this way managers are committed to achieving their budgets. This commitment also acts as a motivator.

Problems Identified

Budgets systematically examine all aspects of the business and identify factors that may prevent a company achieving its objectives.

Problems are identified well in advance, which in turn allows a company to take the necessary corrective action to alleviate the difficulty. For example, a budget may indicate that the company will run short of cash during the winter period because of the seasonal nature of the service being provided. By anticipating this position, the company should be able to take corrective action or arrange additional financing.

Scope for Improvement Identified

Budgets will identify all those areas that can be improved, thereby increasing efficiency and profitability.

Positive plans for improving efficiency can be formulated and built into the agreed budget. In this way a company can ensure that its plans for improvement are actually implemented.
Improved Co-ordination

All managers will be given an outline of the company's objectives for the following year. Each manager will then be asked to formulate their own plans so as to ensure that the company's overall objectives are achieved.

All the managers' plans will be combined and evaluated so that a total budget for the company can be prepared. During this process the company will ensure that each individual plan fits in with the company's overall objectives.

Control

It is essential for a company to achieve, if not exceed, its budget.

Achievement of budget will be aided by the use of a budgetary control system which constantly monitors actual performance against the budget. All variances will be monitored and positive action taken in order to correct those areas of the business that are failing to perform.

Raising Finance

Any provider of finance will want to satisfy itself that the company is being managed correctly and that a loan will be repaid and interest commitments honored.

The fact that a company has established demonstrate that it is being managed correctly. able to meet all its commitments.

5.6 Limitations of Budgetary control

1. It tends to bring about rigidity in operation, which is harmful. As budget estimates are quantitative expression of all relevant data, there is a tendency to attach some sort of rigidity or finality to them.
2. It being expensive is beyond the capacity of small undertakings. The mechanism of budgeting system is a detailed process involving too much time and costs.
3. Budgeting cannot take the position of management but it is only an instrument of management. 'The budget should be considered not as a master, but as a servant.' It is totally misconception to think that the introduction of budgeting alone is enough to ensure success and to security of future profits.
    - It sometimes leads to produce conflicts among the managers as each of them tries to take credit to achieve the budget targets.
    - Simple preparation of budget will not ensure its proper implementation. If it is not implemented properly, it may lower morale.

The installation and function of a budgetary control system is a costly affair as it requires employing the specialized staff and involves other expenditure which small companies may find difficult to incur.

PRACTICAL EXAMPLES AND ANSWERS

Example 1

You are presented with the following flow forecasted data for your organization for the period November 20X1 to March 20X2. It has been extracted from functional flow forecasts that have already been prepared.

	NovX1	DecX1	JanX2	FebX2	MarX2
	Frw	Frw	Frw	Frw	Frw
Sales	80,000	100,000	110,000	130,000	140,000
Purchases	40,000	60,000	80,000	90,000	110,000
Wages	10,000	12,000	16,000	20,000	24,000
Overheads	10,000	10,000	15,000	15,000	15,000

You are also told the following.

- ✓ Sales are 40% cash 60% credit. Credit sales are paid two months after the month of sale.
- ✓ Purchases are paid the month following purchase.
- ✓ 75% of wages are paid in the current month and 25% the following month.
- ✓ Overheads are paid the month after they are incurred.
- ✓ The opening cash balance is Frw 15,000.

Prepare a cash flow forecast for the three-month period January to March 20X2.

Answer

(a)	January	February	March
	Frw	Frw	Frw
Cash receipts			
Cash sales	44,000	52,000	56,000
Credit sales	48,000	60,000	66,000
	92,000	112,000	122,000
Cash payments			
Purchases	60,000	80,000	90,000
Wages: 75%	12,000	15,000	18,000
Wages: 25%	3,000	4,000	5,000
Overheads	10,000	15,000	15,000
	85,000	114,000	128,000
b/f	15,000	22,000	20,000
Net cash flow	7,000	(2,000)	(6,000)
c/f	22,000	20,000	14,000

Example 2

The principals involved in presenting information, and a suggested layout, are illustrated in the following example.

PQ Co. is operating a budgetary control system. The overhead costs for service department X are as follows:

Flexible Budget for Dept X – January

Units of service:	10,000	12,000	14,000
	RWF	RWF	RWF
Cleaning	300	340	380
Consumable stores	200	230	260
Depreciation	180	200	220
Insurance	150	200	250
Light and fans	200	230	260
Power	240	260	280
Repairs	160	190	220
Wages – indirect	700	740	780
	2,130	2,390	2,650

For January the units supplied were 13,000 and the costs incurred were:

	RWF
Cleaning	370
Consumable stores	250
Depreciation	210
Insurance	230
Light and fans	250
Power	270
Repairs	210
Wages - indirect	750

You are required to draft an operating statement showing the variances from each type of expense.

Complete the statement by showing possible reasons for the variances.

Answer

The costs (budgeted and actual) should be compared for the actual level of activity achieved. Accordingly, on the operating statement shown below, the actual activity of 13,000 units forms the basis of the calculation of the budgeted costs. The variability of the costs can be seen quite clearly from the flexible budget (see next section). Thus, for example, cleaning costs increase by RWF40 for 2,000 units of service or, in other words, RWF20 for 1,000 units. Therefore, to find the cost for 13,000 units it is necessary to take the cost for 12,000 units (RWF340) and add the cost for 1,000 units (RWF20), making a total of RWF360.

OPERATINGSTATEMENT					
X Department	Output: 13,000 units				Month: January
Types of Expense	Activity Achieved 13,000 units		Variances		Reasons for Variances
	Actual RWF	Budgeted RWF	Fav. RWF	Adverse RWF	
Cleaning	370	360	-	10	Maintenance work has brought extra cleaning
Consumable Stores	250	245	-	5	Extra materials consumed - maintenance
Depreciation	210	210	-	-	
Insurance	230	225	-	5	Increased premium
Light and fans	250	245	-	5	Extremely hot - extra cooler used
Power	270	270	-	-	
Repairs	210	205	-	5	Large machine major breakdown
Wages -indirect	750	760	10	-	Overtime anticipated not worked
	2,540	2,520			

This example is very simple, but the same principles apply with more difficult problems. The basis for the calculation of activity may be the volume of sales or production.

In problems in examinations, it is not always clear what level of activity has been achieved - this may have to be calculated from details of sales, stocks and other information.

Example 3

The flexible budget for the transport department of a manufacturing company contains the following extract:

Flexible Budget for Four-weekly Period

Ton-miles to be run costs:	80,000 RWF	100,000 RWF	120,000 RWF
Depreciation	240	240	240
Insurance and road tax	80	80	80
Maintenance materials	160	190	190
Maintenance wages	120	120	160
Replacement of tyres	40	50	60
Rent	110	110	110
Supervision	130	130	130
Drivers' expenses	200	400	600
	1,080	1,320	1,570

In the four-weekly period No.7, the budgeted activity was 100,000 ton-miles but the actual activity was 90,000 ton-miles. The actual expenditure during that period was:

Costs:	RWF
Depreciation	240
Insurance and road tax	80
Maintenance materials	165
Maintenance wages	115
Replacement of tyres	35
Rent	110
Supervision	130
Drivers' expenses	315
	1,190

Prepare a tabulation of the variances from budget in relation to period No.7.

Answer

	Budgeted Activity	Flexed Budget	Actual Expense	Expense Variance	
Ton-miles	100,000	90,000	90,000		
Expense:	RWF	RWF	RWF	RWF	
Depreciation (F)	240	240	240	-	
Insurance and road tax (F)	80	80	80	-	
Maintenance materials (SV)	190	190	165	25	saving
Maintenance wages (SV)	120	120	115	5	saving
Replacement of tyres (V)	50	45	35	10	saving
Rent (F)	110	110	110	-	
Supervision (F)	130	130	130	-	
Drivers' expenses (V)	400	300	315	15	overspending
	1,320	1,215	1,190	25	saving

Maintenance materials may cause a little difficulty. There is no indication in the problem at what level of activity the rise from RWF160 to RWF190 takes place. From the information given, it could be taken as 80,000 ton-miles or 99,999 ton-miles. You will have to make a decision on which to take - but remember that the level of activity taken in the solution is 80,001 ton-miles and, above this level, the budgeted expense will be RWF190.

Example 4

A manufacturing company intends to introduce zero-based budgeting in respect of its service departments.

- Explain how zero-based budgeting differs from incremental budgeting and explain the role of committed, engineered and discretionary costs in the operation of zero-based budgeting.

- Give specific examples of committed, engineered and discretionary costs in the operation of zero-based budgeting.

Answer

- Incremental budgeting uses the budget of the previous year as a starting point and adjustments are made for volume, price changes and efficiency. The basic structure of the budget is regarded as acceptable as it stands.

  Zero-based budgets place the onus on the departmental manager to justify all proposed expenditure. Nothing is accepted as being necessary expenditure. Each department will need to consider possible options for the year, which will be ranked and used to decide total budgets within the overall master budget of the organization.

  The role of a committed cost in zero-based budgeting is to set the minimum level of expenditure necessary for statutory requirements to be met or for business operations to take place.

  An engineered cost is one that is incurred in proportion to activity. These differ under each level of activity projected under zero-based budgeting.

  Discretionary costs are those which management decide whether to incur or not. They will be assessed on a cost/benefit analysis and accepted or discarded depending on the result.

- The following are examples of each kind of costs. You may have suggested others relevant to your organization.

Committed:

- Anti-pollution measures required by law
- A minimum level of maintenance and repair costs
- Requirement of a limited company to prepare annual accounts backed by adequate accounting records; cost of audit

Engineered:

- Machine guards for each machine used
- Routine replacement of laser printer cartridges
- Costs of invoicing per order/statement per customer

Discretionary:

- Updating conferences; attendance expenditure
- Expenditure on management accounting function

Example 5

You work for the accounting firm of Lennon and Morris and have recently been approached by Ms. Julie Day, a client, for advice regarding some aspects of budgeting. Last week, Julie attended a networking business event and when discussing the annual budgeting process, some of the attendees mentioned incremental budgeting and zero-base budgeting. The behavioral effects of the budgeting process were also mentioned. As Julie has only recently been involved with the annual budgeting process, she is unsure about what these terms mean and has asked you for information.

Requirement:

Prepare a memorandum for Ms. Julie Day that:

(a) Outlines incremental budgeting including advantages and disadvantages.
(b) Explains zero base budgeting including advantages and disadvantages.
(c) Discusses behavioral issues that may arise as part of the annual budgeting process.

Solution:

➢ MEMORANDUM

TO: Ms Julie Day

FROM: A certified public accountant

RE: Aspects of budgeting

DATE: April 2019

As requested, I have prepared a memorandum to address your queries in relation to budgeting. Firstly, an outline of incremental budgeting and its associated advantages and disadvantages is presented. Next, the main features of zero-based budgeting including advantages and disadvantages are outlined. Finally, some behavioral issues that may arise as a result of the annual budgeting process are discussed briefly.

➢ Incremental budgeting

This starts with the budget from the previous period and adds or subtracts an incremental amount to cover inflation and other known expenses. It is suitable for stable businesses, where costs are not expected to change significantly and where there is good cost control and limited discretionary expenses.

Advantages

- It is a quick and easy method of budgeting.
- Only the increment (extra amount) needs to be justified in organizations that have stable and historic figures.

Any other relevant point.

Disadvantages

- Incremental budgeting carries forward previous problems and inefficiencies to the next budgeting period.
- Using incremental budgeting may result in uneconomic activities being continued.
- Managers may spend unnecessarily to use up their budgeted expenditure to ensure that they will get the same or a larger budget next year.
- Any other relevant point.

➢ Zero based budgeting (ZBB)

Zero based budgeting (ZBB) emerged in the late 1960s as a response to incremental budgeting. With ZBB, all budgets start at zero and activities/costs are only allowed if they are justified under investigation. All requests for resources must be presented and they are evaluated on the basis of cost-benefit – i.e. where is the value in the spend? ZBB is best suited to discretionary spending where there is no clearly defined input-output relationship (e.g. marketing, research & development, training, etc.) or public sector organizations such as local councils.

Advantages

- ZBB should reduce inefficiencies as past waste is not carried into the next year. Questions are asked about costs, rather than just accepting figures.
- ZBB requires a cost-benefit analysis approach and thus promotes focus on organizational activities and costs.
- ZBB leads to increased staff involvement as more information and work is required to complete the budget.
- ZBB responds to changes in the business environment.
- Inefficient or obsolete operations can be identified and discontinued.

Any other relevant point.

Disadvantages

(a) It is an expensive and time-consuming process.
(b) In a highly pressured environment ZBB may become overly competitive and can give rise to a short-term focus to the detriment of long-term goals.
(c) Managers may feel demotivated due to the large amount of time spent on the budgeting process.
(d) The budgeting process using ZBB may become too rigid and unable to react to unforeseen opportunities or threats.
(e) The necessary management skills to apply ZBB may be absent.
(f) Any other relevant point.

➢ Behavioral issues arising from the annual budgeting process

There are many reasons for preparing budgets. Three of these reasons, control, evaluation and motivation, often cause behavioral issues. Budgets facilitate control over costs by highlighting any differences arising between actual costs and budgeted costs. Budgets are used to evaluate managerial performance and also to motivate staff to perform better. It is important to address these three aspects when developing budgets otherwise behavioral problems may arise. Examples of potential problems/issues that may arise are:

Budgets facilitate comparison of planned outcomes with actual results allowing the organization to improve sales performance, monitor capital expenditure projects, forecast cash flows and control expenditure levels. In terms of behavioral consequences, it is important that managers understand the budgeting process when the organization is trying to reduce and control its expenditures. Better understanding of the budgeting process should promote a more questioning approach towards potential costs and discourage inefficiencies from being carried forward from one year to the next.

If managers are being evaluated and possibly remunerated based on budgeted outcomes, these outcomes must be within managerial control i.e. controllable by the manager rather than by head office for example. If the manager has limited or no control over budgeted outcomes, he/she may consider any evaluation based on these outcomes as unfair and become less motivated to improve performance.

If managers are not involved in developing the overall budget for the organization, they will be less committed and motivated to achieve the desired results. However, sometimes when managers are involved in the budgeting process, they may attempt to secure easier, less challenging targets. Managers may include some 'budgetary slack', which means that budgeted costs may be overstated and budgeted revenues may be understated.

Any other relevant issue.

If you have any questions relating to information contained in this memorandum, I will be pleased to provide further clarification.

Yours sincerely,
A certified public accountant

Example 6

Flexed budget example (Q Corfe, Q 20 & 21, September 2016, F5 exam)

Corfe Co is a business which manufactures computer laptop batteries and it has developed a new battery which has a longer usage time than batteries currently available in laptops. The selling price of the battery is forecast to be Frw 45. The maximum production capacity of Corfe Co is 262,500 units. The company's management accountant is currently preparing an annual flexible budget and has collected the following information so far:

Production (units)	185,000	200,000	225,000
	Frw	Frw	Frw
Material costs	740,000	800,000	900,000
Labor costs	1,017,500	1,100,000	1,237,500
Fixed costs	750,000	750,000	750,000

In addition to the above costs, the management accountant estimates that for each increment of 50,000 units produced, one supervisor will need to be employed. A supervisor's annual salary is Frw 35,000. **Assuming the budgeted figures are correct, what would the flexed total production cost be if production is 80% of maximum capacity?**

Solution:

An 80% activity level is 210,000 units.

Material and labor are both variable costs. Material is Frw 4 per unit and labor is Frw 5.50 per unit, so total variable cost per unit is Frw 9.50

Total variable costs = Frw 9.50 x 210,000 units = Frw 1,995,000

Fixed costs = Frw 750,000

Supervision

= Frw 175,000 as five supervisors are required for a production level of 210,000 units.

Total annual budgeted cost allowance

= Frw 1,995,000 + Frw 750,000 + Frw 175,000= Frw 2,920,000

Example 7

The management accountant has said that a machine maintenance cost was not included in the flexible budget but needs to be taken into account.

The new battery will be manufactured on a machine currently owned by Corfe Co which was previously used for a product which has now been discontinued. The management accountant estimates that every 1,000 units will take 14 hours to produce. The annual machine hours and maintenance costs for the machine for the last four years have been as follows:

	Machine time (hours)	Maintenance costs Frw '000
Year 1	5000	850
Year 2	4400	735
Year 3	4850	815
Year 4	1800	450

What is the estimated maintenance cost if production of the battery is 80% of the maximum capacity?

Solution:

Variable cost per hour

(Frw 850,000 -Frw 450,000)/ (5,000 hours – 1,800 hours) = Frw 125 per hour

Fixed cost

(Frw 850,000 – (5,000 x Frw 125)) = Frw 225,000

Number of machine hours required for production = 210 x 14 hours = 2,940 hours

Total cost

(Frw 225,000 + (2,940 x Frw 125)) = Frw 592,500, or Frw 593,000 to the nearest Frw '000.

FLEXIBLE BUDGET

Example 8

Prepare a Flexible budget for overheads on the basis of the following data. Ascertain the overhead rates at 50% and 60% capacity.

Variable overheads:	At 60% capacity (Frw)
Indirect Material	6,000
Labor	18,000
Semi-variable overheads:	
Electricity: (40% Fixed & 60% variable)	30,000
Repairs: (80% fixed & 20% Variable)	3,000
Fixed overheads:	
Depreciation	16,500
Insurance	4,500
Salaries	15,000
Total overheads	93,000
Estimated direct labor hours	1,86,000

Solution:

Flexible Budget

Items	Capacity	
	50% Frw.	**60%** Frw.
Variable overheads:		
Material	5,000	6,000
Labor	15,000	18,000
Semi-variable		
Electricity	27,000	30,000
Repairs	2,900	3,000
Fixed overheads:		
Deprecation	16,500	16,500
Insurance	4500	4500
Salaries	15,000	15,000
Total Overheads	85,900	93,000
Estimated direct labor hours	1,55,000	1,86,000
Overhead Rate	0.55	0.50

Working Note:

Electricity

At 50% capacity = 18,000 * 50/60= Frw. 15,000

Frw. 12,000 + Frw. 15,000 = Frw. 27,000

60% capacity = Frw 18,000 + Frw. 12,000 = Frw. 30,000

Repairs

For 60% capacity = Frw.600

= Frw. 2400 + Frw.600 = Frw.3,000

At 50% capacity: = 600/60 * 50

Frw. 500 = Frw.2400 + 500 = Frw.2,900

Example 9

Prepare a flexible budget for overheads on the basis of the following data. Ascertain the overhead rates at 60% and 70% capacity.

Variable overheads:	At 60% capacity (Frw)
Material	6,000
Labor	18,000
Semi-variable overheads:	
Electricity:	30,000
40% Fixed	
60% variable	
Repairs:	
80% fixed	3,000
20% Variable	3,000
Fixed overheads:	
Depreciation	16,500
Insurance	4,500
Salaries	15,000
Total overheads	93,000
Estimated direct labor hours	186,000

Solution:

Working Note:

Repairs

For 60% capacity

Fixed 80/100 * 3,000 = Frw.2400

Variable = 20/100 * 3,000 = Frw. 600

= Frw. 2400 + Frw.600 =Rs.3,000

Electricity Exp.:

At 60% capacity

Fixed= 40/100 *30,000 = 12,000

Variable = 60/100 * 30,000= 18,000

At 70% capacity

Fixed = 40/100 * 30,000 = Frw. 12,000

Variable = 18,000/60 *70 = Frw. 21,000

Total Frw. =33,000

Flexible Budget

Items	**Capacity**	
	60% Frw.	**70% Frw.**
Variable overheads:		
Material	6,000	7,000
Labor	18,000	21,000
Semi-variable		
Electricity		
Repairs	3,000	3,100
Fixed overheads:		
Deprecation	16,500	16,500
Insurance	4,500	4,500
Salaries	15,000	15,000
Total Overheads	93,000	100,100
Estimated direct labor hours	186,000	217,000
Overhead Rate	0.50	0.46

Example 10

The expenses budgeted for production of 1,000 units in a factory are furnished below:

Particulars	**Per Unit Frw.**
Material Cost	700
Labor Cost	250
Variable overheads	200
Selling expenses (20% fixed)	130
Administrative expenses (**Frw** 200,000)	200
Total Cost	1,480

Prepare a budget for production of 600 units and 800 units assuming administrative expenses are rigid for all level of production.

Solution:

Flexible Budget

Particulars	**For 600 units**		**For 800 units**	
	Per unit Frw.	**Total Frw.**	**Per unit Frw.**	**Total Frw.**
Variable Cost:				
Materials	700	420,000	700	560,000
Labor	250	150,000	250	200,000
Variable overheads	200	120,000	200	160,000
(A)	**1,150**	**690,000**	**1,150**	**920,000**
Semi variable cost:				
Variable selling expenses	104	62,400	104	83,200
Fixed selling expenses	43.33	26,000	32.50	26,000
(B)	**147.33**	**88,400**	**136.50**	**109,200**
Fixed cost:				
Administrative expenses	333.33	200,000	250.00	200,000
(C)	333.33	200,000	250.00	200,000
Total Cost(A+B+C)	**1,630.66**	**9,78,400**	**1,536.50**	**1,229,200**

Example 11

The budgeted output of an industry specializing in the production of a one product at the optimum capacity of 6,400 units per annum amounts to Frw. 1,76,048 as detailed below:

Particulars	Frw.	Frw.
Fixed costs		20,688
Variable costs:		
Power	1,440	
Repairs etc.	1,700	
Miscellaneous	540	
Direct material	49,280	
Direct Labor	1,02,400	1,55,360
Total cost		**1,76,048**

The company decides to have a flexible budget with a production target of 3,200 and 4,800 units (the actual quantity proposed to be produced being left to a later date before commencement of the budget period)

Prepare a flexible budget for production levels of 50% and 75%. Assuming, selling price per unit is maintained at Frw. 40 as at present, indicate the effect on net profit.

Administrative, selling and distribution expenses continue at Frw.3,600.

Solution:

The production at 100% capacity is 6400 units, so it will be 3,200 units at 50% and 4,800 units at 75% capacity. The variable expenses will change in that proportion.

Flexible Budget

Particulars	100%	75%	50%
(i)Sales (per unit Rs.40)	2,56,000	1,92,000	1,28,000
Cost of Sales:			
(a)variable costs:			
Direct material	49,280	36,960	24,640
Direct Labor	1,02,400	76,800	51,200
Power	1,440	1,080	720
Repairs	1,700	1,275	850
Miscellaneous	540	405	270
Total variable costs	**1,55,360**	**1,16,520**	**77,680**
(b)Fixed Costs:	20,688	20,688	20,688
(ii) Total Costs	**1,76,048**	**1,37,208**	**98,368**
Gross Profit(i)- (ii)	**79,952**	**54,792**	**29,632**
Less: Adm., selling and Dist. Costs	3,600	3,600	3,600
Net Profit	**76,352**	**51,192**	**26,032**

Example 12

A factory engaged in manufacturing plastic buckets is working at 40% capacity and produces 10,000 buckets per month.

The present cost breaks up for one bucket is as under:

Materials Frw.10

Labor Frw.3

Overheads Rs.5 (60% fixed)

The selling price is Rs.20 per bucket. If it is desired to work the factory at 50% capacity the selling price falls by 3%. At 90% capacity the selling price falls by 5% accompanied by a similar fall in the price of material.

You are required to prepare a statement the profit at 50% and 90% capacities and also calculate the break- even points at this capacity production.

Solution:

Flexible Budget

Particulars	Capacity		
	40%	**50%**	**90%**
Production and sales units	10,000	12,500	22,500
Sales price per unit	20	19.40	19.00
Sales Amount	200,000	242,500	427,500
Marginal Cost:			
Material: Frw.10 per unit (at 90% - Frw.9.50 per unit)	100,000	125,000	213,750
Labor	30,000	37,500	67,500
Variable overhead	20,000	25,000	45,000
Total	**150,000**	**187,500**	**326,250**
Contribution	50,000	55,000	101,250
Less: Fixed Cost	30,000	30,000	30,000
Profit	20,000	25,000	71,250
Contribution per unit	5	4.40	4.50
BEP (units) (F /C)	**6,000**	**6,818**	**6,667**

CASH BUDGET

Example 13

Saurashtra Co. Ltd. wishes to arrange overdraft facilities with its bankers from the period August to October 2010 when it will be manufacturing mostly for stock. Prepare a cash budget for the above period from the following data given below:

Month	Sales (Frw.)	Purchases (Frw.)	Wages (Frw.)	Mfg. Exp. (Frw.)	Office Exp. (Frw.)	Selling Exp. (Frw)
June	180,000	124,800	12,000	3,000	2,000	2,000
July	192,000	144,000	14,000	4,000	1,000	4,000
August	108,000	243,000	11,000	3,000	1,500	2,000
September	174,000	246,000	12,000	4,500	2,000	5,000
October	126,000	268,000	15,000	5,000	2,500	4,000
November	140,000	280,000	17,000	5,500	3,000	4,500
December	160,000	300,000	18,000	6,000	3,000	5,000

Additional Information:

- Cash on hand 1-08-2010 Frw.25,000.
- 50% of credit sales are realized in the month following the sale and the remaining 50% in the second month following. Creditors are paid in the month following the month of purchase.
- Lag in payment of manufacturing expenses half month.
- Lag in payment of other expenses one month.

Solution:

Cash Budget

For 3 months from August to October 2010

Particulars	August (Frw.)	September (Frw.)	October (Frw)
Receipts:			
Opening balance	25,000	44,500	(66,750)
Sales	186,000	150,000	141,000
Total Receipts(A)	211,000	194,500	74,250
Payments:			
Purchases	144,000	243,000	246,000
Wages	14,000	11,000	12,000
Mfg. Exp.	3,500	3,750	4,750
Office Exp.	1,000	1,500	2,000
Selling Exp.	4,000	2,000	5,000
Total payments(B)	166,500	261,250	269,750
Closing Balance(A-B)	**44,500**	**(66,750)**	**(195,500)**

Working Note:

1. Manufacturing Expense:

Particular	August	September	October
July (4000/2)	2000	---	---
August (3000/2)	1500	1500	---
September (4500/2)	---	2250	2250
October (5000/2)	---	----	2500
Total	**3500**	**3750**	**4750**

2. Sales

Particular	August	September	October
June (180000/2)	90000	---	---
July (192000/2)	96000	96000	---
August (108000/2)	---	54000	54000
September (174000/2)	---	----	87000
Total	186000	150000	141000

- S. K. Brothers wish to approach the bankers for temporary overdraft facility for the period from October 2010 to December 2010. During the period of this period of these three months, the firm will be manufacturing mostly for stock. You are required to prepare a cash budget for the above period.
-

Month	Sales (Frw.)	Purchases (Frw)	Wages (Frw.)
August	3,60,000	2,49,600	24,000
September	3,84,000	2,88,000	28,000
October	2,16,000	4,86,000	22,000
November	3,48,000	4,92,000	20,000
December	2,52,000	5,36,000	30,000

- 50% of credit sales are realized in the month following the sales and remaining 50% in the second following.
- Creditors are paid in the month following the month of purchase
- Estimated cash as on 1-10-2010 is Frw.50,000.

Cash Budget

For 3 months from October to December 2010

Particulars Receipts:	October (Frw.)	November (Frw.)	December (Frw.)
Opening balance	50,000	1,12,000	(94,000)
Collection from Debtors	372,000	300,000	282,000
Total Receipts(A)	422,000	412,000	188,000
Payments:			
Payments to Creditors	288,000	486,000	492,000
Wages	22,000	20,000	30,000
Total payments(B)	310,000	506,000	522,000
Closing Balance(A-B)	**1,12,000**	**(94,000)**	**-334,000**

Working Note: Collection from debtors

Particulars	October (Frw.)	November (Frw.)	December (Frw.)
Sales			
August	180,000		-
September	192,000	192,000	-
October	-	108,000	108,000
November	-		174,000
Total	**372,000**	**300,000**	**282,000**

TATA Co. Ltd. is to start production on 1st January 2011. The prime cost of a unit is expected to be Rs. 40 (Frw. 16 per materials and Frw. 24 for labor). In addition, variable expenses per unit are expected to be Frw. 8 and fixed expenses per month Frw. 30,000. Payment for materials is to be made in the month following the purchase. One-third of sales will be for

cash and the rest on credit for settlement in the following month. Expenses are payable in the month in which they are incurred. The selling price is fixed at Frw. 80 per unit. The number of units to be produced and sold is expected to be:

January 900; February 1200; March 1800; April 2000; May 2,100 June 2400

Draw a Cash Budget indicating cash requirements from month to month.

Cash Budget of TATA LTD.

For 6 months from January to June 2011

Month Receipts	**Jan.**	**Feb.**	**March**	**April**	**May**	**June**
Opening Balance		(34,800)	(37,600)	(32,400)	(5,867)	(27,600)
Cash sales	24,000	32,000	48,000	53,333	56,000	64,000
Collection from Debtors		48,000	64,000	96,000	1,06,667	1,12,000
Total receipts (A)	24,000	45,200	74,400	116,933	156,800	148,400
Payments						
Creditors		14,400	19,200	288,00	32,000	33,600
Wages	21,600	28,800	43,200	48,000	50,400	57,600
Variable Exp.	7,200	9,600	14,400	16,000	16,800	19,200
Fixed Exp.	30,000	30,000	30,000	30,000	30,000	30,000
Total Payment (B)	58,800	82,800	106,800	122,800	129,200	140,400
Closing Balance	**-34,800**	**-37600**	**-32400**	**-5867**	**-27,600**	**8,000**

- Prepare a Cash Budget from the data given below for a period of six months (July to December)

(1) Month	Sales	Raw Materials
May	75,000	37,500
June	75,000	37,500
July	150,000	52,500
August	225,000	367,500
September	300,000	127,500
October	150,000	97,500
November	150,000	67,500
December	137,500	___

Collection estimates:

- Within the month of sale: 5%
- During the month following the sale: 80%
- During the second month following the sale: 15%

1. Payment for raw materials is made in the next month.

(a) Salary Frw. 11,250, Lease payment Frw. 3750, Misc. Exp. Frw. 1150, are paid each month

- Monthly Depreciation Frw. 15,000
- Income tax Frw. 26,250 each in September and December.

(b) Payment for research in October Frw.75,000

- Opening Balance on 1st July Frw.55,000.

Cash Budget

For the six months from July to December

Particulars	Jul	Aug	Sep	Oct	Nov	Dec
Receipts						
Opening Balance	55,000	80,100	153,950	-3,8450	24,150	83,000
Collection from Debtors	78,750	142,500	217,500	281,250	1,725,00	149,375
Total receipts(A)	133,750	222,600	371,450	242,800	196,650	232,375
Payments						
Payment to suppliers	37,500	52,500	367,500	127,500	97,500	67,500
Salary	11,250	11,250	11,250	11,250	11,250	11,250
Lease payment	3750	3750	3750	3750	3750	3750
Misc. expense	1,150	1,150	1,150	1,150	1,150	1,150
Income tax			26,250			26,250
Payment for Research				75,000		
Total Payment(B)	53,650	68,650	409,900	218,650	113,650	109,900
Closing Balance	**80,100**	**153,950**	**-38,450**	**24,150**	**83,000**	**122,475**

Note:

Depreciation is a non-cash item. It does not involve cash flow. Hence, depreciation will not be considered as payment through cash

➢ Prepare a cash Budget of R.M.C. LTD. for April, May and June 2012:

Months	Sales (Frw.)	Purchases (Frw.)	Wages (Frw.)	Expenses (Frw.)
Jan.(Actual)	80,000	45,000	20,000	5,000
Feb.(Actual)	80,000	40,000	18,000	6,000
March (Actual)	75,000	42,000	22,000	6,000
April (Budget)	90,000	50,000	24,000	7,000
May(Budget)	85,000	45,000	20,000	6,000
June(Budget)	80,000	35,000	18,000	5,000

Additional Information:

- 10% of the purchases and 20% of sales are for cash
- The average collection period of the company is ½ month and the credit purchases are paid regularly after one month.
- Wages are paid half monthly and the rent of Frw. 500 included in expenses is paid monthly and other expenses are paid after one-month lag.
- Cash balance on April 1,2012 may be assumed to be Frw.15,000

Cash Budget

For the months ending April, May & June 2012

Particulars Receipts	April (Frw.)	May (Frw.)	June (Frw.)
Opening Balance	15,000	27,200	35,700
Cash Sales	18,000	17,000	16,000
Collection from Debtors	66,000	70,000	66,000
Total Receipts(A)	99,000	1,14,200	1,17,700
Payments			
Cash Purchases	5,000	4,500	3,500
Payment to creditors	37,800	45,000	40,500
Wages	23,000	22,000	19,000
Rent	500	500	500
Other Exp.	5,500	6,500	5,500
Total Payments(B)	71,800	78,500	69,000
Closing balance	**27,200**	**35,700**	**48,700**

Example 14

ABC Ltd. which deals in products Cee and Dee wishes to prepare an operating budget for the forthcoming period. The information regarding the products, cost and sales level is as follows:

Department	Cee	Dee
Materials required		
Aye (kg)	4	6
Bee (litres)	2	8
Labor hours required		
Skilled (hours)	8	4
Semi-skilled (hours)	4	10
Sales level (units)	4000	3000
Opening stock (units)	200	400

The following additional information is relevant:

1. Material Aye costs Frw 100 per kg and material Bee costs Frw 70 per litre.
2. Skilled and semi-skilled workers are paid Frw 120 and Frw 80 per hour respectively.
3. Opening stocks were 600kg for material Aye and 2,000 litres for material Bee.
4. Closing stock of both materials and finished goods will be enough to meet 10% of demand. **Required;**

Compute the Production (units)

Solution:

(a)

I. Production Budgets

Products	**Cee**	**Dee**
	Units	Units
Budgeted closing stock	400	300
10% of sales = 10% x 400/300	4000	3000
Budgeted sales	(200)	(400)
Budgeted opening stock	4200	2900

Direct Materials budget: this shows the estimated quantities and costs of all the raw materials and components needed for the output demand by the production budget. Sufficient raw materials must be available to meet the production process and, in addition, provide ending raw materials working inventory for the period under consideration. Direct raw materials budget is expressed in units. It consists of; -

i. Direct Materials Usage Budget
ii. Direct Materials Purchases Budget

Direct Materials Usage Budget: it shows the estimated quantities of materials required for budgeted production. Compute the material usage (kg and litres)

Solution:

Material Usage (Kg and litres)

Materials		**Aye**		**Bee**
		Kg		**Litres**
Cee	4200*4	16800	4200*2	8400
Dee	2900*6	17400	2900*8	23200
		34000		31600

Direct Materials Purchases Budget: It ensures that materials are within the planned materials stock levels i.e. after considering both usage and material stocks required

Solution:

Materials purchase (Kg – Litres and Frw)

	Aye	**Bee**
	Kg, Frw	**Litres, Frw**
Budgeted closing Stock10% of demand	3420	3160
Budgeted material usage	34200	31600
Budgeted opening stock	(600)	2000
Budgeted material purchase (kg,litres)	37020	32760
Material price	*100	*70
Material purchase (Frw)	3702000	2293200

Direct Labor budget: this is crucial as it forecasts the number of labor hours required and thus helps the company to know whether sufficient labor time is available to meet production needs in the budget period. It is based on production budget estimate. This budget helps the company know whether it will need additional labor force in the future and how much it will incur as labor costs.

Solution:

Labor cost budget (hours and Frw)

	Skilled		**Semi skilled**	**Total**
Cee-4200*8	33600	4200*4	16800	50400
Dee-2900*4	11600	2900*10	29000	40600
Labor in hrs.	45200		45800	91000
Labor cost	*120		*80	-
Total Labor cost	5424000		3664000	9088000

Example 15

The following information has been assembled by Sancross Products Ltd which manufactures and retails products A and B. The details given below relate to the year commencing 1 July 200:

	Standard	Product	
	Price per kg	A kg	g
Direct material – M1	Frw 4	15	20
M2	Frw 5	14	12

	Standard	Product	
	Rate per hour	A hours	B hours
Direct labor – L1	Frw 8	20	15
L2	Frw 10	22	24

Fixed production overhead is applied on direct labor basis. Administration, selling and distribution expenses are recovered at the rate of 20% of production cost and profit loaded at 25% of standard production cost

	Product	
	A	B
	Frw '000'	Frw '000'
Projected sales for the year	12,033	10,053

Finished goods stock position valued at production cost is expected to be as follows:

	Product	
	A	B
	Frw '000'	Frw '000'
1 July 2000	3,000	2,000
30 June 2001	5,000	4,000

Direct material stocks valued at standard prices are as follows:

	Material	
	M1	M2
	Frw '000'	Frw '000'
1 July 2000	200	250
30 June 2001	220	270

For the year to 30 June 2001, fixed production overhead has been estimated at Frw 1,800,000 and direct labor at 1,200,000 hours. No opening or closing work-in-progress is anticipated. Required:

(a) Production budget in units.

(b) Direct materials cost budget.

(c) Purchases budget in value.

(d) Direct labor cost budget.

Solution:

Sancross Products Ltd

Cost Per Unit of Product	A	B
Direct Material – M1	60	80
-M2	70	60
Total Material Cost	130	140
Direct Labor: - L1	160	120
L2	220	240
Total Labor Cost	380	360
PRIME COST	510	500
Fixed Production Overheads	380	360
Production Cost	890	360
Administration, selling and Distribution costs @ 20%	178	172
Total Standard Cost of Product	1,068	1,032
Profit @ 25% of Product cost	267	258
Selling Price	1,335	1,290

(a) Production Budget (Workings)

	A	B
Projected Sales	12,033,000	10,053,000
Selling Price/Unit	1,335	1,290
Sales Units Projected	9,013	7,793
Opening Stock (Frw)	Frw 3,000,000	Frw 2,000,000
Opening Stock (Units)	3,000,000/890 = 3,371	Units 2,000,000/860 = 2,326 Units
Closing Stock (Frw)	Frw 5,000,000	Frw 4,000,000
Units	5,000,000/890 = 5,618 Units	Frw 4,000,000/860 = 4,651 Units

Sancross Products Limited

Production Budget (Units) for the year commencing 1 July 2000

	A	B
Sales	9,013	7,793
Closing Stock	5,618	4,651
Less Opening Stock	14,631	12,444
Production	(3,371)	(2,326)
	11,260	10,118

(b) Direct Materials Cost Budget

	M1	M2
	Frw	Frw
Product A: 11,260 × 15 × 4	675,600	11,260 × 14 ×5 788,200
B: 10,118 × 20 × 4	809,440	10,118 ×12 ×5 607,080
	1,463,800	1,416,520

(c) Purchases Cost Budget for Raw Materials

	M1	M2
	Frw	Frw
Direct materials Usage	1,463,800	1,416,520
Add: Closing stock	220,000	270,000
1,683,800	1,686,520	
Less Opening stock	(200,000)	(250,000)
	1,483,000	1,436,520

(d) Direct Labor Cost Budget

	L1	L2
	Frw	Frw
Product A 20 ×8 ×11,260	1,801,600	22 × 10×11,260 2,447,200
Product B 15 × 8 ×10,118	1,214,160	24 × 10 ×10,118 2,428,320
	3,015,760	4,905,520

Example 16

You are in charge of making forecasts and preparing budgets. You have been supplied with cost and revenue forecasts and details of payment as follows:

- Forecast of revenue and costs for the quarter ending 31 March 2001

	January	February	March
	Frw .	Frw .	Frw .
Direct Materials (purchases)	112,000	10,000	135,000
Wages	90,000	80,000	100,000
Overhead Production	34,000	32,000	40,000
Administration	22,000	20,000	27,000
Selling and distribution	13,000	11,000	18,000
Sales	360,000	350,000	440,000

- Forecast of revenue and costs for the quarter ending 30 June 2001

	April	May	June
	Frw	Frw	Frw
Direct Materials (purchases)	90,000	67,000	79,000
Wages	72,000	54,000	63,000
Overhead Production	45,000	36,000	40,000
Administration	22,000	25,000	27,000
Selling and distribution	13,000	11,000	16,000
Sales	350,000	360,000	360,000
Cash balance on 1 April 2001 Frw	90,000		

Other details

- Period of credit allowed by suppliers averages two months.
- Debenture to the value Frw. 125,000 are being issued in May 2001 and the amount is expected to be received during the month.

- A new machine is being installed at the end of March 2001 at a cost oFrw150,000 and payment is promised in early May 2001.
- Sales commission of 3% is payable within one month of sales.
- A dividend oFrw100000 is to be paid in June 2001.
- There is a delay of one month in the payment of overheads. There is also a delay in payment of wages averaging a quarter of a month.
- Twenty per cent of the debtors pay cash, receiving a cash discount of 4% and 70% of debtors pay within one month and receive a cash discount of 2 ½%. The other debtors pay within two months.

Required:

A cash budget on a monthly basis from the second quarter of the year 2001.

Solution:

Cash Budget for the 2nd Quarter of Year 2001

Cash Inflows	April	May	June
	Frw	Frw	Frw
Cash from debtors (wk 1)	402,500	351,995	349,820
Debentures issued	-	125,000	-
Total cash inflow (A)	**402,500**	**476,995**	**349,820**
Cash Outflows			
Purchases	100,000	135,000	90,000
Purchase of machine	-	150,000	-
Dividends	-	-	100,000
Production overheads	40,000	45,000	36,000
Administration overheads	27,000	22,000	25,000
Selling and distribution OHs	18,000	13,000	11,000
Wages (wk 2)	79,000	58,500	60,750
Sales commission	13,200	10,500	10,800
Total cash out flows (B)	**277,200**	**434,000**	**333,500**
Net cash flow (A – B)	**125,300**	**42,995**	**16,270**
Add: opening cash balance	90,000	215,300	258,295
Closing cash balance	**215,300**	**258,295**	**274,565**

Example 17

Just over two years ago, RB Co was the first company to produce a specific 'off-the-shelf' accounting software package. The pricing strategy, decided on by the managing director, for the packages was to add a 50% mark-up to the budgeted full cost of the packages. The company achieved and maintained a significant market share and high profits for the first two years. Budgeted information for the current year (Year 3) was as follows.

Production and sales 15,000 packages

Full cost $400 per package

At a recent board meeting, the finance director reported that although costs were in line with the budget for the current year, profits were declining. He explained that the full cost included $80 for fixed overheads. This figure had been calculated by using an overhead absorption rate based on labour hours and the budgeted level of production of 15,000 packages. He pointed out that this was much lower than the current capacity of 25,000 packages.

The marketing director stated that competitors were beginning to increase their market share. He also reported the results of a recent competitor analysis which showed that when RB Co announced its prices for the current year, the competitors responded by undercutting them by 15%. Consequently, he commissioned an investigation of the market. He informed the board that the market research showed that at a price of $750 there would be no demand for the packages but for every $10 reduction in price the demand would increase by 1,000 packages.

The managing director appeared to be unconcerned about the loss of market share and argued that profits could be restored to their former level by increasing the mark-up.

Required:

(a) Discuss the managing director's pricing strategy in the circumstances described above.

(b) Suggest and explain two alternative strategies that could have been implemented at the launch of the packages.

(c) Based on the data supplied by the market research, derive a straight-line demand equation for the packages.

(d) RB's total costs (TC) can be modelled by the equation TC = 1,200,000 + 320Q. Explain the meaning of this equation.

(e) Explain what is meant by price elasticity of demand and explain the implications of elasticity for RB's pricing strategy.

Solution:

(a) Managing director's pricing strategy,

The managing director has adopted what is known as a full cost-plus pricing strategy, which means that a profit margin (in this case, of 50%) is added to the budgeted full cost of the product.

Given the information in the question, the selling price used by RB Co is calculated as follows.

	$
Full cost	400
50% mark up	200
Selling price	600

Disadvantages of this pricing strategy

Its focus is internal – internal costs and internal targets. It therefore takes no account of the market conditions faced by RB Co, which is why the company's selling price bears little resemblance to those of competitors. By adopting a fixed mark-up, it does not allow the company to react to competitors' pricing decisions.

Absorption bases used when calculating the full cost are decided arbitrarily. The current basis of absorption is based on the budgeted level of production, which is lower than the current capacity. Depending on the absorption basis used in the calculation of total cost, the strategy can produce different selling prices.

Advantages of this pricing strategy

It is quick, cheap and relatively easy to apply. Pricing can therefore be delegated to more junior management if necessary.

It ensures that all costs are covered and that the organisation makes a profit, provided budget figures used in the pricing calculation are reasonably accurate. This was the case in the first two years for RB Co.

The costs of collecting market information on demand and competitor activity are avoided.

(b) Alternative pricing strategies

1) Market penetration pricing

Market penetration pricing is a policy of low prices when a product is first launched in order to achieve high sales volumes and hence gain a significant market share. If RB Co had adopted this strategy, it might have discouraged competitors from entering the market.

2) Market skimming

This pricing strategy involves charging high prices when a product is first launched and spending heavily on advertising and promotion to obtain sales so as to exploit any price insensitivity in the market. Such an approach would have been particularly suitable for RB's circumstances: demand for the software would have been relatively inelastic, customers being prepared to pay high prices for the software given its novelty appeal. As the product moves into later stages of its life cycle, prices can be reduced in order to remain competitive.

(c) When demand is linear the equation for the demand curve is:

P = a – bQ

where P = the price

Q = the quantity demanded

a = the price at which demand would be nil

b = change in price/change in quantity

a = $750

b = $10 1,000 = 0.01

∴ P = 750 – 0.01Q

(d) Cost behavior can be modelled using a **simple linear equation** of the form y = a + bx where 'a' represents the fixed costs, which for RB are $1,200,000 (15,000 ? $80), and 'b' represents the variable costs per unit ie $320 (400 – 80) per unit for RB. This cost model assumes fixed costs remain unchanged over all ranges of output and a constant unit variable cost.

(e) **Price elasticity** of demand Price elasticity of demand is a measure of the extent of change in market demand for a good in response to a change in its price. It is measured as:
The change in quantity demanded, as a % of demand/The change in price, as a % of the price. Since the demand goes up when the price falls, and goes down when the price rises, the elasticity has a negative value, but it is usual to ignore the minus sign. The value of demand elasticity may be anything from zero to infinity.

Elastic and inelastic demand

Demand is referred to as inelastic if the absolute value is less than 1. Where demand is inelastic, the quantity demanded falls by a smaller percentage than the percentage increase in price. Where demand is elastic, demand falls by a larger percentage than the percentage rise in price the absolute value is greater than 1.

Pricing decisions

An awareness of the concept of elasticity can assist management with pricing decisions. In circumstances of inelastic demand, prices should be increased because revenues will increase and total costs will reduce (because quantities sold will reduce).

In circumstances of elastic demand, increases in prices will bring decreases in revenue and decreases in price will bring increases in revenue. Management therefore have to decide whether the increase/decrease in costs will be less than/greater than the increases/decreases in revenue.

In situations of very elastic demand, overpricing can lead to a massive drop in quantity sold and hence a massive drop in profits whereas underpricing can lead to costly stock outs and, again, a significant drop in profits. Elasticity must therefore be reduced by creating a customer preference which is unrelated to price (through advertising and promotional activities). In situations of very inelastic demand, customers are not sensitive to price. Quality, service, product mix and location are therefore more important to a firm's pricing strategy

Cost-plus pricing

Cost-plus pricing is based on the assumption that demand for the company's software is inelastic and prices should be increased in order to increase total revenue and hence profit. The market research information for RB Co does not support this view, however. It suggests that increasing prices will lead to a drop-in demand and hence a reduction in profit

Example 18

Bits and Pieces (B&P) operates a retail store selling spares and accessories for the car market. The store has previously only opened for six days per week for the 50 working weeks in the year, but B&P is now considering also opening on Sundays.

The sales of the business on Monday through to Saturday averages at $10,000 per day with average gross profit of 70% earned.

B&P expects that the gross profit % earned on a Sunday will be 20 percentage points lower than the average earned on the other days in the week. This is because they plan to offer substantial discounts and promotions on a Sunday to attract customers. Given the price reduction, Sunday sales revenues are expected to be 60% more than the average daily sales revenues for the other days. These Sunday sales estimates are for new customers only, with no allowance being made for those customers that may transfer from other days.

B&P buys all its goods from one supplier. This supplier gives a 5% discount on all purchases if annual spend exceeds $1,000,000.

It has been agreed to pay time and a half to sales assistants that work on Sundays. The normal hourly rate is $20 per hour. In total five sales assistants will be needed for the six hours that the store will be open on a Sunday. They will also be able to take a half-day off (four hours) during the week. Staffing levels will be allowed to reduce slightly during the week to avoid extra costs being incurred.

The staff will have to be supervised by a manager, currently employed by the company and paid an annual salary of $80,000. If he works on a Sunday, he will take the equivalent time off during the week when the assistant manager is available to cover for him at no extra cost to B&P. He will also be paid a bonus of 1% of the extra sales generated on the Sunday project. The store will have to be lit at a cost of $30 per hour and heated at a cost of $45 per hour. The heating will come on two hours before the store opens in the 25 'winter' weeks to make sure it is warm enough for customers to come in at opening time.

The store is not heated in the other weeks. The rent of the store amounts to $420,000 per annum.

Required:

(a) Calculate whether the Sunday opening incremental revenue exceeds the incremental costs over a year (ignore inventory movements) and on this basis reach a conclusion as to whether Sunday opening is financially justifiable.

(b) Discuss whether the manager's pay deal (time off and bonus) is likely to motivate him.

(c) Briefly discuss whether offering substantial price discounts and promotions on Sunday is a good suggestion.

Solution:

(a) Incremental revenue

	Sales	Gross profit	Gross profit
	$	%	$
Average	10,000	70	
Sunday (60% more than average)	16,000	50	8,000
Annual Sunday sales (50 weeks)	800,000	50	400,000

Purchasing costs

Current annual spending = 50 weeks × 6 days × 10,000 × 30% = $900,000

New annual spending with discount = (900,000 + 400,000) × 95% = $1,235,000

Incremental purchasing cost = $(1,235,000 – 900,000) = $335,000

Staff costs

Additional staff costs on a Sunday = 5 sales assistants × 6 hours × 50 weeks × 1.5 × $20 = $45,000

Manager's costs

The salary of the manager is a sunk cost and there will be no additional costs for his time. He will be entitled to an extra bonus of 1% × $800,000 = $8,000

Lighting costs

50 weeks × 6 hours × $30 = $9,000

Heating costs

25 weeks × 8 hours × $45 = $9,000

Rent

The rent of the store is a sunk cost so is not relevant to this decision.

Net incremental revenue

Net incremental revenue = 800,000 – (335,000 + 45,000 + 9,000 + 9,000 + 8,000)

= $394,000 Conclusion

Incremental revenue exceeds incremental costs by $394,000 so Sunday opening is financially justifiable.

(b) Manager's pay deal

Time off

If the manager works on a Sunday, he will take the equivalent time off during the week. He is not entitled to extra pay in the same way as the sales assistants and this does not seem fair. Weekend working is disruptive to most people's family and social life and it is reasonable to expect extra reward for giving up time at weekends. It is unlikely that time off in lieu during the week will motivate the manager.

Bonus

The bonus has been calculated as $8,000 which equates to an extra $160 per day of extra work. The sales assistants will be paid $180 per day (6 × $20 × 1.5) so again the manager is not getting a fair offer. The bonus is based on estimated sales so could be higher if sales are higher than predicted. However, there is a risk that sales and therefore the bonus could be lower. It is therefore again unlikely that this bonus will motivate the manager.

(c) Price discounts and promotions

B & P plans to offer substantial discounts and promotions on a Sunday to attract customers. This may indeed be a good marketing strategy to attract people to shop on a Sunday, but it is not necessarily good for the business.

Customer buying pattern

B & P wants to attract new customers on a Sunday but customers may simply change the day they do their shopping in order to take advantage of the discounts and promotions. The effect of this would be to reduce the margin earned from customer purchases and not increase revenue.

Customer dissatisfaction

Customers who buy goods at full price and then see their purchases for sale at lower prices on a Sunday may be disgruntled. They could then complain or switch their custom to another shop. The reputation of B & P could be damaged by this marketing policy, especially if customers associate lower prices with lower quality.

PRACTICAL QUESTIONS

Question 1

The XYZ Company produces three products, X, Y, and Z. For the coming accounting period budgets are to be prepared using the following information:

Budgeted sales

Product X 2,000 units at Frw 100 each

Product Y 4,000 units at Frw 130 each

Product Z 3,000 units at Frw 150 each

Standard usage of raw material

	Wood (kg per unit)	Varnish (litres per unit)
Product X	5	2
Product Y	3	2
Product Z	2	1
Standard cost of raw material	Frw 8	Frw 4

Inventories of finished goods

	X	Y	Z
Opening	500u	800u	700u
Closing	600u	1,000u	800u

Inventories of raw materials

	Wood (kg)	Varnish (litres)
Opening	21,000	10,000
Closing	18,000	9,000

Labor

	X	*Y*	*Z*
Standard hours per unit	4	6	8

Labor is paid at the rate oFrw 3 per hour

Prepare the following budgets:

1) Sales budget (quantity and value)
2) Production budget (units)
3) Material usage budget (quantities)
4) Material purchases budget (quantities and value)
5) Labor budget (hours and value)

Question 2

A company has prepared the following fixed budget for the coming year.

Sales	10,000 units
Production	10,000 units

	Frw
Direct materials	50,000
Direct labor	25,000
Variable overheads	12,500
Fixed overheads	10,000
	Frw 97,500

Budgeted selling price Frw 10 per unit.

At the end of the year, the following costs had been incurred for the actual production of 12,000 units.

	Frw
Direct materials	60,000
Direct labor	28,500
Variable overheads	15,000
Fixed overheads	11,000
	Frw 114,500

The actual sales were 12,000 units for Frw 122,000

(1) Prepare a flexed budget for the actual activity for the year

(2) Calculate the variances between actual and flexed budget, and summarize in a form suitable for management. (Use a marginal costing approach)

Question 3

ABC Limited wishes to prepare an operating budget for the forthcoming period. Information regarding products costs and sales levels is as follows:

	Products	
	A	B
Materials required:		
X	2	3
Y	1	4
Labor hours required:		
Skilled labor	4	2
Semi- skilled	2	5
Sales level (units)	2,000	1,500
Opening stock (units)	100	200

Closing stock of materials and finished goods will be supported to meet 10% of demand. Opening stocks of material X was 300kg and for material Y were 1,000liters. The material prices are Frw 10 for material X and Frw 7 for material Y labor costs are Frw 12 per hour of skilled workers and Frw 2 per hour for the semi-skilled workers.

Required:

(a) Prepare the following budgets;

i. Production in units

ii. Material usage (kg and litres)

iii. Materials purchase (kg, litres and Frw)

iv. Labor (hours and Frw)

(b) State and discuss the usefulness of budgets

REFERENCES

[1] Agbonifoh, BA, Agbadudu, A.B. and lyayi, F.l.O, (eds) (2005): Management, A Nigerian perspective,

[2] Agbonifoh, B.A., (ed): (2008) Strategies management, concepts, principles and decisions, Mindex publishing company Limited.

[3] A.U. lnegbonebor, (ed) (2006): The fundamentals of Entrepreneurship: Malthouse Press Limited.

[4] Azhar Kazmi, (2002): Business Policy and Strategic Management; Tata McGraw-Hill Publishing Company Limited.

[5] Drucker, P.F. (1954): The practice of management, New York: Harper and Brothers.

[6] Jon L. Pierce and Randall B. Dunham, (1990): Managing: Scott, Foreman and company.

[7] Nigeria: Malthouse Press Limited.

[8] Herbert, C. Hicks and Ray, C. Gullet, (1981): Management McGraw-Hill Book Company.

[9] https://www.accaglobal.com/vn/en/student/exam-support resources/fundamentals-exams-study-resources/f5/technical-articles/budgeting1.html accessed on June 27th, 2021
Kountz, et al, (1980): Controlling in Pierce, J.L. and Dunham, R.8. (Ibid).

[10] Meggingson, eta!, (1983): Controlling in Agbonifoh, B.A eta! (eds) (ibid).

[11] Oxford Advanced Learners' Dictionary, New 7th edition; Oxford University Press.