chapter

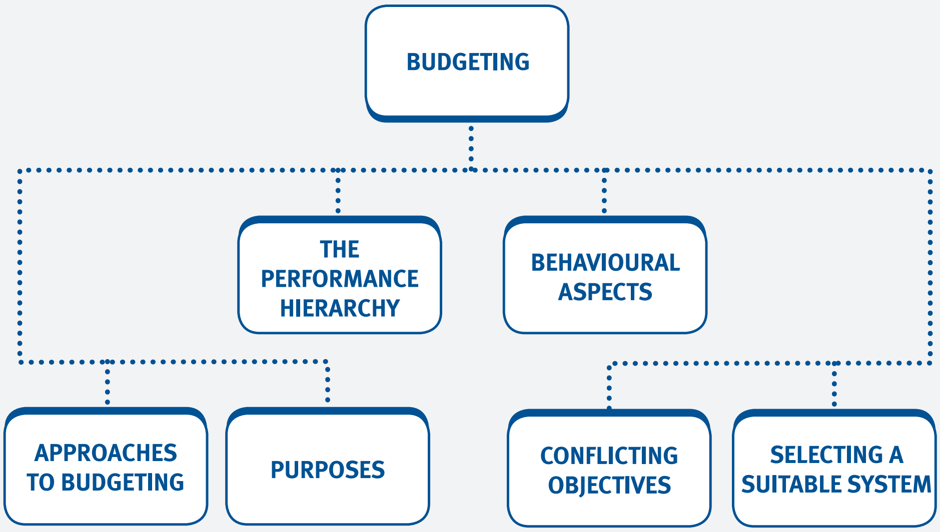
8

Budgeting

Chapter learning objectives

Upon completion of this chapter you will be able to:

- explain why organisations use budgeting
- explain how budgetary systems fit within the performance hierarchy
- describe the factors which influence behaviour at work
- discuss the issues surrounding setting the difficulty level for a budget
- explain the benefits and difficulties of the participation of employees in the negotiation of targets
- explain and evaluate 'top down' and 'bottom up' budgetary systems; 'rolling', 'activity-based', 'incremental' and 'zero-based' budgetary systems.
- explain and evaluate 'feed-forward' budgetary control
- select and justify an appropriate budgetary system for a given organisation
- describe the information used in various budgetary systems and the sources of the information needed
- explain the difficulties of changing a budgetary system and type of budget used
- explain how budget systems can deal with uncertainty in the environment
- explain the major benefits and dangers in using spreadsheets in budgeting.



1 Purpose of budgets

A budget is a quantitative plan prepared for a specific time period. It is normally expressed in financial terms and prepared for one year.

Budgeting serves a number of purposes:

- **Planning**

  A budgeting process forces a business to look to the future. This is essential for survival since it stops management from relying on ad hoc or poorly co-ordinated planning.

- **Control**

  Actual results are compared against the budget and action is taken as appropriate.

- **Communication**

  The budget is a formal communication channel that allows junior and senior managers to converse.

- **Co-ordination**

  The budget allows co-ordination of all parts of the business towards a common corporate goal.

- **Evaluation**

  Responsibility accounting divides the organisation into budget centres, each of which has a manager who is responsible for its performance. The budget may be used to evaluate the actions of a manager within the business in terms of the costs and revenues over which they have control.

- **Motivation**

  The budget may be used as a target for managers to aim for. Reward should be given for operating within or under budgeted levels of expenditure. This acts as a motivator for managers.

- **Authorisation**

  The budget acts as a formal method of authorisation to a manager for expenditure, hiring staff and the pursuit of plans contained within the budget.

- **Delegation**

  Managers may be involved in setting the budget. Extra responsibility may motivate the managers. Management involvement may also result in more realistic targets.

2 Budgets and performance management

Budgets contribute to performance management by providing benchmarks against which to compare actual results (through variance analysis), and develop corrective measures. They take many forms and serve many functions, but most provide the basis for:

- detailed sales targets
- staffing plans
- production
- cash investment and borrowing
- capital expenditure.

Budgets give managers "preapproval" for execution of spending plans, and allow them to provide forward looking guidance to investors and creditors. For example, budgets are necessary to convince banks and other lenders to extend credit.

Even in a small business, an robust business plan/budget can often result in anticipating and avoiding disastrous outcomes.

Medium and larger organisations invariably rely on budgets. This is equally true in businesses, government, and not-for-profit organizations. The budget provides a formal quantitative expression of expectations. It is an essential facet of the planning and control process. Without a budget, an organisation will be highly inefficient and ineffective.

Test your understanding 1 – Evaluation of managers

A wage award for production staff is agreed which exceeds the allowance incorporated in the budget. Discuss whether the performance of the production manager should be linked to the wage cost.

3 The performance hierarchy

As you may recall from F1, firms have a planning hierarchy:

- Strategic planning is long term, looks at the whole organisation and defines resource requirements. For example, to develop new products in response to changing customer needs.
- Tactical planning is medium term, looks at the department/divisional level and specifies how to use resources. For example, to train staff to deal with the challenges that this new product presents.
- Operational planning is very short term, very detailed and is mainly concerned with control. Most budgeting activities fall within operational planning and control. For example, a budget is set for the new product to include advertising expenditure, sales forecasts, labour and material expenditure etc.

The aim is that if a manager achieves short-term budgetary targets (operational plans) then there is more chance of meeting tactical goals and ultimately success for strategic plans.

The achievement of budgetary plans will impact on the eventual achievement of the tactical and strategic plans. However, budgets should also be flexible in order to meet the changing needs of the business.

4 Behavioural aspects of budgeting

Individuals react to the demands of budgeting and budgetary control in different ways and their behaviour can damage the budgeting process.

Behavioural problems are often linked to management styles, and include dysfunctional behaviour and budget slack.

Management styles (Hopwood)

Research was carried out by Hopwood (1973) into the manufacturing division of a US steelworks, involving a sample of more than 200 managers with cost centre responsibility. Hopwood identified three distinct styles of using budgetary information to evaluate management performance.

Management style	Performance evaluation	Behavioural aspects
(1) Budget constrained style	• Manager evaluated on ability to achieve budget in the short term	• Job related pressure • May result in short-term decision making at the expense of long term goals
	• Manager will be criticised for poor results. For example, if spending exceeds the limit set	• Can result in poor working relations with colleagues • Can result in manipulation of data
(2) Profit conscious style	• Manager evaluated on ability to reduce costs and increase profit in the long term	• Less job related pressure
	• For example, a manager will be prepared to exceed the budgetary limit in the short term if this will result in an increase in long term profit	• Better working relations with colleagues • Less manipulation of data

(3)	Non-accounting style	• Manager evaluated mainly on non-accounting performance indicators such as quality and customer satisfaction	• Similar to profit conscious style but there is less concern for accounting information • Requires significant and stringent monitoring of performance against budget

5 Setting the difficulty level of a budget

Budgetary targets will assist motivation and appraisal if they are at the right level.

An **expectations** budget is a budget set at current achievable levels. This is unlikely to motivate managers to improve but may give more accurate forecasts for resource planning, control and performance evaluation.

An **aspirations** budget is a budget set at a level which exceeds the level currently achieved. This may motivate managers to improve if it is seen as attainable but may also result in an adverse variance if it is too difficult to achieve. This must be managed carefully.

Test your understanding 2

A manager is awarded a bonus for achieving monthly budgetary targets. State three possible behavioural implications of this policy. What should be done to try to improve the process?

Test your understanding 3

A sales manager has achieved $550,000 of sales in the current year. Business is expected to grow by 10% and price inflation is expected to be 3%.

Suggest a suitable budget target for the forthcoming year.

6 Approaches to budgeting

There are a number of different budgetary systems:

- Top down vs bottom up budgeting
- Incremental budgeting
- Zero-based budgeting (ZBB)
- Rolling budgets
- Activity-based budgeting
- Feed-forward control.

Each system will be reviewed in turn.

7 Budgeting and participation

There are basically two ways in which a budget can be set: from the top down (imposed budget) or from the bottom up (participatory budget).

Imposed style

An imposed/top-down budget is 'a budget allowance which is set without permitting the ultimate budget holder to have the opportunity to participate in the budgeting process'

Advantages of imposed style

There are a number of reasons why it might be preferable for managers not to be involved in setting their own budgets:

(1) Involving managers in the setting of budgets is more time consuming than if senior managers simply imposed the budgets.

(2) Managers may not have the skills or motivation to participate usefully in the budgeting process.

(3) Senior managers have the better overall view of the company and its resources and may be better-placed to create a budget which utilises those scarce resources to best effect.

(4) Senior managers also are aware of the longer term strategic objectives of the organisation and can prepare a budget which is in line with that strategy.

(5) Managers may build budgetary slack or bias into the budget in order to make the budget easy to achieve and themselves look good.

(6) Managers cannot use budgets to play games which disadvantage other budget holders.

(7) By having the budgets imposed by senior managers, i.e. someone outside the department, a more objective, fresher perspective may be gained.

(8) If the participation is only pseudo-participation and the budgets are frequently drastically changed by senior management, then this will cause dissatisfaction and the effect will be to demotivate staff.

Participative budgets

Participative/bottom up budgeting is 'A budgeting system in which all budget holders are given the opportunity to participate in setting their own budgets'

Advantages of participative budgets

(1) The morale of the management is improved. Managers feel like their opinion is listened to, that their opinion is valuable.

(2) Managers are more likely to accept the plans contained within the budget and strive to achieve the targets if they had some say in setting the budget, rather than if the budget was imposed upon them. Failure to achieve the target that they themselves set is seen as a personal failure as well as an organisational failure.

(3) The lower level managers will have a more detailed knowledge of their particular part of the business than senior managers and thus will be able to produce more realistic budgets.

Budgetary control – Behavioural aspects

Another very important aspect of budgetary control systems and this is its impact on the human beings who will operate and be judged by those systems.

It is only comparatively recently that the results of years of study of personal relationships in the workplace have percolated into the field of management accounting. It is now recognised that failure to consider the effect of control systems on the people affected could result in a lowering of morale and a reduction of motivation. Further, those people may be induced to do things that are not in the best interests of the organisation.

Specific behavioural issues encountered in budgeting include the following:

Motivation and co-operation

To be fully effective, any system of financial control must provide for motivation and incentive. If this requirement is not satisfied, managers will approach their responsibilities in a very cautious and conservative manner. It is often found that adverse variances attract investigation and censure but there is no incentive to achieve favourable variances. Failure to distinguish controllable from uncontrollable costs in budgetary control can alienate managers from the whole process.

Personal goals and ambitions are, in theory, strongly linked to organisational goals. These personal goals may include a desire for higher income and higher social standing. To simultaneously satisfy the goals of the organisation and the goals of the individual there must be ‘goal congruence’. That is, the individual manager perceives that his or her own goals are achieved by his or her acting in a manner that allows the organisation to achieve its goals. The problem is that reliance on budgetary control systems does not always result in goal congruence.

The success of a budgetary control system depends on the people who operate and are affected by it. They must work within the system in an understanding and co-operative manner. This can only be achieved by individuals who have a total involvement at all stages in the budget process. However, it is often found that

(1) A budget is used simply as a pressure device. If the budget is perceived as ‘a stick with which to beat people’, then it will be sabotaged in all sorts of subtle ways.

(2) The budgeting process and subsequent budgetary control exercises induce competition between individual departments and executives. Managers may be induced to do things in order to ‘meet budget’ that are not in the best interests of the business as a whole.

Failure of goal congruence

It has been seen that an essential element in budgetary control is performance evaluation. Actual results are compared with budget or standard in order to determine whether performance is good or bad. What is being evaluated is not just the business operation but the managers responsible for it. The purpose of budgetary control is to induce managers to behave in a manner that is to the best advantage of the organisation. Compliance with budget is enforced by a variety of negative and positive sanctions.

When adverse variances are reported for operations then this implies poor performance by the managers of the operations. If they are unable to correct or explain away the adverse variances, then they may suffer negative sanctions. They may have forgo salary increases, or they may be demoted to a less prestigious post. Other more subtle negative sanctions are possible that anyone who has ever worked for a large organisation will be aware of.

Positive inducements may be offered to encourage managers to avoid adverse variances. A manager who meets budget may be granted a performance-related salary bonus, promotion, a new company car or use of the executive dining room.

Consequently, the manager has a considerable incentive to ensure that the department or operation he is responsible for achieves its budgeted level of performance. However, there are a variety of ways of doing this that might not be to the advantage of the organisation as a whole.

For example, the manager of a production line can cut costs and hence improve its reported performances by reducing quality controls. This may result in long-term problems concerning failure of products in service, loss of customer goodwill and rectification costs – but these are not the concern of the production line manager. This is a clear failure of goal congruence.

The control system is capable of distorting the process it is meant to serve – or ‘the tail wags the dog’. The enforcement of a budgetary control system requires sensitivity if this is not to happen.

The budget as a pot of cash

In some environments managers may come to consider the budget as a sum of money that has to be spent. This arises particularly in service departments or public sector organisations, the performance of which is gauged mainly through comparison of actual and budget spending.

The manager of a local authority 'street cleaning' department may be given an annual budget of £120,000 to clean the streets. The manager knows that she will be punished if she spends more than £120,000 in the year. She also knows that if she spends less than £120,000 in the year then her budget will probably be reduced next year. Such a reduction will involve a personal loss of status in the organisation and will make her job more difficult in the next year.

In order to ensure that she does not overspend her annual budget in the current year the manager may spend at a rate of £9,000 per month for the first 11 months of the year. This can be achieved by reducing the frequency of street cleaning and using poor-quality materials. It allows a contingency fund to be accumulated in case of emergencies.

However, in the final month of the year the manager has to spend £21,000 if she wishes to ensure that her whole budget is fully used. She might achieve this by using extra labour and high-quality materials.

Does this behaviour make sense? Of course it does not. The whole pattern of behaviour is distorted by the control system. It means that local residents have a substandard service for 11 months of the year and money is wasted in the 12th month.

It is, however, a fact that suppliers to government departments and local councils often experience a surge in orders towards the end of the financial year. This surge is caused by managers placing orders at the last moment in order to ensure that their full budget for the year is committed.

Budget negotiation

Budgets are normally arrived at by a process of negotiation with the managers concerned. A budget may actually be initiated by departmental managers and then corrected as a result of negotiation with the budget officer.

Clearly, a manager has an incentive to negotiate a budget that is not difficult to achieve. This produces a phenomenon known as 'padding the budget' or 'budgetary slack'. A manager will exaggerate the costs required to achieve objectives.

(1) If the manager succeeds in padding his budget, then the whole control exercise is damaged. Comparison of actual with budget gives no meaningful measure of performance and the manager is able to include inefficiencies in his operation if he wishes.

(2) A successful manager becomes one who is a hard negotiator. The problem with this is that the negotiations in question are between colleagues and not with customers. 'Infighting' may become entrenched in the management process.

(3) A great deal of time and energy that could be directed to the actual management of the business is distracted by what are essentially administrative procedures.

These are all examples of a control system distorting the processes they are meant to serve.

Influence on accounting policies

Any management accountant who has been engaged in the preparation of financial control reports will be familiar with attempts by managers to influence the accounting policies that are used. For example, the apportionment of indirect costs between departments often contains subjective elements. Should security costs be apportioned on the basis of floor space or staff numbers?

The manner in which the indirect costs are apportioned can have a considerable impact on how the performance of individual departments is perceived. This position creates the scope and incentive for managers to argue over accounting policies.

If a manager perceives that her department's performance is falling below budget, then she may sift through the costs charged to her department and demand that some be reclassified and charged elsewhere. The time and energy that goes into this kind of exercise has to be diverted from that available for the regular management of the business.

Budget constrained management styles

When the performance of a manager is assessed by his ability to meet budget, then he is likely to adopt a conservative approach to new business opportunities that appear. The immediate impact of new business ventures is likely to be a rise in capital and operating costs – with an adverse impact on current period profit. The benefits of such ventures may only be felt in the long term. Hence, when a new opportunity appears, the manager evaluating it may only perceive that its acceptance will result in below-budget performance in the current period – and turn it down on this ground alone. Another consideration is that reliance on budgetary control is an approach to management that involves sitting in an office and reading financial reports. Such an approach (in conjunction with features such as executive dining rooms) may result in an unsatisfactory corporate culture based on hierarchies and social divisions. Large organisations that rely heavily on budgetary control systems often take on an 'ossified' character.

Yet another consideration is that a reliance on budgetary planning may induce managers to favour projects and developments that are most amenable to the construction of budgets. Projects that involve little uncertainty and few unknowns are easy to incorporate in budgets and hence managers may be more inclined to adopt such projects than the alternatives. Projects that involve significant uncertainties may be attractive if they incorporate some combination of high expected returns and low cost interim exit routes – but a budget constrained manager may be disinclined to adopt such projects simply because they are difficult to incorporate in budgets. Some writers (see Section 12.8.3, 'contingency theory') suggest that the budgetary approach may be particularly inappropriate in a dynamic and turbulent business environment.

The general conclusion concerning this and previous points is that good budgetary control can offer certain benefits. However, when budgetary control is enforced in a rigid or insensitive manner it may end up doing more harm than good.

Budgets and motivation

Much of the early academic work on budgets concerned the extent to which the 'tightness' or looseness' of a budget acted as an incentive or disincentive to management effort. This was the issue of 'budget stretch'. Seminal works in this general area included studies by A.C. Stedry (see his 1960 text 'Budget Control and Cost Behaviour') and G.H. Hofstede (see his 1968 text 'The Game of Budget Control').

The main thrust of the findings that emerged from these studies was:

(1) Loose budgets (i.e. ones easily attainable) are poor motivators

(2) As budgets are tightened, up to a point they become more motivational

(3) Beyond that point, a very tight budget ceases to be motivational.

The role of budget participation and the manner in which aspirations and objectives are stated was also explored in certain studies. It was suggested that the participation of managers in budget setting was a motivational factor – but see earlier discussion concerning budget padding and negotiation.

Test your understanding 4

Bottom up budgeting is generally seen as preferable because it leads to improved managerial motivation and performance. However, there are situations for which top down budgeting is preferable.

Describe three situations where top down budgeting would be more applicable.

Incremental budgets

An incremental budget starts with the previous period's budget or actual results and adds (or subtracts) an incremental amount to cover inflation and other known changes.

It is suitable for stable businesses, where costs are not expected to change significantly. There should be good cost control and limited discretionary costs.

Advantages of incremental budgets	Disadvantages of incremental budgets
(1) Quickest and easiest method.	(1) Builds in previous problems and inefficiencies.
(2) Suitable if the organisation is stable and historic figures are acceptable since only the increment needs to be justified.	(2) Uneconomic activities may be continued. E.g. the firm may continue to make a component in-house when it might be cheaper to outsource.
	(3) Managers may spend unnecessarily to use up their budgeted expenditure allowance this year, thus ensuring they get the same (or a larger) budget next year.

Test your understanding 5

AW Inc produces two products, A and C. In the last year (20X4) it produced 640 units of A and 350 units of C incurring costs of $672,000. Analysis of the costs has shown that 75% of the total costs are variable. 60% of these variable costs vary in line with the number of A produced and the remainder with the number of C.

The budget for the year 20X5 is now being prepared using an incremental budgeting approach. The following additional information is available for 20X5:

- All costs will be 4% higher than the average paid in 20X4.
- Efficiency levels will remain unchanged.
- Expected output of A is 750 units and of C is 340 units.

What is the budgeted total variable cost of products A and C for the full year 20X5?

Zero-based budgeting

A 'method of budgeting that requires each cost element to be specifically justified, as though the activities to which the budget relates were being undertaken for the first time. Without approval, the budget allowance is zero'.

It is suitable for:

- allocating resources in areas were spend is discretionary, i.e. non-essential. For example, research and development, advertising and training.
- public sector organisations such as local authorities.

There are four distinct stages in the implementation of ZBB:

(1) Managers should specify, for their responsibility centres, those activities that can be individually evaluated.

(2) Each of the individual activities is then described in a decision package. The decision package should state the costs and revenues expected from the given activity. It should be drawn up in such a way that the package can be evaluated and ranked against other packages.

(3) Each decision package is evaluated and ranked usually using cost/benefit analysis.

(4) The resources are then allocated to the various packages.

Advantages of ZBB	Disadvantages of ZBB
(1) Inefficient or obsolete operations can be identified and discontinued	(1) It emphasises short-term benefits to the detriment of long-term goals
(2) ZBB leads to increased staff involvement at all levels since a lot more information and work is required to complete the budget	(2) The budgeting process may become too rigid and the organisation may not be able to react to unforeseen opportunities or threats
(3) It responds to changes in the business environment	(3) The management skills required may not be present
(4) Knowledge and understanding of the cost behaviour patterns of the organisation will be enhanced	(4) Managers may feel demotivated due to the large amount of time spent on the budgeting process
(5) Resources should be allocated efficiently and economically	(5) Ranking can be difficult for different types of activities or where the benefits are qualitative in nature

Additional information on decision packages

A decision package was defined by **Peter Pyhrr** (who first formulated the ZBB approach at Texas Instruments) as:

A document that identifies and describes a specific activity in such a manner that senior management can:

(a) evaluate and rank it against other activities competing for limited resources, and

(b) decide whether to approve or disapprove it.'

A decision package is a document that:

- analyses the cost of the activity (costs may be built up from a zero base, but costing information can be obtained from historical records or last year's budget)
- states the purpose of the activity
- identifies alternative methods of achieving the same purpose
- assesses the consequence of not doing the activity at all, or performing the activity at a different level
- establishes measures of performance for the activity.

Pyhrr identifies two types of package.

(i) Mutually exclusive packages: these contain different methods of obtaining the same objective.

(ii) Incremental packages: these divide the activity into a number of different levels of activity. The base package describes the minimum effort and cost needed to carry out the activity. The other packages describe the incremental costs and benefits when added to the base.

For example, a company is conducting a ZBB exercise, and a decision package is being prepared for its materials handling operations.

- The manager responsible has identified a base package for the minimum resources needed to perform the materials handling function. This is to have a team of five workers and a supervisor, operating without any labour-saving machinery. The estimated annual cost of wages and salaries, with overtime, would be $375,000.

- In addition to the base package, the manager has identified an incremental package. The company could lease two fork lift trucks at a cost of $20,000 each year. This would provide a better system because materials could be stacked higher and moved more quickly. Health and safety risks for the workers would be reduced, and there would be savings of $5,000 each year in overtime payments.
- Another incremental package has been prepared, in which the company introduces new computer software to plan materials handling schedules. The cost of buying and implementing the system would be $60,000, but the benefits are expected to be improvements in efficiency that reduce production downtime and result in savings of $10,000 each year in overtime payments.

The base package would be considered essential, and so given a high priority. The two incremental packages should be evaluated and ranked. Here, the fork lift trucks option might be ranked more highly than the computer software.

In the budget that is eventually decided by senior management, the fork lift truck package might be approved, but the computer software package rejected on the grounds that there are other demands for resources with a higher priority.

Test your understanding 6

For a number of years, the research division of Z Inc has produced its annual budget (for new and continuing projects) using incremental budgeting techniques. The company is now under new management and the annual budget for 20X4 is to be prepared using ZBB techniques.

Explain how Z Inc could operate a ZBB system for its research projects.

ZBB and incremental budgeting in the public sector

The process of identifying decision packages and determining their purpose, costs and benefits is massively time consuming and costly.

One solution to this problem is to use incremental budgeting every year, and then use ZBB every three to five years, or when major change occurs. This means that an organisation can benefit from some of the advantages of ZBB without an annual time and cost implication.

Another option is to use ZBB for some departments but not for others. Certain costs are essential rather than discretionary and it could be argued that it is pointless to carry out ZBB in relation to these. For example, heating and lighting costs in a school or hospital are expenses that will have to be paid, irrespective of the budget amount allocated to them. Incremental budgeting would seem to be more suitable for costs like these, as with building repair costs.

Rolling budgets

A budget (usually annual) kept continuously up to date by adding another accounting period (e.g. month or quarter) when the earliest accounting period has expired.

Suitable if:

- accurate forecasts cannot be made. For example, in a fast moving environment.
- or for any area of business that needs tight control.

Illustration 1 – Rolling budgets

A typical rolling budget might be prepared as follows:

(1) A budget is prepared for the coming year (say January – December) broken down into suitable, say quarterly, control periods.

(2) At the end of the first control period (31 March) a comparison is made of that period's results against the budget. The conclusions drawn from this analysis are used to update the budgets for the remaining control periods and to add a budget for a further three months, so that the company once again has budgets available for the coming year (this time April – March).

(3) The planning process is repeated at the end of each three-month control period.

Advantages of rolling budgets	Disadvantages of rolling budgets
(1) Planning and control will be based on a more accurate budget	(1) Rolling budgets are more costly and time consuming than incremental budgets
(2) Rolling budgets reduce the element of uncertainty in budgeting since they concentrate on the short-term when the degree of uncertainty is much smaller	(2) May demotivate employees if they feel that they spend a large proportion of their time budgeting or if they feel that the budgetary targets are constantly changing
(3) There is always a budget that extends into the future (normally 12 months)	(3) There is a danger that the budget may become the last budget 'plus or minus a bit'
(4) It forces management to reassess the budget regularly and to produce budgets which are more up to date	(4) An increase in budgeting work may lead to less control of the actual results
	(5) Issues with version control, as each month the full year numbers will change
	(6) Confusion in meetings as to each numbers the business is working towards; this can distract from the key issues. as managers discuss which numbers to achieve

Test your understanding 7

A company uses rolling budgeting and has a sales budget as follows:

	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total
	$	$	$	$	$
Sales	125,750	132,038	138,640	145,572	542,000

Actual sales for Quarter 1 were $123,450. The adverse variance is fully explained by competition being more intense than expected and growth being lower than anticipated. The budget committee has proposed that the revised assumption for sales growth should be 3% per quarter.

Update the budget as appropriate.

Activity Based Budgeting

ABB is defined as: 'a method of budgeting based on an activity framework and utilising cost driver data in the budget-setting and variance feedback processes'.

Or, put more simply, preparing budgets using overhead costs from activity based costing methodology.

Test your understanding 8 – Preparing an ABB

The operating divisions of Z plc have in the past always used a traditional approach to analysing costs into their fixed and variable components. A single measure of activity was used which, for simplicity, was the number of units produced. The new management does not accept that such a simplistic approach is appropriate for budgeting in the modern environment and has requested that the managers adopt an activity-based approach in future.

Required:

Explain how ABB would be implemented by the operating divisions of Z plc.

The advantages of ABB are similar to those provided by activity-based costing (ABC).

- It draws attention to the costs of 'overhead activities' which can be a large proportion of total operating costs.
- It recognises that it is activities which drive costs. If we can control the causes (drivers) of costs, then costs should be better managed and understood.
- ABB can provide useful information in a total quality management (TQM) environment, by relating the cost of an activity to the level of service provided.

Disadvantages of ABB

- A considerable amount of time and effort might be needed to establish the key activities and their cost drivers.
- It may be difficult to identify clear individual responsibilities for activities.
- It could be argued that in the short-term many overhead costs are not controllable and do not vary directly with changes in the volume of activity for the cost driver. The only cost variances to report would be fixed overhead expenditure variances for each activity.

Activity matrix

An activity-based budget can be constructed by preparing an activity matrix. This identifies the activities in each column, and the resources required to carry out the activities in each row.

The following 'activity matrix' shows the resources used (rows) and major functions/activities (columns) of a stores department. In this example, all the identified activities occur within a single department.

- The total current annual costs of each resource consumed by the department are shown in the final column; they have then been spread back over the various activities to establish the cost pools. The allocation of resource costs between activities will, to some extent, be subjective.
- Each of the first four activities has an identifiable cost driver, and the total resource cost driver rates can be determined (cost per unit of activity).
- The last two activities that occur within the department are non-volume related, and are sometimes referred to as 'sustaining costs'. They are necessary functions and should not be ignored in the budgeting process; however, they should not be attributed to particular cost drivers, as this would not reflect their true cost behaviour and would result in inappropriate budgets being set.

Activity cost matrix for stores department

Activity:	**Receiving deliveries**	**Issuing from store**	**Stock ordering**	**Stock counting**	**Keeping records**	**Supervision**	**Total**
Cost driver:	Deliveries	Store requisitions	Number of orders	Number of counts	–	–	
Number:	400	800	400	12			
	$000	$000	$000	$000	$000	$000	$000
Management salary	–	–	–	1	4	25	30
Basic wages	20	25	6	4	11	–	66
Overtime payments	5	–	–	5	5	–	15
Stationery, etc	1	2	2	1	3	–	9
Other	6	5	2	1	1	5	20
Total	**32**	**32**	**10**	**12**	**24**	**30**	**140**
Cost per activity unit	$80	$40	$25	$1,000			

Sustaining costs will effectively be treated as fixed costs. However, for control purposes, activity-based costs can be assumed to be variable, and actual costs can be compared with the expected costs for the given level of activity.

Test your understanding 9

Which statement is correct regarding the benefits to be gained from using ABB?

A If there is much inefficiency within the operations of a business then ABB will identify and remove these areas of inefficiency.

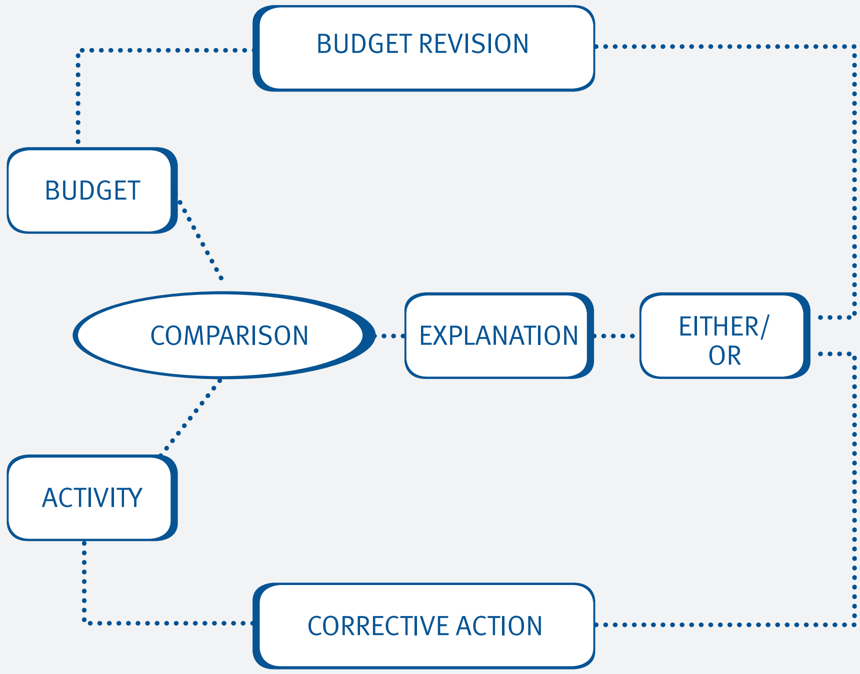
B In a highly direct labour intensive manufacturing process, an ABB approach will assist management in budgeting for the majority of the production costs.

C In an organisation currently operating efficiently, where the next period will be relatively unchanged from the current one, then ABB will make the budgeting process simpler and quicker.

D If an organisation produces many different types of output using different combinations of activities then ABB can provide more meaningful information for budgetary control.

8 Feedback control

Feedback control is defined as 'the measurement of differences between planned outputs and actual outputs achieved, and the modification of subsequent action and/or plans to achieve future required results'. This is the most common type of control system.



Positive feedback is feedback taken to reinforce a deviation from standard. The inputs or processes would not be altered.

Negative feedback is feedback taken to reverse a deviation from standard. This could be by amending the inputs or process, so that the system reverts to a steady state. For example, a machine may need to be reset over time to its original settings.

e.g

Single/Double loop feedback

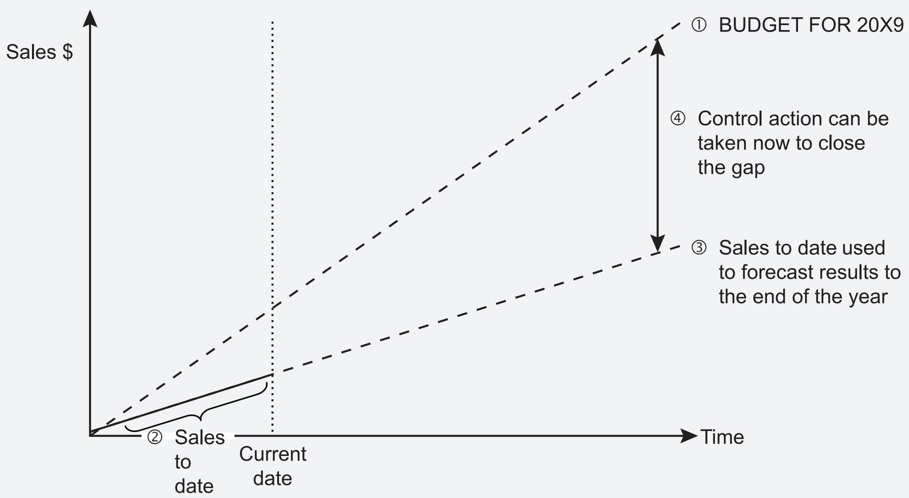
Single loop feedback is control which regulates the output of a system. It involves connecting a strategy for action with a result. For example, if an action we take yields results that are different to what we expected ('target costs are not achieved'), through single-loop feedback, we will observe the results, automatically take in feedback, and try a different approach to achieve targets. However, we don't try and change the targets.

Double loop feedback occurs when a business is able, having attempted to achieve a target (say, for sales volume) on different occasions, to modify the target or budget in the light of experience, or possibly even reject the target.

9 Feedforward control

A feedforward control system operates by comparing budgeted results against a forecast. Control action is triggered by differences between budgeted and forecast results.

Feedforward control is control based on forecast results. In other words, if forecast is bad, control action is taken before the actual results come through. For example, the graph below shows the feedback and feedforward system for sales:



e.g

Illustration 2 – Feed-forward control

A sales manager receives monthly control reports about sales values. The budgeted sales for the year to 31 December are $600,000 in total. At the end of April the manager might receive the following **feedback control** report.

Sales report for April

	Month			Cumulative		
	Budget	**Actual**	**Variance**	**Budget**	**Actual**	**Variance**
Product	$000	$000	$000	$000	$000	$000
P1	35	38	3 (F)	90	94	4 (F)
P2	20	14	6 (A)	50	39	11 (A)
P3	25	23	2 (A)	50	45	5 (A)
Total	80	75	5 (A)	190	178	12 (A)

Alternatively, the sales manager might be presented with a **feed-forward control** report, as follows:

Sales report, April

	Budget	**Latest forecast for the year**	**Expected variance**
Product	$000	$000	$000
P1	240	250	10 (F)
P2	150	120	30 (A)
P3	210	194	16 (A)
Total	600	564	36 (A)

The use of a feed-forward control system means that corrective action can be taken to avoid expected adverse variances.

Test your understanding 10

Explain why feed-forward control may be particularly appropriate for the capital expenditure budget.

10 Selecting a suitable budgetary system

As seen, there are many approaches to budgeting and an organisation will wish to select a system which is most appropriate.

Factors, which will determine suitability include:

- type and size of organisation
- type of industry
- type of product and product range
- culture of the organisation.

e.g

Illustration 3 – Selecting a suitable budgetary system

A hospital operates in a relatively stable financial environment, has a very high proportion of fixed costs and a diverse range of activities. Factors to consider when selecting a suitable budgetary system may be:

- An incremental approach may be suitable for all routine activities. New ventures may use a zero-based approach.
- The fixed costs may need close control and therefore some form of ABB may be appropriate.
- The culture of the organisation may dictate whether a participative or imposed budgeting style is more effective. If there are managers who are trained in budgeting and costs are mainly controllable then it may be preferable to adopt a participative approach to empower and motivate staff. If costs are mainly uncontrollable it may be preferable to use a centrally controlled, imposed budget.

Test your understanding 11

Select and justify a suitable budgeting system for a company operating in the mobile phone market.

Information for budgeting

Budgeting requires a great deal of information that can be drawn from many sources.

The main sources of information for budgeting purposes are:

- previous year's actual results.
- other internal sources which may include manager's knowledge concerning the state of repair of fixed assets, training needs of staff, long-term requirements of individual customers, etc.
- estimates of costs of new products using methods such as work study techniques and technical estimates.
- statistical techniques may help to forecast sales.
- models, such as the EOQ model, may be used to forecast optimal inventory levels.
- external sources of information may include suppliers' price lists, estimates of inflation and exchange rate movements, strategic analysis of the economic environment.

Change factors impacting budgeting

The PESTEL model met in F1 is useful for identifying change factors:

Political change

A change in government policy, for example fiscal policy, may affect the demand for an organisation's products, and/or the costs incurred in providing them. Any such changes will affect both short-term and long-term planning. This is one reason why planning is a continuous process.

Social change

Changes in social responsibilities and people's attitude towards them affect every organisation. In recent years there has been much more concern about social responsibilities, some of which are now recognised by law. All of these factors may impinge on the plans of the organisation.

Economic change

When there is a change in the economic climate from boom through to recession, the demands upon people's income become more focused. Money tends to be spent on necessary goods with little left for 'luxury goods' and savings. The lack of savings deters investment, with the result that plans have to be modified if they are to be realistic targets. Economic factors could be local, national or international and include global factors such as the banking crisis and its ongoing impact on world economies.

Technological change

When plans are made, they are based upon the use of certain methods and equipment. As technology advances, the older methods are proven to be inefficient, with the result that decisions are taken to update the operation. As a consequence, the aspects of the budgets and plans which related to the old method are no longer relevant. Revised plans must now be drawn up on the basis of the new technology.

Legal change

When plans are made they are based on the current legal framework and known changes to this are also factored in over time. However, changes to the legal framework can cause information that is used when pulling budgets together to become redundant. An example of this might be the government introducing legislation that bans fast food from being advertised during the intervals between children's TV programmes.

Other factors

Note that while a PESTEL analysis can be very useful to identify drivers of change in the industry, it does not automatically detect all factors that cause uncertainty, such as

- Competitive factors, such as the activities of rivals
- Stakeholder factors, such as increased pressure from trade unions to initiate change.

Test your understanding 12

Describe the sources of information required for a company's cash budget.

Changing a budgetary system

A change in the budgetary system could bring about improved planning, control and decision making.

However, before a change is made the following issues should be considered:

- Are suitably trained staff available to implement the change successfully?
- Will changing the system take up management time which should be used to focus on strategy?
- All staff involved in the budgetary process will need to be trained in the new system and understand the procedure to be followed in changing to the new approach. A lack of participation and understanding builds resistance to change.
- All costs of the systems change, e.g. new system costs, training costs, should be evaluated against the perceived benefits. Benefits may be difficult to quantify and therefore a rigorous investment appraisal of the project may be difficult to prepare.

Test your understanding 13

A large holiday complex currently uses incremental budgeting but is concerned about its very high proportion of overhead costs and is considering changing to an activity based budgeting system. Demand follows a fairly predictable seasonal pattern.

Discuss the issues that should be considered before changing to a new budgetary system.

Dealing with uncertainty in budgeting

Budgets are open to uncertainty. For example, non-controllable factors such as a recession or a change in prices charged by suppliers will contribute to uncertainty in the budget setting process.

Uncertainty arises largely because of changes in the external environment, over which a company will have little control. Reasons include:

(1) Social or political unrest could affect productivity (e.g. through industrial action), as could natural disasters like earthquakes and storms.

(2) Machines may break down unexpectedly, and the business may fail to meet production schedules.

(3) Customers may decide to buy more or less goods or services than originally forecast. For example, if a major customer goes into liquidation, this has a huge effect on a company and could also cause them to go into liquidation.

(4) The workforce may not perform as well as expected because of a lack of motivation, illness, etc. On the other hand, they may perform better than thought.

(5) Competitors may strengthen or emerge, and take some business away from a company. On the other hand, a competitor's position may weaken, leading to increased business.

(6) Technological advances may take place which lead a company's products or services to become out-dated and therefore less desirable.

(7) Materials may increase in price because of global changes in commodity prices.

(8) Inflation, as well as movement in interest rates, can cause the price of all inputs to increase or decrease.

There are several **techniques** available to help deal with uncertainty. These have been discussed before and include:

- Flexible budgets: these are budgets which, by recognising different cost behaviour patterns, are designed to change as the volume of activity changes. Flexible budgets are prepared under marginal costing principles, and so mixed costs are split into their fixed and variable components. This is useful at the control stage : it is necessary to compare actual results to the actual level of activity achieved against the results that should have been expected at this level of activity – which are shown by the flexible budget (more on next chapter).
- Rolling budgets: the budget is updated regularly and, as a result, uncertainty is reduced.
- Sensitivity analysis: variables can be changed one at a time and a large number of budgets produced. For example, what would happen if the actual sales volume was only 75% of the budgeted amount?
- Simulation: similar to sensitivity analysis but it is possible to change more than one variable at a time.

Test Your Understanding 14 – Flexing Budgets

Aoife Co manufactures smartphones and has developed a new handset, the ‘H’. The maximum production capacity of Aoife Co is 150,000 units of the new handset. The company’s management accountant is currently preparing an annual flexible budget and has collected the following information so far for the ‘H’:

Production units of 'H'	**100,000 units**	**120,000 units**	**150,000 units**
Material costs	$700,000	$840,000	$1,050,000
Labour costs	$750,000	$900,000	$1,125,000
Incremental fixed costs	$60,000	$60,000	$60,000

(a) Assuming the budgeted figures are correct, what would the flexed total production cost be if production is 90% of maximum capacity?

(b) The management accountant has said that the factory’s smartphone quality control system carries a cost that was not included in the flexible budget, but should be. He estimates that every 1,000 smartphones will take 5 hours to control; every quality control hour has a variable cost of $120 and fixed quality control costs amount to $250,000. What is the estimated quality cost if production of the smartphones is 90% of maximum capacity?

(c) Which TWO of the following statements relating to the preparation of a flexible budget for the 'H' are true?

(1) The budget will encourage all activities and their value to the organisation to be reviewed and assessed.

(2) The flexible budget will give managers more opportunity to include budgetary slack than a fixed budget.

(3) The budget could be time-consuming to produce as splitting out semi-variable costs may not be straightforward.

(4) The range of output over which assumptions about how costs will behave could be difficult to determine.

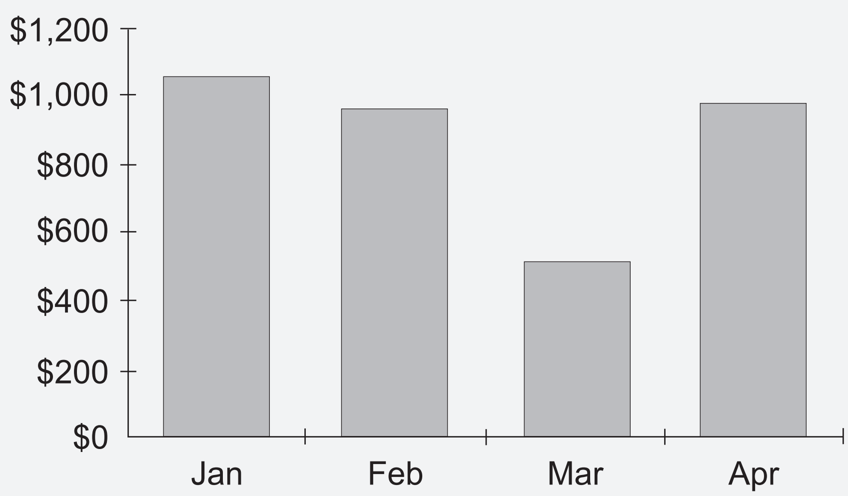
Spreadsheets

A spreadsheet is a computer package which stores data in a matrix format where the intersection of each row and column is referred to as a cell. They are commonly used to assist in the budgeting process.

Advantages of spreadsheets

- Large enough to include a large volume of information.
- Formulae and look up tables can be used so that if any figure is amended, all the figures will be immediately recalculated. This is very useful for carrying out sensitivity analysis.
- The results can be printed out or distributed to other users electronically quickly and easily.
- Most programs can also represent the results graphically e.g. balances can be shown in a bar chart.

Closing cash balances



Disadvantages of spreadsheets:

- Spreadsheets for a particular budgeting application will take time to develop. The benefit of the spreadsheet must be greater than the cost of developing and maintaining it.
- Data can be accidentally changed (or deleted) without the user being aware of this occurring.
- Errors in design, particularly in the use of formulae, can produce invalid output. Due to the complexity of the model, these design errors may be difficult to locate.
- Data used will be subject to a high degree of uncertainty. This may be forgotten and the data used to produce, what is considered to be, an 'accurate' report.
- Security issues, such as the risk unauthorised access (e.g. hacking) or a loss of data (e.g. due to fire or theft).
- Version control issues can arise.
- Educating staff to use spreadsheets/models and which areas/cells to use as inputs can be time consuming.

e.g

Illustration 4 – Using spreadsheets in budgeting

When producing a master budget manually the major problem is ensuring that any initial entry in the budget or any adjustment to a budget item is dealt with in every budget that is relevant – in effect, budgets need to comply with normal double entry principles to be consistent.

Suppose, for instance, that sales in the last month were expected to rise by $10,000, what adjustments would be necessary?

THE SALES BUDGET WOULD NEED TO BE INCREASED.

IF CUSTOMERS TAKE MORE THAN ONE MONTH TO PAY, YEAR-END RECEIVABLES WOULD NEED TO BE INCREASED.

COST OF SALES WOULD INCREASE.

PURCHASES WOULD NEED TO BE INCREASED.

EITHER PAYABLES OR CASH PAYMENTS WOULD BE INCREASED.

INVENTORY AT A MONTH END MAY HAVE TO BE INCREASED, BUT NOT THE FINAL YEAR-END INVENTORY.

PROFIT WOULD INCREASE.

Using spreadsheets all of the above adjustments could be processed automatically if the relevant formulae were set up properly. Receivables, cost of sales, purchases, payables, cash, inventory and profit could change instantly on adjusting sales of month 12.

11 Beyond Budgeting

The whole concept of budgeting turns around the idea that the operation of an organisation can be meaningfully planned for in some detail over an extended period into the future. Further, that this plan can be used to guide, control and co-ordinate the activities of numerous departments and individuals within the organisation.

The modern economic environment is associated with a **rapidly changing environment**, **flexible manufacturing, short product life-cycles and products/services which are highly customised**. The ‘lean business’ and the ‘virtual business’ are responses to this. Such businesses own limited assets of the traditional kind but assemble resources as and when needed to meet customer demand. The keys to their operation are flexibility and speed of response. They are able to move quickly to exploit opportunities as they arise and do not operate according to elaborate business plans.

In an age of discontinuous change, unpredictable competition, and fickle customers, few companies can plan ahead with any confidence – yet most organisations remain locked into a 'plan-make-and-sell' business model that involves a protracted annual budgeting process based on negotiated targets and that assumes that customers will buy what the company decides to make. Such assumptions are no longer valid in an age when customers can switch loyalties at the click of a mouse.

J Hope and R Fraser. *Beyond Budgeting* (Strategic Finance 10/2000)

'Beyond Budgeting' (BB) is the generic name given to a body of practices intended to replace budgeting as a management model. The core concept is the need to move from a business model based on centralised organisational hierarchies to one based on devolved networks.

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

12 Beyond Budgeting – 6 principles

A BB implementation should incorporate the following six main principles:

(1) An organisation structure with **clear principles and boundaries**; a manager should have no doubts over what he/she is responsible for and what he/she has authority over; the concept of the internal market for business units may be relevant here.

(2) Managers should be given goals and targets which are based on **relative success** and linked to shareholder value; such targets may be based on key performance indicators and benchmarks following the balanced scorecard principle.

(3) Managers should be given a **high degree of freedom** to make decisions; this freedom is consistent with the total quality management and business process reengineering concepts; a BB organisation chart should be 'flat'.

(4) Responsibility for decisions that generate value should be placed with **'front line teams'**; again, this is consistent with TQM and BPR concepts.

(5) Front line teams should be made responsible for **relationships** with customers, associate businesses and suppliers; direct communication between all the parties involved should be facilitated; this is consistent with the SCM concept.

(6) Information support systems should be transparent and ethical; an activity based accounting system which reports on the activities for which managers and teams are responsible is likely to be of use in this regard.

BB is essentially an approach that places modern management practices within a cultural framework.

'The process of management is not about administering fixed budgets, it is about the dynamic allocation of resources'

Lord Browne, former CEO of BP

13 Benefits of Beyond Budgeting

All the cases studied are different, but the following general benefits for BB are claimed:

(1) **Faster response time** – operating within a flexible organisational network and with strategy as an 'adaptive process' allows managers to respond quickly to customer requests.

(2) **Better innovation** – managers working within an environment wherein performance is judged on the basis of team and business unit results encourages the adoption of new innovations. Relations with customers and suppliers through SCM may facilitate the adoption of new working methods and technologies.

(3) **Lower costs** – in the context of BB managers are more likely to perceive costs as scarce resources which have to be used effectively than as a budget 'entitlement' that has to be used. BB is also likely to promote an awareness of the purposes for which costs are being incurred and thereby the potential for reductions.

(4) **Improved customer and supplier loyalty** – the leading role of front line teams in dealing with customers and suppliers is likely to deepen the relevant relationships.

As with many innovations in management practice, BB was a creature of its time. It appeared in the mid-1990s at a time when globalisation and advances in IT were tending to speed up the business environment. In particular, customers had greater choice and expected faster service. The key competitive constraint in most business situations is no longer land, labour or capital. For example, if labour is locally scarce then work can be outsourced to India or manufacturing can be relocated to China. In many practical business situations the key competitive factor is likely to be intellectual and knowledge based in character.

The BB model appeared as a set of information-age best practices which was attuned to the new situation. BB is intended to be an exercise in mobilising competent managers, skilled workers and loyal customers. However, traditional budgeting still has its defenders. Such defenders claim that while budgeting may be associated with a 'command and control' management style, it is the management style that is the problem and not budgeting.

e.g

Svenska Handelsbanken

Researchers have explored the history of BB implementations to determine whether or not these have delivered improved results. BBRT has reported several case studies, the best known of which is that of **Svenska Handelsbanken**.

This Swedish bank abandoned budgeting in 1972 and switched to delegation model (involving 600 autonomous work units) that avoids formal planning and target setting. Branch managers run their own businesses and are able to decide how many staff they need, where they obtain support services from and what products they market to which customers. Branch performance is assessed using measures such as customer profitability, customer retention and work productivity.

The Svenska Handelsbanken model might indicate a higher level of corporate risk with all that would imply for cost of money and market capitalisation. However, it is claimed that the model favours flexibility. In the absence of a fixed plan, products and projects are designed to allow easy modification and exit routes. This view suggests that the model invites a different approach to risk management rather than the acceptance of higher risk.

14 Chapter summary

BUDGETING

APPROACHES TO BUDGETING

- Top down/ bottom up budgeting
- Incremental budgets
- Zero-based budgets
- Rolling budgets
- Activity-based budgets
- Feed-forward budgets

SELECTING A SUITABLE SYSTEM

- Dealing with change
- Incorporating uncertainty
- Use of spreadsheets

Test your understanding answers

Test your understanding 1 – Evaluation of managers

The key point here is that the answer depends on who awarded the pay increase.

If this was the production manager's decision, then the cost would be controllable. Depending on the culture of the firm, the manager would then be under pressure to explain why they departed from the budget in this instance.

If awarded by, say, the board of directors, then the cost increase was not controllable by the manager and should not feature in their appraisal.

Note: The concept of controllability is important for the exam.

Test your understanding 2

The manager may try to:

- delay discretionary short-term expenditure, e.g. maintenance, at the expense of long-term performance to improve results.
- manipulate results to make sure the relevant targets are achieved.
- incorporate budgetary slack into the targets to make them easier to achieve.

The process can be improved by measuring performance against a variety of targets, including non-financial targets, and linking performance to long-term objectives.

Test your understanding 3

Sales are expected to be $550,000 ×110% × 103% = $623,150. The manager may accept this as a fair target for performance appraisal, planning and control purposes. To encourage the manager to improve further an aspirations target incorporating a further improvement, say to $650,000, could be used and linked to the reward system.

Test your understanding 4

(1) Operational managers may not have the knowledge and experience to set a budget. For example, in a small business only the owner may be involved in all aspects of the business and may therefore set the budget.

(2) In times of crisis there may be insufficient time to set a participative budget and targets may have to be imposed to ensure survival.

(3) Participation has to be genuine for it to result in improved motivation. Pseudo-participation, where senior managers seek the opinions of the ultimate budget holders but do not act on these views, may lead to demotivation.

Test your understanding 5

	Total variable cost	**Variable cost per unit**
20X4:		
Product A	$672,000 × 75% × 60% = $302,400	$302,000 ÷ 640 units = $472.50
Product C	$672,000 × 75% × 40% = $201,600	$201,600 ÷ 350 units = $576
20X5:		
Product A	$472.50 × 1.04 × 750 units = $368,550	n/a
Product C	$576 × 1.04 × 340 units = $203,674	n/a

Test your understanding 6

Stage 1: Managers should specify the activities that can be evaluated

The managers/researchers responsible for each project should decide which projects they wish to undertake in the forthcoming period. These projects will be a mixture of continued projects and new projects.

Stage 2: Each activity is described in a decision package

For the projects which have already been started and which the managers want to continue in the next period, we should ignore any cash flows already incurred (they are sunk costs), and we should only look at future costs and benefits. Similarly, for the new projects we should only look at the future costs and benefits.

Stage 3: Each decision package is evaluated and ranked

Different ways of achieving the same research goals should also be investigated and the projects should only go ahead if the benefit exceeds the cost.

Stage 4: Resources are allocated to the various packages

Once all the potential projects have been evaluated if there are insufficient funds to undertake all the worthwhile projects, then the funds should be allocated to the best projects on the basis of a cost-benefit analysis.

ZBB is usually of a highly subjective nature. (The costs are often reasonably certain, but usually a lot of uncertainty is attached to the estimated benefits.) This can be shown by the example of a research division where the researchers may have their own pet projects, which they are unable to view in an objective light.

Test your understanding 7

The revised budget should incorporate 3% growth starting from the actual sales figure of Quarter 1 and should include a figure for Quarter 1 of the following year.

	Quarter 2	Quarter 3	Quarter 4	Quarter 1	Total
	$	$	$	$	$
Sales	127,154	130,969	134,898	138,945	531,966

Test your understanding 8 – Preparing an ABB

Step 1	Identify cost pools and cost drivers.
Step 2	Calculate a budgeted cost driver rate based on budgeted cost and budgeted activity.
Step 3	Produce a budget for each department or product by multiplying the budgeted cost driver rate by the expected usage.

Test your understanding 9

D is the correct answer.

Situation A would be best suited by implementing Zero Base Budgeting. Situation B does not require ABB since it has relatively low overheads. Situation C would be suitable for incremental budgeting. ABB will certainly not be quicker.

Test your understanding 10

Capital expenditure is often long-term in nature. It is more useful to compare actual costs to forecast completion costs so that action can be taken when a project is in progress rather than waiting for completion.

Test your understanding 11

The mobile phone market is intensely competitive so a company will need sophisticated systems to gather information about the market and competitors. The market is also fast changing so a rolling budget approach may be suitable to keep budget targets up to date. It will be very important to incorporate the latest information into budgets and a participative approach will be important as production managers and sales managers may have local knowledge which would improve the budgeting process.

Test your understanding 12

Internal information will be required from the:

- sales department relating to volume and estimated collection periods
- the production manager will estimate material, labour and overhead usage
- the purchasing manager will estimate material prices and payment terms
- human resources will forecast pay rates, bonus payments and overtime requirements
- the finance office may forecast payments of interest, dividends and general office costs.

External information may be required relating to forecast interest rates, tax rates, payment terms for tax, exchange rates, inflation, etc.

Test your understanding 13

An analysis of overheads should be carried out to determine the proportion that have identifiable cost drivers which differ from the normal volume related cost drivers which may be used when carrying out incremental budgeting. If a substantial volume of overhead is non-volume related then implementing ABB may lead to more accurate planning and control.

Issues, which should then be considered include:

- the development or purchase of a suitable computer system to support an ABB process
- training of staff to operate and interpret the information produced
- development of an implementation plan and whether this should run in tandem with the existing process for a trial period.

Test Your Understanding 14 – Flexing Budgets

(a) 90% of capacity = 90% × 150,000 = 135,000 units

Stepped supervisor costs = 135,000/15,000 = 9 steps.

Material cost = 135,000 × $7 per unit = $945,000

Labour cost = 135,000 × $7.50 = $1,012,500

Fixed costs = $60,000

Stepped costs = 9 steps × $42,000 per step = $378,000

Total flexed production cost = $2,395,500

(b) 90% of capacity = 90% × 150,000 = 135,000 units

Fixed quality control costs $250,000

(135,000 smartphones/1,000 units) = 135 × 5 hours × $120 = $81,000

Total = $331,000.

(c) Statements 3 and 4 are correct.

It is a zero-based budget, not a flexible budget, which assesses all activities for their value to the organisation, so Statement 1 is incorrect..

A flexible budget will not be better or worse than a fixed budget in terms of including budgetary slack, so Statement 2 is incorrect.

Flexible budgeting can be time-consuming to produce as splitting out semi-variable costs could be problematic, so Statement 3 is correct.

Estimating how costs behave over different levels of activity can be difficult to predict, so Statement 4 is correct.