‘Capital budgeting is a decision process of assessing and analysing projects that require large sum of funds and deciding whether they should be included in the capital budget’. This process is of fundamental importance to the success or failure of the firm as the fixed asset investment decision chart the course of a company for many years into the future.
Evaluation and selection of long term investment is consistent with a firm’s goal of maximising shareholder’s wealth. Among the uses of capital budgeting are assessments of purchasing new equipments, acquiring new facilities, developing and introducing new products, and expanding into new sales avenues.
Capital budgeting decisions are very important because of the following:

- They represent large expenditure of firms
- They are tied up for lengthy periods of time
- They are difficult and costly to reverse
- Attachment of firm’s goal is highly dependent on those decisions

The main stages of capital budgeting procedure are as follows:

Identification stage: a company distinguishes which type of capital expenditure projects is necessary to accomplish an organisation’s strategic objectives.

Search stage: the identification of alternative capital expenditure investments that will achieve an organisation’s goals and strategies. Some alternatives may be rejected at this stage whilst others may be evaluated thoroughly in the next stage, which is the information-acquisition stage.

Information- acquisition stage: consideration of costs and benefits of each alternative identified in the information – acquisition stage. These consequences can be quantitative and qualitative. This stage involves setting project selection criteria (what method to use) and conducting sensitivity analysis.

Selection stage: choosing project(s) to implement based on the information provided in stage three. Managers choose projects whose predicted outcomes (benefits) most outweigh expected outcomes. Numerical decisions are re-evaluated by managers carefully in light of non-financial and qualitative factors.

Financing stage: in this stage the organisation seeks to obtain project funding. Sources of finance will normally include internally generated cash and the capital market. Available funds constrain project selection. The source of finance is often the responsibility of the treasury function of an organisation. The financing method used by the organisation determines the hurdle rate.

Implementing and control stage: to put the project in motion by monitoring and reviewing performance. As the project is being implemented, the company must ask the following questions?

Did the project meet its goals?
Did spending conform to projections?
Were estimates too optimistic?
Did the company encounter unforeseen problems in implementing the project?

As the project generates cash, it may be monitored and controlled by the use of post completion audit. This technique allows for budgeted results to be compared against actual results. It must be noted that the capital budgeting process is also influenced by behavioural, organisational and a diversity of other informal factors.

The original estimate may not be achievable because of the following reasons:

- Demand for the product
- Conservative estimates by managers(budget slack)
- Upturn in the economy(impact on inflation)

DEMAND ASSESSMENT

PRICE (£)	VOLUME PER REVENUE (UNITS)	REVENUE (£)	INCREMENTAL COSTS	CONTRI PER YEAR
10	0	0	100	-100
8	20	160	140	20
6	40	240	180	60
4	60	240	220	20
2	80	160	260	-100

REVISED MARKET
ASSESSMENT

PRICE	VOLUME PER ANNUM	REVENUE	INCREMENTAL COST	CONTRIBUTION PER YEAR
12	0	0	0	0
11	20	220	220	0
10	40	400	340	60
9	60	540	460	80
8	80	640	580	60

Using the revised market assessment, I was able to deduce the following results.

Note

The actual variable costs was used (£6) in this calculation
Therefore the variable cost for the optimal volume (60,000 units) will be £ 360,000
Annual incremental fixed cost= £100,000
Expected variable production cost =£6
Optimal output = 60,000 with price £9

Therefore net present value using a 12% discount rate and a five year life project

= -£200,000

+80,000 (PVIFA)

=£200,000+ (80000* 3.605)

= -£200,000 + 288,400
=+£88400

From the calculations it can be noted that the

''Post- audit is an objective and independent approval of the measure of success of a capital expenditure project in progressing the business as planned''. (C I M A 1984)

A post-audit is normally conducted by top management, in order to ascertain that a capital investment project fits the overall objective of the organisation. A survey of 690 firms carried out and published in 'The management Accounting' confirms that most companies have agreed on the importance of post-audits. One company's response to the survey was as follows:

Post- audits help evaluate;

- The financial and non-financial impact of the project on the company whether positive or negative'[a]
- ''how the actual results of the projects compare to data and assumptions included in the program request''
- ''Future actions that are necessary or expected regarding the project''

Put simply the aims of the post completion audits is to improve the quality of existing decisions and underlying assumptions, to improve the quality of future capital investment decision and as a basis for corrective action. The purpose of the post audit will be to assess whether the capital budgeting process has been fully utilised in the project been reviewed.

On the other hand any weaknesses that may be found by the analysts will be due to any one project or the capital budgeting systems of the organisation. The analysts may report back to the organisation about the problem and improvements that should be made.

Although the post completion audit is very useful to every day business, it has its problems.

PROBLEMS

- 'It may be difficult to separate the relevant costs and benefits specific to a new project from other company activities'. This may be due to failure to keep separate project accounts and/or because facilities are shared, causing a rise in common overheads.

- There are some projects which may have no prospects of being repeated again and therefore and therefore there may seem no point in post –auditing such projects. This is because the lesson learned will not be applicable to any other project. On the other hand it may useful to the company, as post-auditing will allow for management to gain insight into the capital budgeting system as a whole.

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[a] L. A. Gordon and M.D. Myers 'Post auditing Projects,''
Management Accounting January, 1991pp 39-42;

- The introduction of post-completion audits may involve interference with management information systems. This is in order to generate flow of suitable data. Firms tend to be selective when carrying out post audits, since post auditing every project may be expensive and time consuming.

- Projects not performing satisfactorily are most often selected for post-auditing. Selection methods are very biased and as a result project analyst may be cast in a bad light.

- There may be some lack of cooperation if the post audits are carried out in an inquisitorial fashion. This is because project sponsors may not cooperate fully or respond to the findings of the review team. This is why it is very paramount that investigators are impartial and competing members of another department are not asked to carry out the post completion audit. There may also be other forms of biases if other members of the personnel are asked to carry out the review.

- The post completion audits will encourage analyst to put forward safe projects especially if their predictive and analytical skill are going to be thoroughly scrutinised. They may be inclined to propose only "safe" projects where the chances of being caught out by unpredictable events are low.

- ‘The environment can be another factor which can have an effect on post-completion audits. Some projects can be duly affected by unpredictable swings in the market conditions. This can complicate the post-audit by obliging the review team to adjust analysts’ [b]forecasts to allow for "the moving of goalposts". A similar difficulty arises when project specifications are altered after approval, but before completion, perhaps due to changes in technical specifications.

Post-completion audits does have its benefits is not only full of problems.

- Project proposals are carefully researched
- Tightens internal controls
- Key variables are easily identified

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[b] Charles W. Neale
Post-completion Audits- Avoiding the pitfalls
Managerial Auditing Journal
Volume 10 number 1995 pp17-24

- Increases organisational learning related to current and future projects.

Even though post audits have a number of benefits, it is not without its limitations

- They are a very laborious exercise
- They serve as a confirmation rather than as a means of identifying problems
- High costs involved especially with large projects

- Difficulty in informing negligent behaviour to the responsible persons
- Knowledge obtained will be outdated by the time it is needed
- Impossibility of performing a post completion audit unless monitoring is affected

One of the main objectives of a manager is to maximise profit. More often than not, profitability may not mean the same thing to everyone. The most common measurements of profits are return on investment, residual income and economic value added.

Return on investment (R.O.I) can be defined as income (profit) divided by the investment required to obtain that income or profit. It also provides an overall approximation of the success of a firm's past investment policies by carrying out a post-audit. Kaplan and Atkinson (1998) also draw attention to the fact that '' without some form of measurement of the ex post returns on capital, there is little incentive for accurate estimates of future cash flows during the capital budgeting process.''

Another common measurement of profitability is residual income. Residual income can be defined as net income less imputed interest. The cost of capital refers to imputed interest; this is what the firm must pay if it has to acquire more capital.

Both measurements are commonly used by managers to measure the performance of a company, although some companies prefer ROI to Residual income.

The use of ROI and Residual income to evaluate the performances of divisional managers may cause a number of problems.

The aim of ROI is to maximise a company's rate of return by a percentage. Therefore if when performance is measured by the return on investment, managers who may be earning over 15% may be reluctant in investing in any capital projects which are less than that percentage. This is because if they did invest in any capital projects less than 15%, their average ROI will be reduced. Thus ROI can therefore lead to a lack of goal congruence.

On the other hand under residual income, the aim is to maximise residual income by an absolute amount. In this case when performance is measured by residual income, managers will invest in projects earning more than the imputed interest rate, thereby raising the firm's profits. This means that the residual income encourages goal congruence and managerial effort.

Residual income is very flexible, this is because

Bibliography

Management & Cost accounting