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The Capital Expenditure Decision

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Introduction

1. Capital expenditures are defined as investments to acquire fixed or long lived assets from which a stream of benefits is expected. Such expenditures represent an organization's commitment to produce and sell future products and engage in other activities. Capital expenditure decisions, therefore, form a foundation for the future profitability of a company.

2. Capital expenditure activities are made up of two distinct processes: (a) making the decision and (b) implementing it, which may include performing a post-appraisal. This Practice deals only with the first process.

3. The following material prescribes procedures to follow in making the capital expenditure decision. For purposes of presentation, it is broken up into three sections. Section 1 discusses the development of quantitative estimates. Section 2 represents the decision models. Section 3 describes the administration of the capital expenditure decision process.

4. The capital expenditure decision is derived from and is closely associated with strategic planning which is an effort by an organization to define its mission and goals and the policies and strategies it will follow to attain them.

Section 1 — Quantitative Estimates

5. Reliable estimates and forecasts are vital to the capital investment decision. A sophisticated process of analyzing financial information and managing the decision related to a project is of little value if a casual approach is taken to development of these estimates. The foundations for good capital planning are reliable forecasts of marketing opportunities, competitive technology, likely actions by competitors and governments, sales volumes, selling prices, operating costs, changes in working capital, taxes payable and capital costs of equipment. Effective management of capital expenditure decisions, therefore, requires that controls be designed and operated to ensure that projections are realistic at the time decisions are made.

6. The estimate of the costs and benefits of a capital project should show the difference that results from making the investment. The important information is the change in cash flows as a result of undertaking the project, i.e., the differential principle.

7. The degree of precision necessary for the estimates related to the capital expenditure decision depends on:

    a) the stage of evaluation of the project (i.e., in early stages less precision is needed),

    b) the sensitivity of the project's economics to the level of accuracy and timing of each of the elements within the estimates, and

    c) the similarity of the project to others already undertaken.

Fixed Investment Estimates

8. Fixed investments consist of all the costs necessary to bring the project to full operation. These include the equipment costs, installation, training, commissioning, initial spoilage, spare parts inventory, etc. The capital investment in a project can usually be estimated with greater precision than the other factors required for the capital expenditure decision, primarily because capital investments occur in the near future whereas operating costs and revenues are incurred over the life of the project.

9. The simplest means of estimating capital costs is to adjust the known investment of a project of similar nature. The most complex means of estimation requires a detailed project plan from which the costs of individual items and other costs are developed. In between, various yardsticks may provide adequate approximations of investment required. For example, the cost of a building may be approximated by the estimated cost per square foot to construct the building times the estimated square footage of the building.

10. In lieu of firm bids from manufacturers and suppliers, quick estimates can often be obtained without involving a great deal of their time as published information is often available.

11. If the project will result in the replacement of existing equipment, the net cash inflows or outflows from the removal and disposal of that equipment, including the tax implications, should be taken into account.

Working Capital Estimates

12. The analysis includes estimates of all investments required for a project. The project may require increases (or decreases) in cash, accounts receivable, accounts payable, or inventory. These changes in working capital should be included in the calculation as should the changes to these at the end of the economic life of the project.

The Planning Horizon — Economic Life

13. It is often difficult to estimate the life of a project (i.e., its planning horizon). The criterion is the continued ability to generate satisfactory cash flows or other intangible benefits. The economic life of a project is the lesser of its physical life, technological life or product-market life.

Physical Life

14. Physical life represents the time taken for an asset to become physically worn out so that it can no longer be efficiently maintained and must be replaced. However, equipment will often be disposed of before its physical life has expired.

Technological Life

15. Technological life is the period of time that elapses before an even newer machine or process becomes available which would make the proposed machine or process obsolete. Improvements will almost certainly be made sometime in all machines or processes now in existence, but questions of

which machines or processes will be improved, and how soon they will be on the market are most difficult to answer. To ignore a process' or machine's technological life is to imply that the technological life is the same as the physical life.

Product — Market Life

16. Although a machine may be in excellent physical condition, and although there may be no better machine on the market, its economic life has ended for the organization as soon as it ceases to market the product. The product-market life of the machine may end because the particular operation performed by the machine is made unnecessary by a change in style or because the market for the product itself has disappeared.

17. The projected economic life of the return on investment is particularly important if the project lasts for a relatively short period, say ten years or less, and is less important for longer projects. It is therefore particularly important that special consideration be given to estimates of economic life if there is a high probability that the economic life may be short.

18. Because of the inherent uncertainties of making estimates in distant years, especially estimates related to sales volumes, some organizations set an arbitrary limit on the planning horizon to be used in the analysis. This planning horizon can be shorter than the estimated economic life of the project; in some organizations, it is ten years. In some organizations, cash flows beyond this planning horizon are disregarded in the interest of conservatism or if not significant to the project. Other organizations apply an arbitrary estimate of value for the benefits beyond the planning horizon.

Market Estimates

19. Some methods of developing market estimates are discussed in the following paragraphs.

Market Study

20. A market study forecasts sales revenue through the life of a project. It should describe fully all aspects of the company's position in the market and estimate the degree of marketing risk associated with the venture. It provides information on demand, supply and price trends in the overall market, and specific forecasts of market share, sales volume, net returns and selling costs, as well as what competitors are or may be doing in the market place.

21. Usually, this forecast proceeds from stated assumptions regarding the economic environment and general business conditions, to estimates of total market, subdivided by end-use, region, and major customer, and then concludes with estimates of specific sales potential available within that market.

22. When developing sales forecasts, consideration should be given to the possible obsolescence of products or services. Such items have a life of only a few years, so that organizations must compete, not necessarily on the basis of being the low-cost producer, but by being product innovators. The demand

forecast must, therefore, consider: frequent introduction of new products, timely delivery, and flexibility in the production process to adapt to customer preferences. Such considerations must also be factors in the selection process for capital equipment.

23. Significant relationships between an organization's sales and economic indicators for the market as a whole, or other industry statistics, may be determined by using correlation analysis.

24. An alternative way of projecting sales is to use internal sources of data, such as information supplied through salesmen's call reports, supplementary information developed through interviews of market researchers, credit statistics, and general knowledge of the customer and his or her competitive situation.

25. Either method may produce a set of possible outcomes to which a probability figure could be developed. The appropriate figure to use is a weighted average[1] of the possible outcomes. It is known as the expected value. However, in many projects such a probability distribution is either not feasible or not worthwhile.

Competitive Factors

26. The demand forecast should indicate the competitors and their market share. The productive capacity in existence and potentially available would then be assessed in relation to the forecasted demand to show the volume and timing of expansion needs. Competitors' expansion possibilities and economics should also be considered along with their product and technology life cycles.

Price Estimation

27. The estimation of price trends is frequently the most difficult area of market forecasting. However, analysis of the supply/demand balance and estimation of competitors' economics can provide a guide. The elasticity of demand in relation to the price may also be considered. A careful study of the product life cycle is often needed since, in the early development stages of a new product, the price is often high; it falls as demand levels off at maturity, and then declines further as new substitutes appear on the market.

The Organization's Position in the Market

28. The analyses of supply, demand and price are consolidated into specific forecasts of market share, sales volume and annual cash inflow through the project's expected life. In addition, it is important to state the major assumptions, the reliability of the market data and, if worthwhile, attach confidence limits to the forecasts. By doing so, the degree of marketing risk associated with the project is conveyed, and the sensitivity of the project to inaccuracies in the marketing appraisal can be evaluated.

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[1] The weighted average is found by multiplying each outcome by its probability, calculating the total and then determining the average.

Operating Cost Estimates

29. When estimating operating costs for capital expenditures, the following should be kept in mind:

    a) Only cash costs after the payment of tax on income[2] are relevant; non-cash expenses such as depreciation are excluded except to the extent they affect taxable income.

    b) Only future costs are relevant. Historical costs may be useful in terms of providing a basis for prediction, but they do not represent what future costs will be.

    c) Only differential costs are relevant. This means that only the difference in cash operating costs between implementing or not implementing a proposal need be considered.

Labor — Associated Payments, etc.

30. Labor costs should include, in addition to the direct wage rate, overtime and all associated payments and benefits.

Labor — Savings from Reducing Time Required of Individuals

31. Labor savings often result from the saving of part of several individuals' time.

32. Over the long run, it would normally be expected that the time set free for these individuals could be productively utilized elsewhere or that the aggregate saving in time will cause reduction in the number of employees.

Efficiency Improvement

33. Cost reduction projects often include improvements in efficiency which either reduce material consumption or increase output. The additional output should be valued at the probable profit which can be realized.

Services

34. The differential cost of services, (e.g., utilities, transport, computer services) often present problems. An investment proposal may result in the consumption of fewer services due to efficiency improvements. In such a case, the effect on a project's differential cost depends upon what can be done with the unused service. If any cash costs associated with keeping the service at the level prior to the investment can be eliminated, then the amount involved can be treated as a cash cost saving (negative cost). If the freed-up service can be used elsewhere and would have to be bought for this other use, then the amount saved by not having to buy for this other purpose would be

[2] Taxes on income can have a significant influence on the decision as they impact on the amount and timing of cash inflows or outflows. Variations in tax laws throughout the world prevent discussion of this topic in this practice. However, the reader should be aware of its significance and adjust calculations accordingly.

a cost saving of the investment. If the freed-up service cannot be used elsewhere and must still be paid for, then there would be no incremental cost saving for the investment (the cost would continue whether or not the investment was made).

Maintenance

35. Maintenance costs should normally be the cost expected to be incurred in each year of the life of a project. Sometimes the use of an average may be justified. An average will sometimes be a greater amount than the maintenance cost in the initial years. Provision should also be made, as appropriate, for periodic overhauls. Estimates should also be made of the incremental costs for maintenance material and operating supplies.

Depreciation

36. No amount for depreciation should be included in calculating the cash flow since this is an allocation of the investment cost required to match expenses against revenues over the life of the investment. It does not require a cash outflow each year. In capital budgeting, the cost of the investment is taken into account when cash outlays or their equivalent take place. If depreciation were counted in determining cash flows, the investment cost would be inappropriately double counted. However, in the determination of taxes on income allowances for depreciation should be considered.

Property-Related Costs

37. Certain insurances and taxes are related to investment costs and should be estimated accordingly.

Plant Administration, Service Departments, etc.

38. If an organization is expanding, plant administration and service departments also expand, but such expansion may not be directly attributed to individual capital investment projects. Nevertheless some allowance for the cost of expansion is needed. It is suggested that general ratios may be applicable to most appropriations being prepared at a time. Periodic revision of these ratios is necessary.

Estimating Terminal Values (Salvage, Trade-in or Disposal Values)

39. The terminal value of a capital asset at the end of its useful life should include disposal values less the dismantling and/or site restoration costs plus the release of any associated working capital.

Estimating the Effects of Inflation

40. The effect of inflation on a capital project is to reduce the purchasing power of net cash flows over time.

41. Several techniques for recognizing the effect of inflation are used in practice. They include:

a) use of a discount rate that is high enough to incorporate inflation,

b) adjusting all cash flows by a single percentage that allows for inflation, or

c) adjusting individual cash flows by rates that include the effect of inflation on each of them.

42. The first technique is perhaps the most common. Care must be taken to insure that the effect of inflation is not double counted, which can happen if two of the above methods are used together.

Risk Analysis

43. Risk exists in capital budgeting when more than one outcome may occur. A quantitative evaluation of a capital expenditure proposal requires that several predictions be made, often far into the future. As a general rule, the risk associated with achieving an expected cash inflow or outflow in a given year increases as one moves further into the future as there are more factors in the long term which cannot be foreseen but which will affect cash flows.

44. Most organizations do not make a specific allowance for risk. Some, however, provide the following information:

a) the range of accuracy for the estimate stated as a plus or minus percentage,

b) the expected value of the estimate based on a weighted average of all possible outcomes, and

c) the effect on the appraisal results using the widest range of error. Of particular interest is the amount by which a key variable can be varied before the project fails to meet its decision criterion, all other things being held constant.

Section 2 — Decision Models

Evaluation Techniques

45. Several techniques are available to arrive at a financial decision regarding a capital expenditure project. These include:

a) the net present value method. This method discounts all cash flows to the present using a predetermined minimum acceptable rate of return as the discount rate. If the net present value is positive, the financial return on the project is greater than this minimum acceptable rate and indicates the project is economically acceptable. If the net present value is negative, the project is not acceptable on economic grounds.

b) the internal rate of return method. The internal rate of return is defined as the discount rate that makes the net present value of a project equal to zero. It is the highest rate of interest that a company could incur to obtain funds without losing money on the project.

c) the equivalent annual cost method. When considering alternative proposals, it may be that only costs are involved. In such situations, a choice of alternatives can be made by determining which has the lowest equivalent annual cost. Under this method, capital expenditures are converted to their "equivalent annual cost" and added to the annual "operating" costs. Equivalent annual cost is the annual amount that would repay the capital over the life of the project at a specified discount rate. It is similar to an annual, level repayment schedule for a mortgage. The alternative with the lowest total cost would be the most attractive (ignoring intangibles).

d) the payback method. This method estimates the time taken to recover the original investment outlay. The estimated net cash flows from a proposal for each year are added until they total the original investment. The time required to recoup the investment is called the payback period. Projects with a shorter payback period are preferred to those with longer periods.

e) the discounted payback method. The discounted payback period is the number of years for which cash inflows are required to (a) recover the amount of the investment and also (b) earn the required rate of return on the investment during that period. In this method, each year's cash inflow is discounted at the required rate of return, and these present values are cumulated by year until, their sum equals, the amount invested. Projects with a shorter discounted payback period are preferable to those with longer periods.

f) the accounting rate of return method. The accounting rate of return is a measure of the average annual income after tax over the life of a project divided by the initial investment or the average investment required to generate the income. It is important to note that this method assesses net income and not cash flows which are used in the other methods.

46. The internal rate of return, discounted payback, net present value and equivalent annual cost methods use discounted cash flows (DCF). The DCF concept considers the time value of money in making investment decisions, whereas the other methods do not.

47. The payback method (or discounted payback method) is useful where:

a) preliminary screening of many proposals is necessary;

b) a weak cash position has an important bearing on the selection of projects;

c) the proposed project is extremely risky; or

d) projects, such as routine replacement projects, have similar economic lives.

48. When the payback method is used, the required payback period should be consistent with that developed by applying the required rate of return on projects with similar characteristics.

49. The accounting rate of return method is useful when management is especially concerned with the effect of a large capital investment on reported financial results.

Ranking of Capital Expenditure Projects

50. Many organizations have several proposed capital projects which are economically acceptable, but they have only limited financial resources. Thus the entity must rank the projects and select those that promise the higher returns.

51. At any given time, management is likely to be considering several projects at various stages of refinement. At each stage in the evaluation process, proposals are assessed and accepted into the next stage, referred back to the sponsor for further work or rejected. A ranking procedure should be used at each stage. Ranking projects on the basis of quantitative criteria may be established by specifying a minimum desired rate of return on a project. This minimum rate is called the required rate of return (also the discount rate or the hurdle rate). This rate is used to calculate the net present value of each project and to rank them accordingly.

52. The internal rate of return and net present value methods are also used to resolve the capital rationing problem. If the internal rate of return method is used, the higher the rate of return, the better the project. If the net present value is used, it is necessary to first divide the present value of the cash inflows by the amount of the investment. The higher the resulting number, called the profitability index, the better the project.

Selection of the Required Rate of Return

53. In selecting the required rate of return to evaluate capital expenditure proposals, two approaches are widely used: calculating a cost of capital, or use of a number generally accepted by the industry.

54. In theory, the required rate of return on a project of average risk should be at least as high as the organization's cost of capital.

Non-Quantitative Evaluation Considerations

55. Qualitative or policy considerations may override quantitative criteria in the ranking or acceptance of projects. Some examples of qualitative considerations are:

    a) relationship to business strategy;

    b) product line or location and its significance to the enterprise;

    c) timing of fund flows from the project versus the timing of fund flows required;

    d) management, technical engineering and marketing capacities or constraints; and

    e) balance desired in spending by product classification.

Projects may be worthy of approval on such non-financial grounds as protection of company property, employee health and welfare or to comply with government regulations in such areas as pollution.

Government and Nonprofit Organizations

56. The capital expenditure process for government and nonprofit organizations is conceptually similar to that in for profit organizations, and although the method of estimating costs and benefits is also similar, there are important differences in measuring benefits.

57. If feasible, government and nonprofit organizations attempt to measure both financial and social benefits. Social benefits can be difficult to quantify but include:

    - direct benefits that accrue to the taxpayer or member, and
    - indirect benefits that accrue to individuals or groups that may or may not be taxpayers or members.

58. The required rate of return on government or nonprofit funds is the return on alternative uses of these funds. The methods used to evaluate capital expenditure proposals are the same as the ones described above.

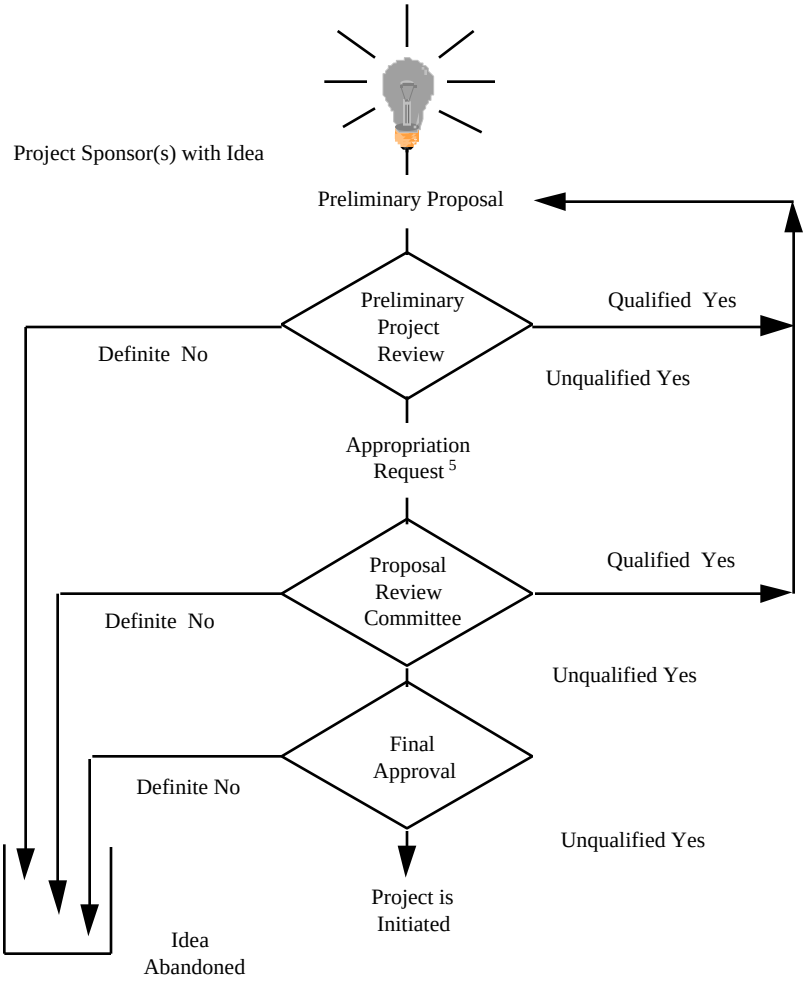
Section 3 — Administration of the Capital Expenditure Decision

59. Figure 1 depicts, in general terms, the process which an organization may use in making the capital expenditure decision.[3] This Practice describes only the decision making process (i.e., up to the "final approval" decision).

[3] For the capital expenditure decision, it is important that the project be comprehensively and fully defined. This is intended to prevent avoidance of approval limits or making relatively low initial investments which require larger follow-up investments for which no yes/no decision can be made at that time.

Figure 1

The Capital Expenditure Decision[4]



[4] Smaller or routine capital expenditure projects may not require such a formal approach.
[5] In some systems this document is labelled "Project Proposal."

Policy Manual

60. Each proposed capital expenditure competes for, and should justify its share of, the limited resources available. Formal procedures and rules should be established to assure that all proposals are reviewed fairly and consistently. Managers and supervisors who make proposals need to know what the organization expects the proposals to contain, and on what basis their proposed projects will be judged. Those managers who have the authority to approve specific projects need to exercise that responsibility in the context of an overall organizational capital expenditure policy [as approved by the Board of Directors or senior managers where appropriate].

61. The management accounting function, which has the task of developing the internal controls in an enterprise, also has the responsibility for coordinating the input of the various functional groups and obtaining approval of this policy manual.

62. The policy manual should include specifications for:

    a) **an annually updated forecast of capital expenditures.** This project by project forecast should cover a period of three to five years and should include: previous expenditures for approved projects, expenditures for the current budget year, a forecast of the capital expenditures required for the following two to four years, and the supply (both internal and external) of funds in the ensuring year.

    b) **the appropriation steps.** These should be sufficiently detailed to ensure that the proposal and approval procedures are identified in a consistent and orderly manner. The procedure for a revision to a previously approved capital expenditure application should also be specified.

    c) **the appraisal method(s) to be used to evaluate proposals.**

    d) **the minimum acceptable rate(s) of return on projects of various risk.** Normally, this provides guidelines rather than an absolute requirement, because not all projects are evaluated solely in terms of financial benefits.

    e) **the limits of authority.** Here the specification of the appropriate managers attesting to the desirability of the project in relation to the responsibility of these managers should be required as the basis for their accountability.

    f) **the control of capital expenditures.** The manual should indicate who is responsible for controlling capital expenditures once the project is approved and authorizing capital expenditures against authorized amounts.

    g) **the procedure to be followed when accepted projects will be subject to an actual performance review after implementation.** As a minimum, the policy manual should specify the expenditure limit above which a review will be required; the time it will commence after completion of the project; and by whom it will be undertaken.

Preliminary Project Review

63. The first formal step in the capital expenditure decision is a preliminary project review. This assessment is often needed:

    a) to give early consideration of and guidance to a project which could result in an appropriation request and to provide an early screen for ideas not worthy of pursuit,

    b) to minimize the lead time to implement a promising project, and

    c) to coordinate activities associated with a project.

64. An appropriate project sponsor should be identified who should ensure that all required documentation contains the information needed to reach a decision on the preliminary proposal. The organization's policy regarding the preparation of estimates for capital expenditure proposals should encourage managers to seek out and use the expertise of others who can help in the derivation of cash flows.

The Appropriation Request

65. Of all the documentation required in the capital expenditure decision, the appropriation request is the most important since it is from this document that a decision is to be made. It is the request for authorization to spend money.

66. The appropriation request is also used to provide information as to the expected timing and amount of cash inflows and out-flows.

67. Management accounting personnel are usually responsible for coordinating and compiling information with the aim of prompt completion and issue of the appropriation request. Marketing, technical, production and engineering staff, and others may make a considerable contribution. While sponsors of projects must take ultimate responsibility for preparation of the appropriation request, the responsibility for development of the report on their behalf should be defined. The management accountant, as an objective member of management is well placed to fill this role.

68. Decisions on major appropriations are taken at senior management levels, and by the Board of Directors, as they have far-reaching implications on the future profitability of the company. These persons who are involved in the final decision cannot be expected to have an intimate knowledge of all aspects of a project. Consequently, they rely heavily on the facts, estimates, and appraisal contained in an appropriation request.

69. Appropriation requests should be prepared for all capital expenditures above a minimum amount and should also be required for major expense items such as non-routine repairs.

70. In addition, appropriation requests are required for supplemental funding when original estimates have been exceeded, and for retirement requests for assets no longer required.

Appropriation Request Documentation

71. The information included in an appropriation request should be designed to show:

    a) the purpose, by a brief description of the project;

    b) the timing and amount of the operating cash flows expected;

    c) the timing and amount of the investment required and expected net salvage value, if any, at the end of its useful life and the degree of accuracy of the estimates;

    d) the major assumptions that bear on the accuracy of the cash flow estimates;

    e) the economic desirability of the project, and the sensitivity of the discounted cash flow rate of return after tax to changes in the basic data;

    f) a review, if appropriate, of the alternatives to the project and the impact on the economics of the project;

    g) implications of not proceeding with the project;

    h) the financing method or availability of internally generated funds to underwrite the project; and

    i) the actions recommended.

72. The appropriation request would give a concise, readable picture of the whole project. It would indicate why the project was proposed, why it should be carried out at the present time, and why it should be done in the way proposed. It should also show linkages to the strategy, goals and objectives of the enterprise and to any concurrent projects or programs which bear on the project.

    Examples of reasons for capital expenditures are:

    - expansion,
    - maintenance of the current level of activity,
    - cost reduction and/or quality achievement,
    - replacement,
    - modernization,
    - research and development,
    - protection of property,
    - to meet legal requirements, and
    - safety and health.

    The classification would be tailored to each organization's needs. The first five examples lend themselves to a DCF analysis while expenditures for the last four are often assessed on more qualitative grounds.

73. There is generally more than one method of carrying out a project, and alternatives should be examined to assess the effect of differences in cash flows, investment costs and other factors. The report should show that the best alternative has been selected. Also the carrying out of the project under

review may preempt the carrying out of another project and this should be clearly stated.

74. The report should be logically arranged so that facts lead to conclusions and arguments are progressively developed. Evidence should be given of the adequacy and completeness of the facts and the degree of accuracy of the estimates.

75. The appropriation request should include a market report when a) a change in quantity or quality of product is involved, b) an investment is required to maintain the existing quantity or quality of a product, or c) there is a change in the market for an existing product. The content of this report is described in paragraphs 19 to 28.

76. The appropriation request should include an engineering and production report for projects involving installation of plant facilities. It should contain all data necessary for assessment of the physical nature of the undertaking, the investment involved and the yields, efficiency and cost of the output from the new facilities. Capacity to be installed by the project under review should be shown. Where an addition to existing capacity results, the total installed capacity before and after the expenditure should be indicated. A reader should be able to accurately assess the extent of any technological risk associated with any new equipment involved in the project.

77. When appropriate, a research and development report should accompany the appropriation request. It should present a concise summary of the status of the organization's knowledge and define the uncertainties with regard to technology related to product or processes involved in the project.

78. Where new appropriations free existing assets, a retirement request should accompany and form part of the appropriation request.

79. Retirement requests should clearly indicate if the asset is to be sold or retained for future use. If retained, a justification is required for retention compared to disposing of the asset for cash. Sound financial management requires that assets no longer required be sold and the cash obtained used to earn a return elsewhere in the organization.

80. A retirement request should state why the assets were no longer required, and should indicate their original cost, age, dismantling costs and expected salvage value. This would guide the decision maker on the reasonableness of the value to be obtained on disposal.

81. The value on disposal also presents problems in determining the levels of authority for approval. Practice seems to favor use of original cost for determining the level of approval.

82. Exhibit 1 is an example of a cover page of an appropriation request.

Review and Approvals

83. Certifying signatures are used to assist the ultimate decision maker in determining whether to approve the expenditure. Certification may be partial or complete; a partial certification contains any qualification on the project's desirability. For example, the engineering department certifies that the

proposal will meet the organization's engineering standards, and that the capital cost estimate is accurate. The production manager similarly certifies the physical production data, capacities, yields, efficiencies and production costs. The sales manager certifies the market data, sales volume and selling prices. Signatures of controllers, treasurers, general managers and presidents certify their opinion as to the total financial and overall desirability of the proposed expenditure.

Benefits of Documentation

84. Formal procedures for initiating, preparing, reviewing and approving appropriation requests have several advantages:

    a) Standard terminology, estimating techniques and methods of appraisal enhance the comparability of appropriations originating in different parts of the organization.

    b) The requirement that certain facts appear in support of each type of appropriation, that the reasons for the appropriation are set forth in a report and that the report is to be reviewed by the principal managers of an organization, all tend to promote increased objectivity.

    c) Encourage decisions to be made in the same manner throughout the organization and that authorities for approving expenditures can be delegated with greater confidence.

    d) Standardization of appraisals enables senior management to concentrate on the strategic and intangible aspects of major expenditures as it is these aspects which often have the greatest impact on the long-term future of the organization.

Exhibit 1

The Appropriation Request (Cover Page)

Title, Objective and Description of Project:	Number: Review # Department: Location:
Amount included in — Expense $ — Capital $ Budget for this project $	Date: Expected Start-up Date: Date of Completion:

OBJECTIVE AND SUMMARY OF SUPPORTING DATA:

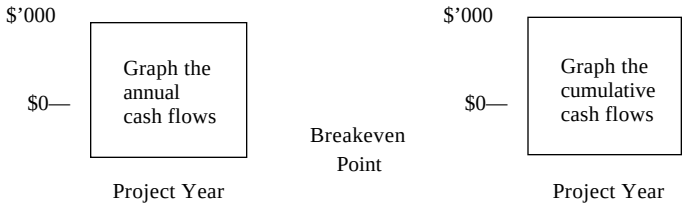
APPRAISAL INDICATORS:		**INVESTMENT ($'000)**
D.C.F. (after tax) Rate of Return (%) NPV ($) Equivalent annual costs ($)		Pre-construction . . . . . .$
		Initial cost — bldgs. . . . . . — equip. . . . .
		Working capital . . . . .
Payback in years (after tax)		Additional Manpower. . . . .
Capacity Utilization Assumed		Impact on Overall Costs . . .
		Future Obligations . . . . .
Economic Life of Project (years)		**TOTAL . . . . . $**

(Authorized Signature)

Exhibit 1

The Appropriation Request (Cover Page)

CASH FLOW PROFILE



(Fiscal year commencing 19)

SENSITIVITY ANALYSIS **Comments**

Variable	Estimate	Estimate Range	NPV Effect $M
Fixed capital	$M		
Working capital	$M		
Sales price —	$/kg		
—			
Sales volume —			
—			
—			
Processing costs	$M		
Raw material cost	$/kg		
Project life	Yrs.		

REVIEW AND APPROVALS

TITLE	SIGNATURE	DATE	ACTION (RECOMMEND, REVIEW, APPROVE)