



GALGOTIAS
UNIVERSITY

**School of Computing
Science and Engineering**

Program: BCA

Course Code: BCAS3006

Course Name: Software Project
Management

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STRATEGIC ASSESSMENT

- SAM(model)decomposes a strategic problem into clearly defined components in which all alternatives, factors, weights, and probabilities are depicted. Next, objective information and subjective judgements of experts are integrated by utilising several methods of problem structuring and information processing.

STRATEGIC ASSESSMENT

- SAM divides the decision making environment into three parts:
- *Internal environment*: the set of relevant factors that form the profile of the internal operations of the organization.
- *Task environment*: The set of relevant factors that have direct transactions with the organization. The influence between these factors is reciprocal, and
- *General environment*: The set of relevant factors that can exert considerable influence on the organization. The organization, however, has little or no impact on such factors.

STRATEGIC ASSESSMENT

- The process consists of eight steps and uses an algebraic model together with a *software version ("Expert Choice") of Saaty's Analytical Hierarchy process (AHP) to calculate risk adjusted strategic values for each alternative. The eight steps are:

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STRATEGIC ASSESSMENT

- Generate strategic alternatives. (Brainstorming etc.) Alternatives are the set of potential means by which the stated objectives may be obtained. There must be at least two mutually exclusive alternatives in the set to permit a choice to be made.
- Identify the relevant (those which can be exploited by the strategic alternatives) opportunities and threats and group them into internal, task and general sets of environmental factors.
- Define environmental weights (using AHP)
- Calculate the initial weights associated with the opportunities and threats.

STRATEGIC ASSESSMENT

- Develop subjective probabilities for each alternative.
- Calculate the overall importance weight for the opportunities and threats.
- Measure the Decision-Maker's risk-aversion constant for the opportunities and threats (using certainty equivalence rather than gain or loss equivalence)
- Calculate the risk adjusted strategic value for each alternative.

TECHNICAL ASSESSMENT

- Assessment (analysis and normative evaluation) of a particular technical device, system, or procedure with regard to a defined set of criteria, goals or objectives

COST BENEFIT ANALYSIS

Cost-benefit analysis (CBA), sometimes called **benefit-cost analysis (BCA)**, is an economic decision-making approach, used particularly in government and business. CBA is used in the assessment of whether a proposed project, programme or policy is worth doing, or to choose between several alternative ones. It involves comparing the total expected costs of each option against the total expected benefits, to see whether the benefits outweigh the costs, and by how much

COST BENEFIT ANALYSIS

Cost–benefit analysis is often used by governments and others, e.g. businesses, to evaluate the desirability of a given intervention. It is an analysis of the cost effectiveness of different alternatives in order to see whether the benefits outweigh the costs (i.e. whether it is worth intervening at all), and by how much (i.e. which intervention to choose). The aim is to gauge the efficiency of the interventions relative to each other and the status quo

COST BENEFIT ANALYSIS

- **Time**
- CBA usually tries to put all relevant costs and benefits on a common temporal footing using time value of money formulas. This is often done by converting the future expected streams of costs and benefits into a present value amount using a suitable discount rate. Empirical studies suggest that in reality, people do discount the future like this.

Risk and Uncertainty

- Risk associated with the outcome of projects is also usually taken into account using probability theory. This can be factored into the discount rate (to have uncertainty increasing over time), but is usually considered separately. Particular consideration is often given to risk aversion - that is, people usually consider a loss to have a larger impact than an equal gain, so a simple expected return may not take into account the detrimental effect of uncertainty.

CASH FLOW FORECASTING

- **Cash flow forecasting** is a key aspect of financial management of a business, planning its future cash requirements to avoid a crisis of liquidity.
- cash flow forecasting is the modeling of a company or entity's future financial liquidity over a specific timeframe. *Cash* usually refers to the company's total bank balances, but often what is forecast is treasury position which is cash plus short-term investments minus short-term debt. Cash flow is the change in cash or treasury position from one period to the next.

CASH FLOW FORECASTING

- Uses
- A cash flow projection is an important input into valuation of assets, budgeting and determining appropriate capital structures in LBOs and leveraged recapitalizations.

Cost – Benefit Evaluation Techniques

- **Net Profit**
- **Payback Period**
- **Return on Investment**

Cost – Benefit Evaluation Techniques

- **Net Profit**
- The net profit of a project is the difference between the total costs and the total income over the life of the project.

Cost – Benefit Evaluation Techniques

- **Payback Period**
- The payback period is the time taken to break even or pay back the initial investment. Normally, the project with the shortest payback period will be chosen on the basis that an organization will wish to minimize the time that a project is 'indebt'.

Cost – Benefit Evaluation Techniques

- **Return on Investment**
- The return on investment (ROI), also known as the accounting rate of return (ARR), provides a way of comparing the net profitability to the investment required. There are some variations on the formula used to calculate the return on investment, but a straightforward common version is

Cost – Benefit Evaluation Techniques

- **Return on Investment**
- $ROI = (\text{average annual profit} / \text{total investment}) * 100$
- E.g. Calculating the ROI for project 1, the net profit is 50,000 and the total investment is 100,000. The return on investment is therefore calculated as
- $ROI = (\text{average annual profit} / \text{total investment}) * 100$
 $= (10,000 / 100,000) * 100 = 10\%$

Cost – Benefit Evaluation Techniques

- **Advantages:**

The return on investment provides a simple, easy to calculate measure of return on capital and is therefore quite popular.

- **Disadvantages:**

Net profitability, it takes no account of the timing of the cash flows. It is tempting to compare the rate of return with the current interest rates. However, this rate of return bears no relationship to the interest rates offered or charged by banks since it takes no account of the timing of the cash flows or of the compounding of interest. It is potentially misleading.

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For any Doubts or Queries

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Thank You