Cost Benefit Analysis

Specification requirement— Cost benefit analysis (CBA) – the concept of private and public costs and benefits. Strengths and weaknesses of CBA in practice.

Cost-benefit analysis (CBA) is a method for measuring in financial terms the **costs** and **benefits** of an investment project.

When carrying out a cost benefit analysis on a potential investment project, there are a wide range and variety of costs and benefits to be identified and given a value. We can divide these costs and benefits into two groups, Private Costs and Benefits and Public Costs and Benefits.

Private Costs

These costs are costs the firm making the investment has to bear, they will include such things as training and recruitment costs, purchase of new capital equipment, marketing costs etc.

Private Benefits

Private benefits are benefits that the firm gains from as a result of making the investment. These benefits will include things such as increased productivity, sales, brand values and increased profits.

Public Costs.

These are costs external to the firm making the investment. A building company, will have an environmental impact as it builds houses—increased traffic, noise etc. A farm extracting water from a river to irrigate its crops leaves less water further downstream for fishing. A new factory may involve the lass of open space and so on.

Public Benefits

These are benefits external to the firm making the investment, but that result from making the investment. An obvious external benefit from a large scale investment would be jobs created, but the public benefits are not limited to the jobs created, those in work spend more money, so further jobs are created, the employees pay tax, so the government gains. In areas where employment is higher, crime and social problems are reduced, so we see another type of public benefit.

Valuation of Public Costs and Benefits

The financial valuation of private costs and benefits may be relatively straight forward. But the Cost/Benefit process will also involve identifying and measuring the public costs and benefits, and these positive and negative externalities of business activity may be difficult to identify and value. To use a local example, when the redevelopment of Cardiff Bay was being considered valuations were placed on the public cost / negative externality of lost feeding grounds for wading birds, and on the public benefit / positive externalities of improved environment, views and landscape.

Intangibles

Any cost/benefit analysis carried out by a firm is likely to involve trying to place a value on intangible benefits that may occur as a result of a business investment. For example, a product manager may compare the tangible costs/benefits of the manufacturing and marketing expenses to the projected sales revenue for a proposed product, and only decide to produce it if he expects the revenues to eventually recoup the costs, but to complicate matters during the CBA process the manager will need to place monetary values to less tangible effects such as the risks involved , potential loss of reputation of the firm if the product fails, market penetration, long-term strategy benefits (achievement of objectives), development of brand etc.

Cost/Benefit Process.

The cost/benefit analysis process will include a number of stages. These are:

Stage 1: Identify all costs and benefits that are likely to arise as a result of the investment project. For a firm third party effects i.e. externalities are likely to be ignored, but there will be intangibles that need to be identified.

Stage 2: Convert all costs and benefits including intangibles into monetary value.

Stage 3: Apply probability analysis (e.g. decision tree analysis) to the benefit or costs occurring.

Stage 4: Take into account of the timing of each of the costs and benefits (apply a discounting method such as NPV). A £15,000 benefit now is worth a great deal more than £15,000 benefit in 10 years time

Stage 5. If **discounted benefits** are greater **discounted costs**. Then the project is viable. It may go ahead or may be dropped in favour of another project where the difference between costs and benefits is greater.

Failings with Cost Benefit Analysis

- Valuation of intangibles will be difficult and often based on value judgements– one person's or manager's calculation of an intangible benefit is likely to differ from another person's, who has a different set of views on what is important for a business.
- Externality valuations involve giving monetary value to often strange and peculiar occurrences. In the Cardiff Bay example, the loss of a local feeding grounds for Oystercatchers was given a value.
- Also time value of money is difficult to get right—is the correct discount value being applied?

Examples of how strange Cost Benefit Analysis in practice can be.

The consulting group Arthur D. Little, in a CBA study for the Czech Republic, concluded that encouraging smoking among Czech citizens was beneficial to the government because it caused citizens to die earlier and thus reduced government expenditures on pensions, housing, and health care.

In another study, analysts calculated the value of children's lives saved by car seats (benefit), but as a cost measured the amount of time required to fasten the seats correctly and then assigned this a value based on the mothers' actual hourly wage. The final judgement made was the costs in time were greater than the benefits of lives saved.

Notes.