Capital Investment Appraisal (capital budgeting) (Week 8-9)

This is one of the most important areas of FM, as investment decisions are made. The reason is that decisions involve investments in new machinery, new plant, property and similar long term assets and also in the share of businesses, irrespective of whether the investment is for an individual or a company.

Objectives of CIA

- Understand the nature and importance of capital budgeting
- Identify the main methods of CIA
- How to apply each of the different methods
- Discuss the relative merits and demerits of each method

The nature of investment decisions

Investment involves the making of an outlay of something of an economic value, usually cash, which is expected to yield useful economic benefits to the potential investor, at some point in time.

The ideal situation should be that the cost incurred should result in some benefits, which should make the economic decision worthwhile.

Investment decisions tend to be crucial to the business because:

- Large amounts of resources are often involved. In short, many investments today are in big amounts and as such we cannot afford to make a mistake. If a mistake is made, it can be catastrophic.

  It is often difficult and / or expensive to 'save out' an investment, once it has been done, e.g., hotel.

Methods of investment appraisal

- Investment decisions are the key to the success of the entity and it is of utmost importance to ensure that proper screening of investment proposals are made. It is in this context that we use the appropriate methods to evaluate the viability of the projects to be undertaken.

- Research has shown that there are basically four methods used throughout the world when evaluating investment opportunities. They are:

  1) Accounting rate of return (ARR)

  2) Payback period (PP)

  3) Net Present Value (NPV)

  4) Internal rate of return (IRR)

- It is possible to find that some businesses use variants of these four methods, and in some cases that the smaller ones use ‘gut feeling’ of the managers. However, most businesses use one of the four methods.

Accounting rate of return (ARR)

- The ARR takes the average of the accounting profits that the investment will generate and expressing it in percentage.

$$\text{ARR} = \frac{\text{Average of annual profit}}{\text{Average investment to earn that profit}} * 100$$

- The ARR and the Return on capital employed (ROCE) ratio take the same approach to performance measurement, in that they both relate accounting profits to the cost of investment to generate that profit. We can say that the ARR is an other way that assesses the potential performance of a particular investment.

- Payback Period (PP) method seems to go some way to overcoming the timing problem of ARR, or at least at first glance, it does. The PP is the length of time it takes for the initial investment to be recouped or recovered.
- The PP has some advantages:

  It is easy and simple to calculate

  It is easily understood by managers

  It uses cash-flows rather than accounting profits

  Disadvantages:

  It ignores the ‘time value of money’

  It ignores the timing of the cash-flows.

Net Present value (NPV) (The most superior of methods)

- The problems in the ARR & PP resulted in the movement towards the DCF method. The “Discounted Cash-Flow” (DCF) enabled the world of FM to reach a more reliable approach, broken into the NPV and the IRR method.

Why the NPV is superior to ARR & PP

The reasons are:

- The timing of the cash-flows
- The whole of the relevant cash-flows
- The objectives of the business.

The decision rule is:

Accept the project that gives the highest NPV and reject the project that has the lowest NPV or has negative NPV.

IRR

- This is the last of the four methods of CIA that are found in practice. It is, in fact, closely connected to the NPV method, in that, like NPV, it also involves discounting the future cash-flows. The IRR of a particular investment is the discount rate that gives a zero NPV.