

PROJECT COSTING AND FINANCIAL FEASIBILITIES

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QUANTITY SURVEYORS

PROJECT COSTING

- **WHAT IS A QUANTITY SURVEYOR?**

- The Quantity Surveyor, also known as a Construction Economist, or Cost Manager, is one of a team of professional advisers to the construction industry. As advisers we estimate and monitor construction costs, from the feasibility stage of a project through to the completion of the construction period
- Quantity surveyors act in liaison with architects, consulting engineers and contractors to safeguard the client's interest. They are independent experts who operate in a specialised area of the construction industry

- **GOVERNANCE AND ETHICS**

- Quantity surveyors are required to comply with a strict code of professional conduct which includes responsibility to their employers or clients and to their profession having full regard to the public interest, conducting themselves so as to uphold the dignity and reputation of the profession and discharging their duties to their employers and clients in an efficient and competent manner with complete fidelity and without undue delay

- **SERVICES OFFERED BY QUANTITY SURVEYORS**

- Firms generally offer a wide spectrum of services to their clients but naturally tend to gain experience or concentrate their services in specific fields.

- **FEASIBILITY STAGE**

- This is a very important stage of project. Also referred to as the make or break stage of a project.
- At feasibility stage quantity surveyors use their knowledge of construction methods and costs to advise the owner on the most economical way of achieving his requirements. Quantity surveyors may use techniques such as:

- **1. Estimating and Cost Advice**

- Estimates and cost advice during all stages of the development of a project are essential if the correct decisions with full awareness of their financial implications are to be made.
- Sophisticated techniques, extensive cost data banks and an intimate knowledge of building and construction economics enable quantity surveyors to provide reliable cost advice.

FEASIBILITY STAGE Cntd

- **2. Cost Planning**

- Clients want to know that they are receiving value for money, not only with regard to the capital cost but also in respect of the running and maintenance cost of a project.
- Cost planning enables decisions on various design alternatives to be made with actual costs being constantly monitored against original budgets.

- **3. Value Engineering & Value Management**

- During design the quantity surveyor ensures that the design remains on budget through Cost Management. Essential additions are offset by identified other savings. On completion of design and drawings, the quantity surveyor may prepare a Bill of Quantities, which is issued with the specification, for use by contractors in submitting tenders.

PROPERTY DEVELOPMENT ADVICE

- A building should meet the functional dimensional and technological requirements for which it was designed, should be aesthetically pleasing and meet the cost limits of the client's budget.
- A quantity surveyor is able to provide pre-design feasibility studies involving technical and/or economic investigations thereby enabling a client to decide whether, and in what form, to proceed.

TENDERING PROCEDURES AND CONTRACTURAL ARRANGEMENT

- Bills of Quantities are generally regarded as the most economical and best method of obtaining a competitive price, as a result the NHBRC, GPF and Financiers alike insist on contracts to incorporate BOQ's.
- A Bill of Quantities is a document which itemises the quantities of materials and labour in a construction project. This is measured from design drawings, to be used by the contractors for tendering and for progress payments, for variations and changes and ultimately for statistics, taxation and valuation.

FINANCIAL CONTROL OVER CONTRACTS

- They will also value changes to design or quantities which may arise by reference to appropriate Bill of Quantities rates.

VALUATION OF WORK IN PROGRESS

- During construction the quantity surveyors are called on to fairly value progress payments at regular intervals.

CASH FLOW BUDGETS FINAL ACCOUNT IN RESPECT OF THE CONTRACT

- The quantity surveyor's duty is essentially one of cost control. They measure and value work in progress, determine the value of variations ordered by the architect or engineer and ensure that a fair and equitable settlement of the cost of the project is reached in accordance with the contract conditions. In conjunction with the architect and other consultants the quantity surveyor will ensure that the financial provisions of the contract are properly interpreted and applied

FINANCIAL FEASIBILITY

INVESTMENT APPRAISAL

- **A means of assessing whether an investment project is worthwhile or not**
- As decisions involving large sums of money are often made using information produced by Quantity Surveyors, we therefore have to be accurate in all aspects of our work.

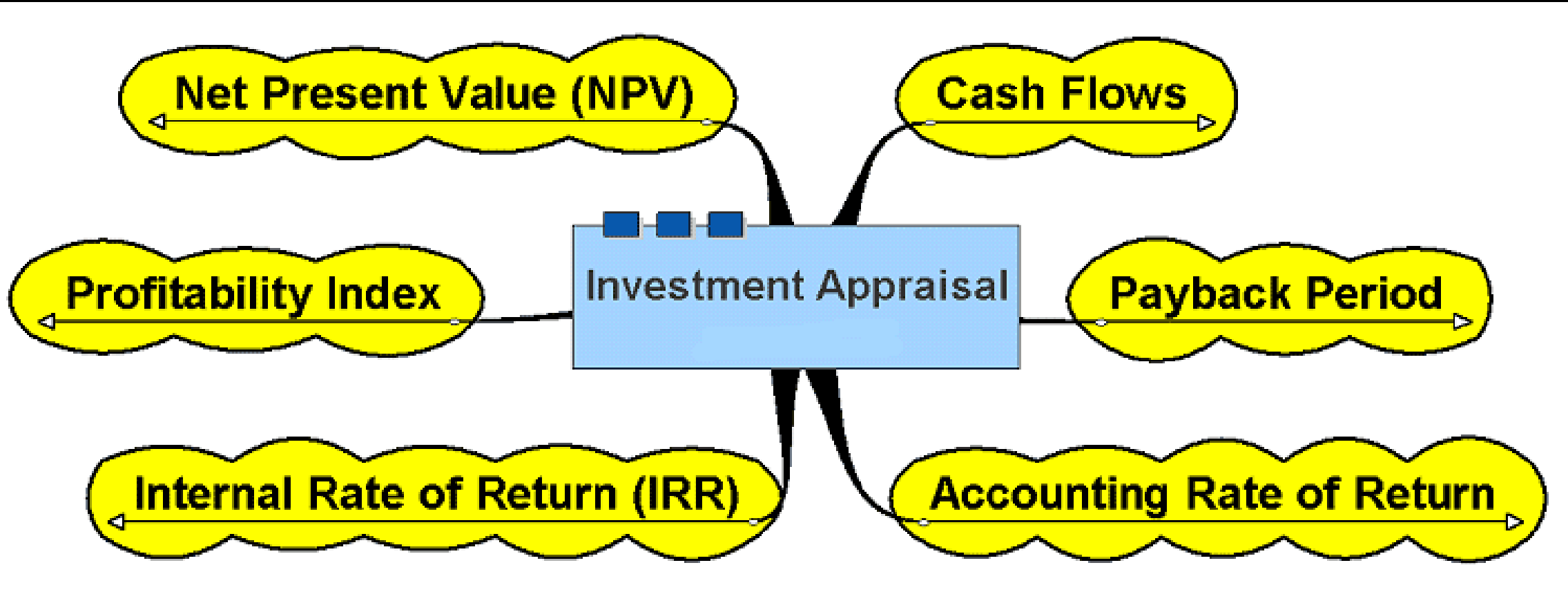
FACTORS TO CONSIDER WHEN INVESTING IN A PROJECT

- The amount of capital available and the source of capital
- Cost of capital
- The life of the project
- The cash flow from the project or projects and its timing
- Capital allowances and taxation
- Grants
- Residual value of the asset

INVESTMENT APPRAISAL Cntd

- Investment therefore assumes that the investment will yield future income streams
- Investment appraisal is all about assessing these income streams against the cost of the investment

TYPES OF INVESTMENT APPRAISALS



INVESTMENT APPRAISAL Cntd

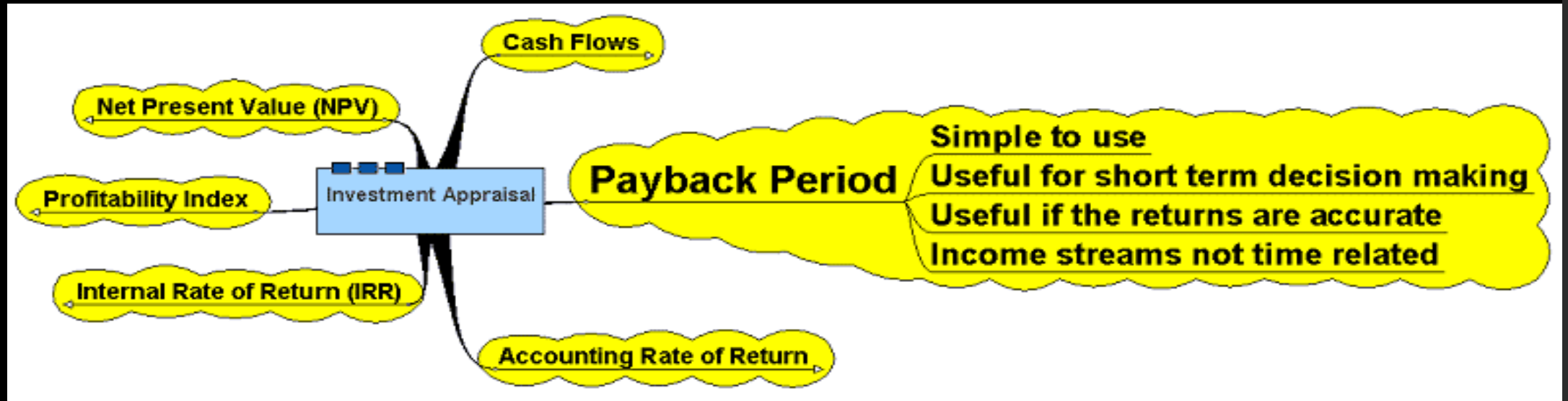
COMMON TYPES

- Payback period
- Internal Rate of Return
- Accounting Rate of Return
- Discounted cash flow – NPV, Net Present Value Method

PAYBACK PERIOD METHOD

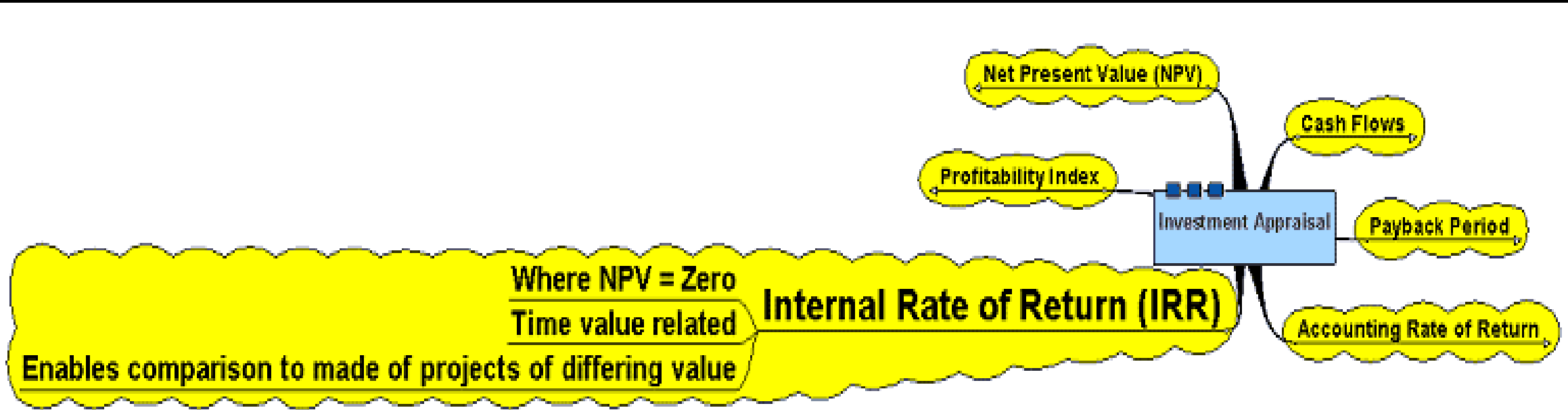
The length of time taken to repay the initial capital cost

Requires information on the returns the investment generates



INTERNAL RATE OF RETURN (IRR)

- Allows the risk associated with an investment project to be assessed
- The IRR is the rate of interest (or discount rate) that makes the net present value = to zero
 - Helps measure the worth of an investment
 - Allows the firm to assess whether an investment in the machine, etc. would yield a better return based on internal standards of return
 - Allows comparison of projects with different initial outlays
 - Set the cash flows to different discount rates
 - Software or simple graphing allows the IRR to be found

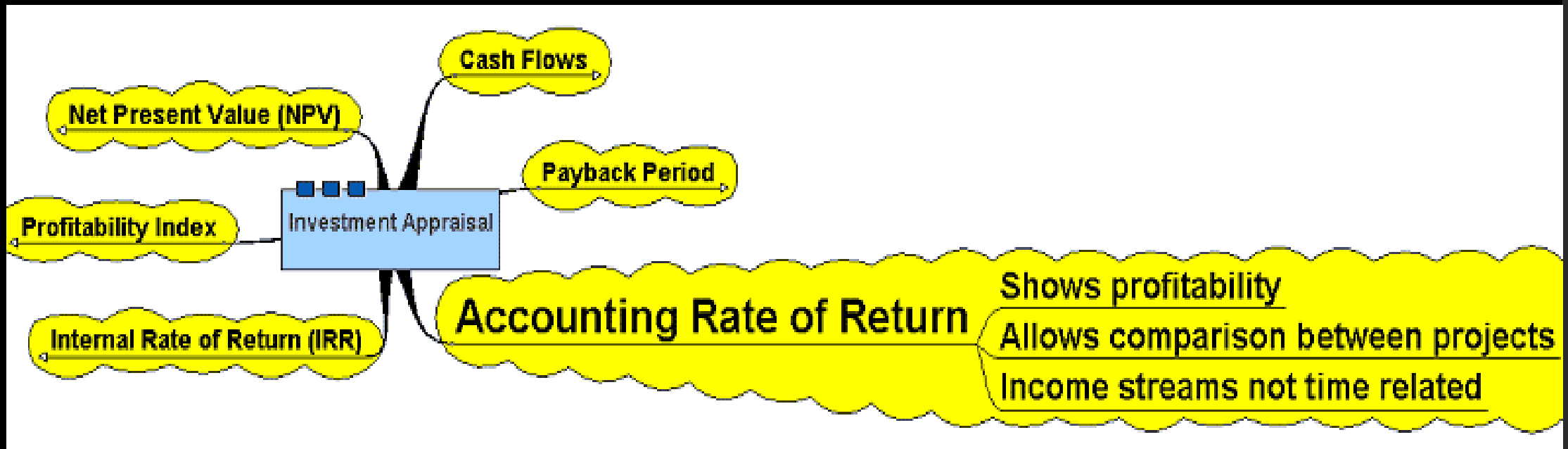


ACCOUNTING RATE OF RETURN

- A comparison of the profit generated by the investment with the cost of the investment

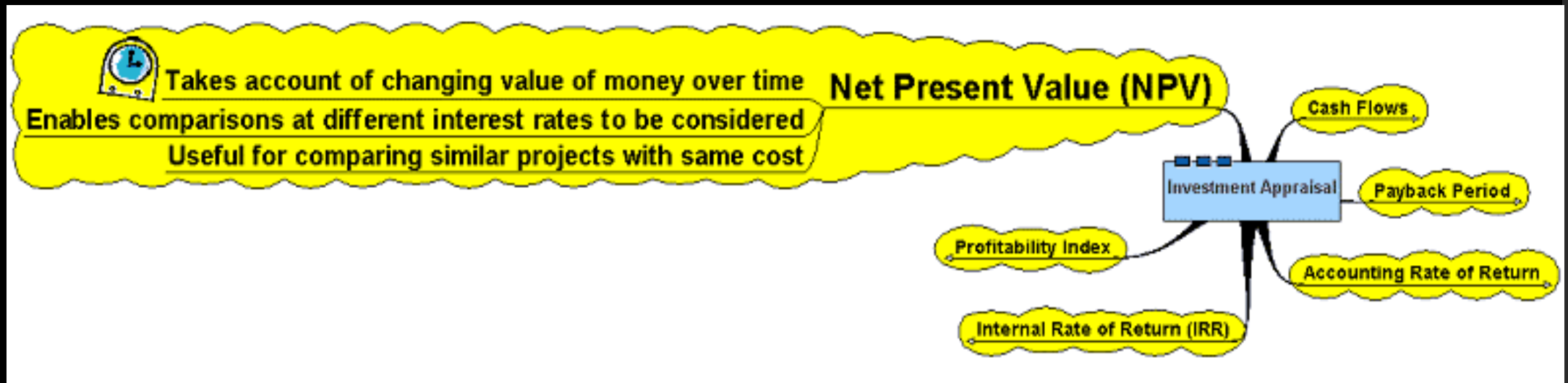
Average annual return or annual profit

- **ARR =** $\frac{\text{Average annual return or annual profit}}{\text{Initial cost of investment}}$



NET PRESENT VALUE (NPV)

- Takes into account the fact that money values change with time
- How much would you need to invest today to earn x amount in x years time?
- Value of money is affected by interest rates
- NPV helps to take these factors into consideration
- Shows you what your investment would have earned in an alternative investment regime
- Allows comparison of an investment by valuing cash payments on the project and cash receipts expected to be earned over the lifetime of the investment at the same point in time, i.e the present.



KEY CONSIDERATIONS ON UTILISATION OF INVESTMENT APPRAISAL TECHNIQUES:

- Ease of use/degree of simplicity required
- Degree of accuracy required
- Extent to which future cash flows can be measured accurately
- Extent to which future interest rate movements can be factored in and predicted
- Necessity of factoring in effects of inflation

THANK YOU

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