

Net Present Value (NPV)

NPV is used in capital budgeting to analyze the profitability of a project or investment.

It can be calculated by taking the difference b/w the present value of cash inflows and present value of cash outflows over a period of time.

Formula for NPV

$$NPV = \frac{\text{Cash flows}}{(1+r)^i}$$

i - initial Investment

Cash flows = Cash flows in the time period.

r = Discount rate

i = time period.

IRR (Internal Rate of Return) is a metric used in capital budgeting to estimate the profitability of potential investments. The internal rate of return is a discount rate that makes the net present value (NPV) of all cash flows from a particular project equal to zero.

$$0 = NPV = \sum_{t=1}^T \frac{C_t}{(1 + IRR)^t} - C_0$$

where C_t = Net cash inflow during the period t

C_0 = Total initial investment costs

IRR = Internal rate of Return

T = The number of time periods

IRR is also another form people use for interest.

Corporate financial management

it is the area of finance that deals with sources of funding, the capital structure of corporations, the actions that managers take to increase the value of the firm to the shareholders, and the tools and analysis used to allocate financial resources.

- Corporate finance is often associated with a firm's decision to undertake capital investments and other investment-related decisions.
- Corporate finance manages short-term financial decisions that affect operations.
- In addition to capital investments, corporate finance deals with sourcing capital.

Time value of money (TVM) is the concept that money you have now is worth more than the identical sum in the future due to its potential earning capacity.

- This core principle of finance holds that provided money can earn interest, any amount of money is worth more the sooner it is received.
- It is also sometime referred to as present discounted value.
- Time value of money is based on the idea that people would rather have money today than in the future.
- Given that money can earn compound interest, it is more valuable in the present rather than the future.

Formula TVM

$$FV = PV \times \left[1 + \left(\frac{i}{n} \right) \right]^{(n \times t)}$$

FV = Future value

PV = Present value

i = Interest rate

n = number of compounding periods per year

t = number of years.