

# **PROJECT APPRAISAL AND INVESTMENT ANALYSIS**

## **LECTURE 6**

### **DISCOUNTED AND UN-DISCOUNTED MEASURE OF PROJECT WORTH**

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# PROJECT WORTH

Measures of **project worth** basically involve aggregating and comparing the costs and the benefits of a **project** to determine the values of the **project** as a whole.

Measures of **project worth** are typically employed to determine which among various **projects** is to be accepted or to be rejected for investment purposes.

# PROJECT WORTH

These measures of project worth are mainly divided into two broad categories namely;

- Discounted measures of project worth
- Undiscounted measures of project worth

# PROJECT WORTH

Discounted measures of project worth take into consideration the time value of money while undiscounted measures do not.

# PROJECT WORTH

The value of project management is that it delivers consistent results, reduces the cost, increases efficiencies in the process, improves customer service and satisfaction, and provides a competitive advantage to your company.

# PROJECT WORTH

## Managing project value

It is a continuous enhancement process. Although it's not about reducing cost, the tools and methods of this process aim at achieving the required quality of the project product throughout the project implementation process. The main purpose consists in maximizing project value in relation to the constraints of time, cost and quality. Risks play the pivotal role when managing cost, time and quality, so they should be also addressed by the value management process.

# PROJECT WORTH- MANAGING PROJECT VALUE

- To achieve a better understanding of business needs of the performing organization
- To set simple and clear definition of specific stakeholder needs
- To consider all options, alternatives and innovative ideas regarding project implementation and product delivery

# PROJECT WORTH- MANAGING PROJECT VALUE CONT.

- To achieve optimum value for money while satisfying the range of customer requirements
- To minimize the likelihood of unnecessary expenditure by reducing waste and inefficiency
- To improve collaboration and communication with customers



# DISCOUNTED CASH FLOW

Discounted cash flow (DCF) is a valuation method used to estimate the value of an investment based on its expected future cash flows. DCF analysis attempts to figure out the value of an investment today, based on projections of how much money it will generate in the future.

(DCF) Any method of investment project evaluation and selection that adjusts cash flows over time for the time value of money.

# DISCOUNTED CASH FLOW

We evaluate four alternative methods of project evaluation and selection used

in capital budgeting:

1. Payback period
2. Internal rate of return
3. Net present value
4. Profitability index

The profitability index (**PI**) **is** a technique used to measure a proposed project's costs and benefits by dividing the projected **capital** inflow by the outflows.

# DISCOUNTED CASH FLOW

A technique used to measure project worth:

## Capital Budgeting and DCF

(Pay back Period) Simple additive method for assessing the worth of a project. The remaining methods are more complicated discounted cash flow (DCF) techniques. For simplicity, we assume throughout that the expected cash flows are realized at the end of each year. The acceptance of any investment proposal would not change the total business-risk complexion of the firm. This assumption allows us to use a single required rate of return in judging whether or not to accept a project under the various discounted cash flow techniques.

# DISCOUNTED CASH FLOW

$$DCF = \frac{CF_1^1}{1+r} + \frac{CF_2^2}{1+r} + \frac{CF_n^n}{1+r}$$

**where:**

CF=The cash flow for the given year.

CF1 is for year one, CF2 is for year two,

CFn is for additional years

r=The discount rate

# DISCOUNTED AND UN DISCOUNTED

The determination of the present value today of some future value is, by **definition**, called **discounting**. So the determination of the worth of any project that employs the computation of the present value of some future value is referred to as using **discounted measures** of project worth

# MEASURING PROJECT WORTH

## Deciding on a Project

- We should consider several investment criteria when making decisions.
- NPV and IRR are the most commonly used primary investment criteria.
- Payback is a commonly used secondary investment criteria, but only because of its ease of use.

# MEASURING PROJECT WORTH

- For a single project, a positive NPV indicates acceptability.
- For multiple (competing) projects, the project(s) with the highest NPVs should receive highest priority

# **MEASURING PROJECT WORTH**

## **Independent and Interdependent Projects**

### **Independent Projects**

- Are projects that have no relationship with one another
- Accepting one project has no impact on the decision to accept another project

### **Contingent Projects**

- Are projects for which the acceptance of one requires the acceptance of another, either before-hand or simultaneously.

### **Mutually Exclusive Projects**

- Are projects that are substitutes for one another
- Accepting one automatically means rejecting the other



# MEASURING PROJECT WORTH

The following methods are routinely used to measure project benefits

- Customer or user satisfaction, customer retention or loyalty
- ROI, efficiency of operations, margin improvement, revenue generation, share of market
- Regulatory, compliance, and/or security requirements
- Downtime (IT, production, etc.)
- Employee engagement and/or retention

# MEASURING PROJECT WORTH

- Enabling future opportunities
- Product/service portfolio expansion
- Brand awareness, corporate image, public relations scores, and/or complaint volume
- Workplace safety
- Resource alignment
- Environmental sustainability
- Organic growth
- Shareholder equity

# REFERENCES

<https://mymanagementguide.com/value-management-in-projects-definition-and-goals/>

[https://www.pmi.org/-/media/pmi/documents/public/pdf/learning/thought-leadership/pulse/benefits-focus-during-project-execution.pdf?sc\\_lang\\_temp=en](https://www.pmi.org/-/media/pmi/documents/public/pdf/learning/thought-leadership/pulse/benefits-focus-during-project-execution.pdf?sc_lang_temp=en)