

Segment-3 (Feasibility study & cost benefit analysis)

- ① Strategic planning
- ② Project
- ③ Project management
- ④ Feasibility analysis, Types of feasibility
- ⑤ Cost benefit analysis — ROJ, BEP, PV, NPV
- ⑥ Tangible benefits
- ⑦ Intangible benefits
- ⑧ One-time cost
- ⑨ Operational cost
- ⑩ Business case

Strategic planning: Strategic planning is the process of identifying long-term organizational goals, strategies and resources.

Strategic planning starts with a management review called a SWOT analysis. A SWOT analysis is a solid foundation for the strategic planning process.

<u>Strength</u>	<u>Weakness</u>
<ul style="list-style-type: none">• Excellent web design• Recently upgraded network	<ul style="list-style-type: none">• Still using several legacy• Documentation needs updating
<u>opportunities</u>	<u>Threats</u>
<ul style="list-style-type: none">• Well positioned for expansion• Can be 1st with new software	<ul style="list-style-type: none">• Aggressive new web competition• Impact of new FCC rules

Project: A project is a temporary endeavor designed to produce unique.

Main reasons for system projects:

→ The starting point for most projects is called a system request, which is a formal way of asking for IT support.

→ Improved service

→ Support for new products & services

→ Better performance

→ More information

→ Stronger controls

→ Reduced costs

Factors that affect systems projects:

① Internal factors:

→ Strategic plan - sets the overall direction for the firm & has an important impact on IT projects

→ Top managers - Directives from top managers are a prime source of large-scale systems project.

→ User request

→ Information technology department

→ Existing systems & data

→ ② External Factors:

→ Technology

→ Suppliers

→ Customers

→ Competitors

→ The economy

→ Government

Project management: Project management is the discipline of initiating, planning, executing, controlling and closing the work of a team to achieve specific goals and meet specific success criteria.

- ① Initiating the project
- ② Planning the project
- ③ Executing the project
- ④ closing down the project

① Initiating the project:
⇒ Establishing the project initiation team
⇒ Establishing the project initiation plan.
⇒ Establishing the project management environment and project workbook. - It is an online or hand copy repository.

⇒ Developing the project charter

- Project title & data of authorization
- Project manager name & contact information
- Project description
- Key approach

② Project planning: The next step is project planning.
There are 10 project planning.

- ⇒ Describing project scope, feasibility
- ⇒ Dividing the project into manageable tasks.
- ⇒ Developing a preliminary schedule
- ⇒ Identifying accessing risk
- ⇒ Setting a baseline project plan
- ⇒ Creating a preliminary budget

③ Project execution: Project execution puts the baseline project plan into action.

- ⇒ Executing the baseline project plan
- ⇒ Monitoring project processes
- ⇒ Managing changing to the baseline project plan
- ⇒ Maintaining the project workbook
- ⇒ Communicating the project status

④ Project closure: The focus of project
closure is to bring the project to an end.

- ⇒ Closing down the project
- ⇒ Conducting postproject reviews
- ⇒ Closing the customer contract

Feasibility analysis: Feasibility analysis guides the organization in determining whether to proceed with the project. It also identifies the important risks associated with the project that must be managed if the project is approved.

- Types of feasibility:
- ① Technical feasibility
 - ② Economic feasibility
 - ③ Operational feasibility
 - ④ Schedule feasibility
 - ⑤ Legal feasibility
 - ⑥ Political feasibility

Technical feasibility: \Rightarrow It is evaluation of hardware and software

\Rightarrow It investigates the technical feasibility of each implementation alternative.

\Rightarrow It ensures the candidate system.

\Rightarrow It is focused on gaining an understanding of the present technical resources.

Economic feasibility: The purpose of the economic feasibility assessment is to determine the positive economic benefits to the organization.

⇒ It includes quantification and identification.

⇒ It is called cost benefit analysis.

Operational feasibility: It refers to the measure of solving problems with the help of a new proposed system.

⇒ It ensures that the management should support the proposed system.

Schedule feasibility: System analyst have to estimate how long the system will take to develop.

⇒ A project will fail if it takes too long to be completed.

⇒ It ensures that the project should be completed within given time schedule.

Legal feasibility: Determines whether the proposed system conflict with legal requirements.

Political feasibility: It is to gain understanding of how key stakeholders within the organization ~~with~~ view the proposed system.

Cost benefit analysis:

Return on investment (ROI): The return on investment is a simple calculation that divided the project net benefits (total benefit - total costs) by the total costs.

ROI formula is :

$$ROI = \frac{\text{Total revenue} - \text{Total cost}}{\text{Total cost}}$$

Break even point: The break even point (also called the Payback method) is defined as the number of years it takes a firm to recover its original investment in the project from net cash flows.

$$BEP = \text{Number of years of negative cash flow} + \frac{\text{That year's Net cash flow} - \text{That year's cumulative cash flow}}{\text{That year's Net cash flow}}$$

OR, $BEP = \frac{\text{Fixed costs}}{\text{Unit selling price} - \text{Variable cost}}$

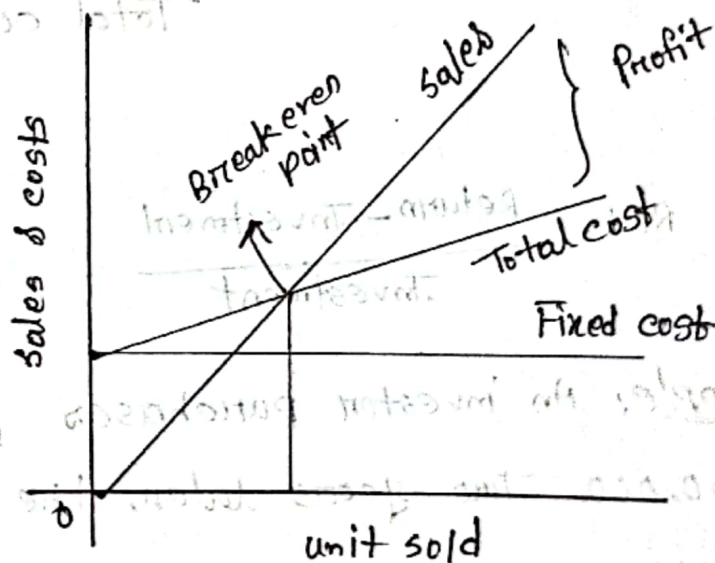


Fig: BEP

Present value (PV):

$$PV = \frac{C}{(1+i)^n}$$

C = cash flow amount

i = rate of return

n = year in which the cash-flow occurs.

PV is the current value of a future sum of money or stream of cash flows given a specified rate of return.

Example: Using previous illustration, \$100 received in 3 years with a required rate of return of 10% has a PV of \$75.13,

$$PV = \frac{100}{(1+0.10)^3} = \frac{100}{1.331} = 75.13$$

Net present value (NPV): NPV is the difference between the present value of cash inflows and the present value of cash outflows over a period of time.

$$NPV = \sum PV \text{ of total benefits} - \sum PV \text{ of total costs}$$

~~NPV = 100 - 250 = -150~~

If $NPV > 0$ - the project is considered economically acceptable.

If $NPV < 0$ - the project is not acceptable.

Steps in feasibility analysis:

1. Identify cost & benefits —
- Development costs
 - Operational costs
 - Tangible benefits
 - Intangibles benefits

Tangible benefits: Tangible benefits are those that are measurable. It includes revenue that the system enabled the organization to collect such as increased sales.

Intangible benefits: Intangible benefits are more difficult to incorporate into the economic feasibility analysis because they are based on intuition and belief rather than on hard numbers.

Operational cost: Operational costs are those tangible costs that are required to operate the system, such as the software licensing fees. It is ongoing cost.

Development cost: It is one time cost. Development costs are those tangible expenses that are incurred during the creation of the system.

2. Assign values to costs & Benefits

3. Determine cash flow

4. Assess project economic value

⇒ Determine ROI

⇒ Determine BEP

⇒ Determine NPV

One time costs: Associated with project start-up, initiation & development.

⇒ System development

⇒ New hardware & software purchases

⇒ User training

⇒ Site preparation

⇒ Data on system conversion

Recurring (operational) case: Associated with on-going use of the system

⇒ New human resources ~~the~~ costs

⇒ Application software maintenance

⇒ Incremental data storage expense

⇒ New software and hardware releases

⇒ Consumable supplies

Business case: The term business case refers to the reasons, or justification, for a proposal. A business case should be comprehensive, yet easy to understand.

The business case should answer these questions;

- why are we doing this project?
- what is the project about?
- how much will it cost
- what is the return on investment?
- what are the risks of not doing the project?
- how will we measure success?
- what alternatives exist?

Recurring (operational) cases: Associated with on-going use of

- New process, resources, etc.
- Application software maintenance
- Increased data storage capacity
- New software and hardware releases
- Consistent addition

DIFFERENCE BETWEEN DELIVERABLES AND OUTCOMES

A project deliverable is something that the project produces, and usually happens at certain intervals in your project (called milestones). For example, a deliverable in a software development project can be "creation of the database".

A project outcome is an abstract concept. I think an example would explain it, so here's one: "The project will give us an edge in the software project management industry". So, in this case, we are developing a project management software, and if we get this project done, then we will have an edge in this industry (because of all the features that this software has). You see, this "having an edge" concept is a project outcome.

Another example: Let's assume that you are involved in one of those mega projects building a tower. Once the tower achieves a certain height, it will become the tallest tower in the world. That's a project outcome, it's not a deliverable.

Unlike a deliverable, a project outcome does not consist of work, but of achievement related to the work. Also, a project deliverable is measurable, a project outcome is not.