FEASIBILITY ANALYSIS AND THE SYSTEM PROPOSAL

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Cost Benefit Analysis Techniques

The economic feasibility is defined as the cost benefit analysis. It analyzes how the cost and benefits of a system can be estimated, and how they can be compared to determine the economic feasibility.

1 . How Much Will The System Cost?

The cost of a system can be divided into 2 categories:

- The cost of developing the system
- The cost of operating the system

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- The development cost can be estimated from the viewpoint of the project and should be reviewed at the end of each phase of the project. The Operating cost can be estimated only after specific computer based solutions are defined.
- The following list of development should be taken into considerations of cost:

  a. **Personnel Costs**: salaries and wages of analysts, programmers, consultants etc

  b. **Computer Usage Cost**: A lot of time may be spent on programming testing, conversion, word processing prototyping etc. If the computer agency charges for the usage of computer, disk storage and printing, then the cost should also be estimated.

  c. **Training costs**: This is the cost incurred by the training of the staffs or the users of the system.

  d. **Supply, Duplication And Equipment Costs**:

  e. **Cost Of Any New Computer Equipment And Software**

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- Some of the Some of the operating costs are:
  - **a. Fixed Costs:** That occurs at regular interval of time at relatively fixed rates. Examples include lease payment, house rents and software license payment.
  - **b. Variable Costs:** That occurs in proportion to some usage factor. Examples include cost of computer usage, supplies of forms, papers, disks and other overhead costs.

2. What Benefits Will The System Provide?

- Benefits normally increase profits or decrease costs, both highly desirable characteristics of a new information system. As much as possible benefits should be qualified in dollars and cents; they should also be classified as tangible or intangible.
- **operating costs are:**
  - **Tangible benefits**
  - **Intangible benefits**

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a. Tangible benefits:

They are the benefits that can be easily quantified and measured in terms of monthly or annual savings or of profit to the organization. Some of the tangible benefits are:

- Fewer processing errors
- Increased through puts
- Decreased response time
- Elimination of job steps
- Increased sales Reduced credit losses
- Reduced expenses

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b. Intangible benefits:

They are the benefits that are believed to be difficult or impossible to quantity. They are the benefits that may be received by an organization not in physical terms but are in logical terms. Some of the intangible benefits are

- Improved customer goodwill
- Improved employee morale Better service to community
- Better decision making

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3.Is The Proposed System Cost Effective?

There are three popular techniques for assessing the cost effectiveness of a system.

- Pay-Back Analysis
- Return on Investment
- Net Present Value

- All three techniques share one common concept, the time value of money. The time value of money concept states that a dollar today is worth more than a dollar after a year.

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Pay-Back Analysis

- The payback analysis is a simple and popular technique **for determining if and when an investment on a system will pay for itself.** The system development costs are incurred initially and it will take some time for the benefits to overtake the costs .
- Even after the implementation, the operating costs are also added and that cost should also be paid back Payback analysis determines how much time will be consumed before the benefits of the system overtake the costs. This period of time is also referred to as **payback period.**
- The present value of a dollar in a year n depends on discount rate, which is a percentage Similar to the interest on bank balances.

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Return on Investment

- The ROI technique **compares the lifetime profitability of alternative solutions** or the projects. It is a percentage rate that measures the relationship between the amount the business gets back for an investment and the amount Invested. The lifetime ROI is calculated as follows
- Lifetime R0I = (Estimated Lifetime benefits-Estimated Lifetime costs)/Estimated Lifetime costs

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Net Present Value

- The net present value is an analysis technique that compares the **annual discounted costs and benefits of alternative solutions** Initially the costs and benefits of the system for each year are determined and all the costs and benefits are adjusted back to the present values