Key Ideas

- An opportunity to create business value from using information technology initiates a project.
- Feasibility analysis helps determine whether or not to proceed with the IS project.
- Projects are selected based on business needs and project risks.

Key Ideas

- The project sponsor is a key person who identifies business value to be gained from using information technology.
- The approval committee reviews system requests from groups throughout the organization and selects projects for the benefit of the business.

How Do Projects Begin?

- Business needs should drive projects.
- Project sponsor recognizes business need for new system and desires to see it implemented.
- Business needs determine the system’s functionality (what it will do).
- The project’s business value should be clear.
**System Request**

- A document describing business reasons for project and system's expected value.
- Lists project's key elements
  - Project sponsor
  - Business need
  - Business requirements
  - Business value
  - Special issues or constraints

**System Request Examples**

- Project sponsor – VP of Marketing
- Business need – Reach new customers and improve service to existing customers
- Business requirements – Provide web-based shopping capability
- Business value - $750,000 in new customer sales; $1.8M in existing customer sales
- Special issues or constraints – System must be operational by holiday shopping season

**Preliminary Project Acceptance**

- System request is reviewed by approval committee
- Based on information provided, project merits are assessed.
- Worthy projects are accepted and undergo additional investigation – the feasibility analysis.

**Your Turn**

If you were building a web-based system for course registration,
- What is the business need?
- What would be the business requirements?
- What would be the business value (tangible and intangible)?
- What special issues or constraints would you foresee?

**Feasibility Analysis**

- Detailed business case for the project
  - Technical feasibility
  - Economic feasibility
  - Organizational feasibility
- Compiled into a feasibility study
- Feasibility is reassessed throughout the project
Technical Feasibility: Can We Build It?

- Users' and analysts' familiarity with the business application area
- Familiarity with technology
  - Have we used it before? How new is it?
- Project size
  - Number of people, time, and features
- Compatibility with existing systems

Economic Feasibility: Should We Build It?

- Identify costs and benefits
- Assign values to costs and benefits
- Determine cash flow
- Assess financial viability
  - Net present value (NPV)
  - Return on investment (ROI)
  - Break even point (BEP)

Example Costs and Benefits for Economic Feasibility

<table>
<thead>
<tr>
<th>Development Team Salaries</th>
<th>Software Upgrades</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consultant Fees</td>
<td>Software Licensing Fees</td>
</tr>
<tr>
<td>Development Testing</td>
<td>Hardware Upgrades</td>
</tr>
<tr>
<td>Hardware and Software</td>
<td>Communications Charges</td>
</tr>
<tr>
<td>Vendor Installs</td>
<td>User Training</td>
</tr>
<tr>
<td>Office Space and Equipment</td>
<td>Increased Market Share</td>
</tr>
<tr>
<td>Data Conversion Costs</td>
<td>Increased Brand Recognition</td>
</tr>
<tr>
<td>Increased Sales</td>
<td>Higher Quality Products</td>
</tr>
<tr>
<td>Reductions in Staff</td>
<td>Improved Customer Service</td>
</tr>
<tr>
<td>Reductions in Inventory</td>
<td>Better Supplier Relations</td>
</tr>
</tbody>
</table>

Tangible vs. Intangible Costs

- **Tangible Costs** - Includes revenue that the system enables the organization to collect, such as increased sales.
- **Intangible Costs** - Are based on intuition and belief rather than "hard numbers."

Assign Cost and Benefit Values

- Difficult, but essential to estimate
- Work with people who are most familiar with the area to develop estimates
- Intangibles should also be quantified
- If intangibles cannot be quantified, list and include as part of supporting material

Determine Cash Flow: Assign Values to Costs and Benefits – Simple Cash Flow Method

<table>
<thead>
<tr>
<th>Revenue</th>
<th>$300,000</th>
<th>$200,000</th>
<th>$150,000</th>
<th>$100,000</th>
<th>$50,000</th>
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</thead>
<tbody>
<tr>
<td>Costs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depreciation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Software</td>
<td>120,000</td>
<td>100,000</td>
<td>90,000</td>
<td>80,000</td>
<td>70,000</td>
</tr>
<tr>
<td>Hardware</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1,260,000</td>
<td>1,200,000</td>
<td>1,140,000</td>
<td>1,080,000</td>
<td>1,020,000</td>
</tr>
</tbody>
</table>

Net Present Value (NPV): $200,000
Return on Investment (ROI): 300%
Break Even Point (BEP): $500,000
Assess Financial Viability –

**Net Present Value**

\[ NPV = \sum PV(\text{future cash inflows}) - \sum PV(\text{future cash outflows}) \]

\[ PV = \frac{\text{Cash flow amount}}{(1 + \text{interest rate})^n}, \text{ where} \]

- interest rate = required return
- \( n \) = number of years in future

Determine NPV

- If \( NPV \geq 0 \), Project is OK
- If \( NPV < 0 \), Project is unacceptable

Assess Financial Viability –

**Return on Investment**

\[ ROI = \frac{NPV}{\sum PV(\text{cash outflows})} \]

Assess Financial Viability –

**Break Even Point**

How long before the project’s returns match the amount invested

The longer it takes to break even, the higher the project’s risk.

Organizational Feasibility

If we build it, will they come?

- Strategic alignment
  - How well do the project goals align with business objectives?

- Stakeholder analysis
  - Project champion(s)
  - Organizational management
  - System users
Project Selection Issues

Approval committee works from the system request and the feasibility study
- Project portfolio – how does the project fit within the entire portfolio of projects?
- Trade-offs must be made to select projects that will form a balanced project portfolio
- Viable projects may be rejected or deferred because of project portfolio issues.

Summary

- Project initiation involves creating and assessing goals and expectations for a new system
- Identifying the business value of the new project is a key to success
- Feasibility study is concerned with insuring that technical, economic, and organizational benefits outweigh costs and risks
- Project selection involves viewing the project within the context of the entire project portfolio, and selecting those projects that contribute to balance in the portfolio