LO 05

Management, Technology, Risks and pitfalls in SW Development

Main Aspects covered

- Examine the importance of having business case for starting the project
- Examine the importance of tool for analysing viability and feasibility of construction of a software system. e.g. Cost-Benefit analysis , Contingency plan.
- Outline the importance of setting project goals e.g., Time, Budget
- Examine the importance estimating resources needed
- Discover the impact of poorly defined system requirements
- Poor communication among customers, developers, and users

The business case for starting the project

- The business case records the justification for starting a project. It describes the benefits, costs and impact, plus a calculation of the financial case.
- Is this an in-house project or a commissioned project? If in-house:
  - Is there demand and is there a market?
  - Can we gain access to the market?
  - Is there competition?
  - Is there sufficient profitability in the market?
  - What is the project cost?

Viability/ Feasibility

- 'Feasibility' is a study that aims at uncovering the **strengths and weaknesses** of an existing business or a proposed business venture.
- It takes into consideration the **opportunities offered** by the environment, its resources, and the subsequent success of the venture.
- It should include the **description of the product or service**, its historical **background**, **operational details**, **financial** data and **accounting** statements, **legal** and **tax** requirements, and its policies on **management** and **marketing** research.

Viability/ Feasibility

- 'Viability,' on the other hand, is the study or an investigation of the existing business or proposed venture's **sustainability**.
- It determines whether the proposal should be approved or not. It involves dealing with **strategies** on how to make the business grow and last.
- Business growth is an important aspect of viability. How long a business will last is determined by its viability, and it can be seen in the profits that the business has made for a certain period. Good profit means a better chance at success for the business.
- There are several types of feasibility (+ STEEPLE & SWOT):
  - Economic feasibility (economic analysis or CBA)
  - Legal feasibility
  - Operational feasibility (how to solve problems, take advantage of opportunities)
  - Schedule feasibility (duration of development and completion & if deadlines can be met)
  - Market feasibility, which involves testing of the market.
  - Resource feasibility- do we have the type and amount of resources needed?
  - Financial feasibility, which includes the total cost of the project, its cash flow, and profitability.

Benefits vs. Risks

- Benefits can be financial, but also prestige and systems thinking inicates that we evaluate the long-term opportunities.
- CBA: a systematic approach to estimating the strengths and weaknesses of alternatives
  - To determine if an investment/decision is sound (justification/feasibility) – verifying whether its benefits outweigh the costs, and by how much;
  - To provide a basis for comparing projects – which involves comparing the total expected cost of each option against its total expected benefits
- Risk management is the forecasting and evaluation of financial risks together with the identification of procedures to avoid or minimize their impact.
  - Scenario planning: What if?
  - Customers, technology competitors, legal, poorly defined system requirements, Poor communication among customers, developers, and users

Capabilities & Resources

- Economics: Labour, Land, capital and entrepreneurship
- These production factors are also known as management, machines, materials and labor, and knowledge has recently been talked about as a potential new factor of production
- Do we have the equipment needed?
- Do our staff have the skills and experience needed?
  - if not, can certain aspects be outsourced?
  - to who? where? at what cost?
- Related to core competencies

Project Management

- Outline the importance of setting project goals e.g., Time, Budget
  - Timing and scheduling can be completed using a Gannt chart showing milestones for the project
  - A spreadsheet may be used to calculate the unit and total costs for the project
  - The MOST important cost in software development is Labour Cost, so the time estimated for the project team will be one of the largest costs!
- Milestones
- Testing
- Quality
- Maintenance

Business Model Canvas

- A snapshot of a business plan
- https://youtu.be/QoAOzMTLP5s