Feasibility Study

Feasibility is defined as the practical extent to which a project can be performed successfully. To evaluate feasibility, a feasibility study is performed, which determines whether the solution considered to accomplish the requirements is practical and workable in the software. Information such as resource availability, cost estimation for software development, benefits of the software to the organization after it is developed and cost to be incurred on its maintenance are considered during the feasibility study. The results of the feasibility study should be a report that recommends whether or not it is worth carrying on with the requirements engineering and system development process.

If a system does not support the business objectives, it has no real value to the business. While this may seem obvious, many organisations develop systems which do not contribute to their objectives either because they don't have a clear statement of these objectives, because they fail to define the business requirements for the system or because other political or organisation factors influence the system procurement.

The objective of the feasibility study is to establish the reasons for developing the software that is acceptable to users, adaptable to change and conformable to established standards. Various other objectives of feasibility study are listed below.

- To analyse whether the software will meet organizational requirements
- To determine whether the software can be implemented using the current technology and within the specified budget and schedule
- To determine whether the software can be integrated with other existing software.

The information assessment phase identifies the information that is required to answer the three questions set out above. Once the information has been identified, you should question information sources to discover the answers to these questions. Some examples of possible questions that might ask:

1. How would the organisation cope if this system was not implemented?
2. What are the problems with current processes and how would a new system help alleviate these problems?
3. What direct contribution will the system make to the business objectives and requirements?
4. Can information be transferred to and from other organisational systems?
5. Does the system require technology that has not previously been used in the organisation?
6. What must be supported by the system and what need not be supported?

Technical feasibility

Technical feasibility assesses the current resources (such as hardware and software) and technology, which are required to accomplish user requirements in the software within the allocated time and budget. Technical feasibility also performs the following tasks.

- Analyses the technical skills and capabilities of the software development team members
- Determines whether the relevant technology is stable and established
- Ascertains that the technology chosen for software development has a large number of users so that they can be consulted when problems arise or improvements are required.

The proposed system, smart blood bank - online blood bank and laboratory management system, makes an effort to use technologies with future growth potential. The use of Python-supported technologies such as the Django framework permits the use of more flexible implementation elements. Because of the Python programming language's simplicity and ease of learning, a rising number of additions are conceivable when considering the organization's future expansion and needs.

Operational feasibility assesses the extent to which the required software performs a series of steps to solve business problems and user requirements. This feasibility is dependent

on human resources (software development team) and involves visualizing whether the software will operate after it is developed and be operative once it is installed. Operational feasibility also performs the following tasks.

- Determines whether the problems anticipated in user requirements are of high priority
- Determines whether the solution suggested by the software development team is acceptable
- Analyzes whether users will adapt to a new software
- Determines whether the organization is satisfied by the alternative solutions proposed by the software development team.

Given that donors, hospitals, administrators, personnel, and sample submitters are all on a single platform, Smart Blood Bank's proposed solution is technically feasible. Donors can donate blood using this platform by registering on the internet, and hospitals can purchase blood as needed. The proposed method makes use of less manual resources and provides user-friendly interfaces for each function.

Economic feasibility determines whether the required software is capable of generating financial gains for an organization. It involves the cost incurred on the software development team, estimated cost of hardware and software, cost of performing feasibility study, and so on.

- Cost incurred on software development to produce long-term gains for an organization
- Cost required to conduct full software investigation (such as requirements elicitation and requirements analysis)
- Cost of hardware, software, development team, and training.

Implementing a Blood Bank and Laboratory Management System can be economically feasible for healthcare facilities due to a range of benefits. The system improves overall efficiency by streamlining processes and reducing manual work, leading to cost savings and optimal staff utilization. Additionally, accurate inventory management helps prevent stockouts and expiry of blood products, reducing financial losses. The system also facilitates better resource allocation, enabling administrators to allocate staff, equipment, and resources more efficiently.

By reducing paperwork and integrating with other healthcare systems, such as electronic health records and billing systems, the management system further optimizes costs.