



The 3rd International Conference
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Project Management for Health Care Technology Projects

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What is a project?

A Project:

- ▶ ***is directed work that is aimed at achieving specific goals within a defined budget and schedule.***
 - ***A complex, non-routine, one-time effort constrained by scope, schedule, resources, and risk.***
 - ***Characteristics (constraint name)***
 - ***Established objectives with performance requirements (scope, quality)***
 - ***A defined life period with a start and an end (schedule)***
 - ***Predefined assets. money, materials, people (resources)***
 - ***High uncertainty for task, resources and team (risk)***
 - ***The involvement of several departments and professionals (team-work)***
 - ***Something that has never been done before (new)***



What is project management

- ▶ Project Management (PM) could be any/all of the following:
 - A field of practice
 - A profession
 - A body of knowledge
 - An academic discipline



PM: A field of practice

- ▶ • Knowledge
 - – Areas
 - – Process groups
- ▶ • Skills
 - – Expert judgment
 - – Understanding of inputs and outputs
 - – Application of tools and techniques
- ▶ • Tools
 - – Tangible implements like software programs, diagrams, formulas, charts
 - – Used in activity to produce results
- ▶ • Techniques
 - – Systematic procedure used by a person
 - employing tools to produce a result



Project vs. Day-to-Day Operations

- ▶ **Project:**
 - Unique product
 - Done once
- ▶ **Day-to-Day Operations**
 - Repetitive
 - Not a unique product
- ▶ **Example:**
 - Installing PACS system
 - Help Desk process



What is Project Management

- ▶ **Project management** is the discipline of planning, organizing, securing, and managing resources to achieve specific goals
- ▶ Examples of PM methodologies:
 - PMI
 - Prince 2



Project Stakeholders

- ▶ All individuals and organizations involved in a project or whose interests will be affected by the project.
- ▶ Example: In a PACS implementation project, Radiology department, IT department are considered stakeholders in addition to the project manager.



Risks

- ▶ Risks represent uncertainties within the projects that can delay or increase the cost of the project.
- ▶ Risks can be managed by:
 - Avoidance: finding ways to prevent risks
 - Transfer: such as insurance
 - Mitigation: Decreasing the impact of the risk
 - Acceptance: Accept the risk and deal with it



Nature of IT and Technology Projects

► Challenges

- System complexity
- Increased number of stakeholders
- Technical expertise
- Resistance
- Funds
- Communications



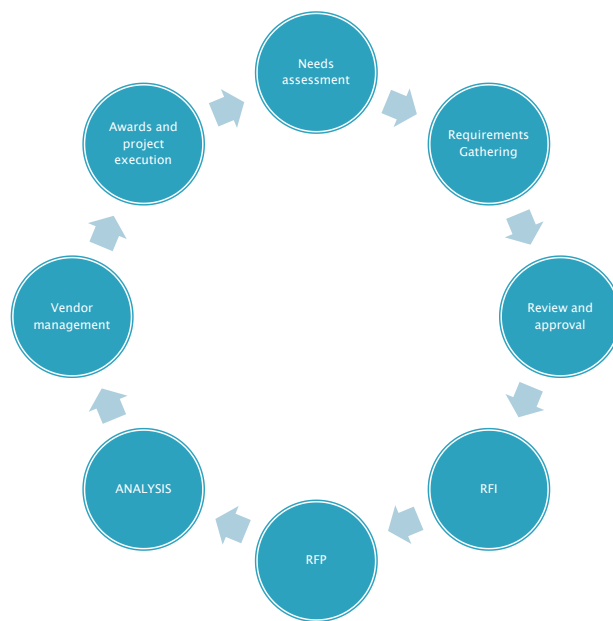
Nature of IT and Technology Projects

▶ Failure reasons

- Project failure is defined as failing to meet the project objectives in terms of project scope, schedule, or cost
- Reasons of failure include:
 - Unclear scope
 - Failure to analyze stakeholders needs
 - Risk management failure
 - Problems in Communications



Life cycle



Project Life Cycle

- ▶ Needs Assessment
 - Identifying the need to execute a project
 - Involves analyzing the current environment and identifying potential problems to be solved
- ▶ Requirements Gathering
 - Once the need is recognized, the exact requirements of the project need to be gathered.
 - Requirements are gathered from stakeholders involved in the project.



Project Life Cycle

- ▶ Review and Approval
 - Once the requirements are gathered, they need to be reviewed by stakeholders, and experts to make sure they will solve the diagnosed problem.
- ▶ Request for Information RFI
 - The aim of this process is to identify potential solutions to implement the project.
 - RFI is issued to potential vendors with questions regarding technologies and product features.



Project Life Cycle

▶ Request for Proposal RFP

- Once RFI is answered by vendors, the next step is to write an RFP to specify the exact requirements (technical, managerial, financial, procedural) for the project.
- RFP is written by subject matter experts and must include the data gathered in the “gathering requirements” phase and information retrieved through RFI.
- A clear RFP helps the vendor to answer the requirements of the customer, and how the relation between them is governed.



Project Life Cycle

▶ Vendor Management

- Once project is awarded to a vendor, the relation between customer and vendor needs to be managed
- The vendor management starts with the contract where the relation is clearly defined. The contract should clearly specify the duties of the vendor and the performance criteria of the project.



Project Life Cycle

▶ Vendor Management

- Vendor management activities include:
 - Contract management
 - Performance evaluation
 - Performance reporting
 - Change management
 - Approvals
 - Project Termination
 - Project closure



Project Life Cycle

▶ Project Management

- This is the methodology used to manage the project to success.
- It includes processes for:
 - Initiation
 - Planning
 - Executing
 - Controlling
 - Closing



Vendor management

Pre award



RFP



Project plan



commitment

After award



Project management



management



Deliverables



Example 1

- ▶ Installing PACS system in a large scale hospital
 - The project involves installing the hardware, software as well as user training for a Picture Archiving and Communication System (PACS)
 - Stakeholders include IT department, radiology department, and Engineering Department



PACS Project

► Needs Assessment

- The radiology department performance measure finds that there is a great delay in processing patients' radiology images causing delays in appointments and reporting.
- A solution is required to accelerate the process and create a clear workflow for it.
- A PACS system is proposed to solve this problem.



PACS

► Requirements Gathering

- Number of patients
- Number of images
- Number and types of modalities
- Essential system features
- Current process to handle patients



PACS

- ▶ Review and approval
 - Once the requirements are gathered, they are reviewed by radiology and IT departments to make sure all requirements are gathered.
 - The requirements are approved and sent in RFI to different vendors



PACS

▶ RFI

- RFI is issued to gather data regarding the most recent trends in PACS systems, hardware requirements and the distinct features in each product.



PACS

▶ RFP

- Subject matter expert from IT, radiology, and engineering work together to write a comprehensive RFP based on the requirements gathered as well as the RFI.



PACS

▶ Vendor Management

- The customer forms a committee from IT, radiology, and engineering departments to manage the vendor and to take decisions regarding the project.
- The committee reviews schedule, progress of the project and make sure he project is going according to plans.



PACS

▶ Vendor Management

- The committee is also responsible for managing project changes and accepting the project
- The committee is assisted by subject matter experts in project management, IT and radiology.



PACS

- ▶ Project Management
 - Simplified when the above steps are done clearly and precisely
 - A project manager is assigned to manage the project with the vendor.



Example 2

- ▶ RFID infant protection system
 - This project involves installing a system to monitor newborn movements within the hospital and signal an alarm if the newborn is separated from either the mother or responsible nurse.
 - Stakeholders include IT department, Gynecology department



Infant protection system

► Needs Assessment

- Cases of newborn abduction and accidental changes are reported in hospitals
- A solution is required to prevent such incidents from happening within the hospital
- The solution of tracking newborns using RFID is proposed



Infant Protection System

► Requirements Gathering

- Premises to cover with the system
- Number of newborns and mothers
- Number of twin cases
- The suggested process to handle alarms and monitor infants
- Drawings of the birth wings at hospital



Infant Protection System

- ▶ Review and Approval
 - Requirements should be approved by departments and higher management in the hospital.
 - Budget should be allocated to project.



Best luck

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