Learning Journal 1

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Course: SOEN 6481- Software Project Management

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Dates Rage of activities: 16 January 2025 to 24 January 2025

Date of the journal: 25 January 2025

Key Concepts Learned:

During the past two weeks, I learned had the basic terminologies in Software Project Management, focusing on the fundamentals of projects, effort estimation, cost estimation, and risk management.

Project Basics & Characteristics:

- A project has a definite start and end, unlike routine jobs. It involves planning, resource allocation and execution to meet specific goals.
- Software projects different from other types of projects because to their invisibility, complexity, conformity, and flexibility, making them more challenging to manage.

Project Initiation:

- Involves creating a Project Charter (defines project purpose), setting project scope (boundaries and features) and estimating the initial budget and effort required and Setting SMART objectives (Specific, Measurable, Achievable, Relevant, Time-bound).

Effort & Cost Estimation:

- In experience-based method estimates rely on Expert Judgment, Estimation by Analogy, and the Delphi Method (iterative expert consensus). Algorithmic models like COCOMO use mathematical formulas based on project size, while Function Point Analysis (FPA) estimates effort based on user interactions and data complexity.
- Bottom-Up Estimation breaks tasks into smaller components and Top-Down Estimation predicts effort based on overall project scope.

Risk Management:

- Risks are classified as technical, organizational, economic, and legal. These risks can impact project quality, cost, and timelines.
- The Risk Management Process involves steps such as identification, analysis and prioritization. risk analysis techniques can be qualitative (high, medium, low) and quantitative (probability-based calculations).

Application in Real Projects:

- I studied how SPM concepts are implemented in real projects, for my book exercises, these projects gave me an understanding of how larger projects are handled by governments and their challenges, and how open-source-Projects create their project charter.

- For Example: one of the federal IT projects I studied, the Phoenix Pay System meant to streamline payroll, faced technical issues and payroll errors, escalating costs from $310 million to over $2.2 billion and the Open- source project, Mocha, a JavaScript testing framework. Its project charter ensures transparency, collaboration, and clear governance, helping stakeholders understand their roles for clear decision-making.

Peer Interactions:

- In We had discussions in class on estimation techniques which helped me refine my understanding of effort and cost estimation methods.
- My classmate shared his Industry Insights on the Delphi Technique in a previous project during his job, demonstrating how iterative expert consensus improves estimation accuracy in practice.
- My teammates and I analyzed and shared information various project topics, comparing them with real-world businesses that already had these implemented to get better understanding of them.

Challenges Faced:

- The first week's concepts were easy to grasp and was basic, but the second week introduced complex estimation techniques and calculations, such as COCOMO and Function Point Analysis (FPA), which were difficult to follow during lectures.

Personal development activities:

- Researched various definitions of key terms for completing the activity document and reviewed risk mitigation strategies and book examples to clarify challenging concepts.

- Engaged in group study with peers to gain diverse perspectives, improving my understanding of complex topics and problem-solving skills.

Goals for the Next Week:

- Short-Term Goal: Complete assigned readings and practice exercises to reinforce this week's learning**.**

- Long-Term Goal: Develop a deeper understanding of project risk management by exploring real-world case studies**.**