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**Course:** SOEN 6841

**Journal URL:** https://github.com/anubhavm101/SPM-Learning-Journal

**Dates Rage of activities:** 21-Sept-2024 to 04-Oct-2024

**Date of the journal:** 05-Oct-2024

**Key Concepts Learned:**

1. Effort Estimation: Software projects are effort-driven and challenging to estimate accurately; techniques include Experience-based (Analogy, Expert Judgment) and Algorithmic models (e.g., COCOMO).
2. Function Point Analysis (FPA): Measures software size using data (ILF, EIF) and transactional functions (EI, EO, EQ); involves Unadjusted Function Points (UFP) and Value Adjustment Factor (VAF) for complexity adjustment.
3. Delphi Technique: Consensus-based effort estimation using team discussions and averaging estimates.
4. Cost Estimation: Derived from effort estimates using methods like Activity-Based Costing and Cost Factor Analysis.
5. Risk Definition: Combination of probability and impact of an event affecting project outcomes.
6. Risk Categories: Includes technical, schedule, cost, resource, and organizational risks.
7. Risk Assessment: Involves identification, analysis (qualitative and quantitative), and prioritization.
8. Risk Strategies: Acceptance, Avoidance, Transference, Mitigation, and Contingency Planning.
9. Risk Control: Continuous monitoring, resolution assignment, and reassessment throughout the project.
10. Risk Mitigation: Use schedule buffers, knowledge management systems, and quality gates to minimize risk impact.
11. Iterative vs. Waterfall Models: Iterative models reduce risks through feedback loops, unlike Waterfall’s one-time review.

**Methodologies and Frameworks:**

1. Effort Estimation Frameworks: Includes Function Point Analysis (FPA) for measuring functionality, COCOMO for algorithmic cost modeling, and Delphi Technique for consensus-based estimation.
2. Risk Management Methodologies: Follows ISO/IEC definitions, using frameworks like Impact vs. Likelihood Matrix and Quadrant Analysis for Risk-Benefit Tradeoffs to prioritize and manage project risks.

**Application in Real Projects:**

1. Effort and Cost Estimation: Apply during project planning to create accurate budgets and timelines, ensuring resource alignment and preventing overruns.
2. Risk Management: Essential for projects with new technologies or uncertainty to proactively mitigate issues and maintain project stability.

**Peer Interactions:**

1. Pitch Preparation and Presentation: During the Class, I presented a pitch outlining the project’s core objectives and potential impact. The feedback received on my delivery style from my group mates and few classmates helped refine my presentation skills, making my message clearer and more impactful.
2. Market Analysis Insights: Collaborating with peers on the market analysis highlighted new angles, such as competitor strategies and niche opportunities, that I hadn’t initially considered. These discussions broadened my understanding and enabled a more comprehensive market evaluation.

**Challenges Faced:**

1. Effort Estimation Accuracy: Accurately estimating effort for unfamiliar technologies was challenging, often leading to discrepancies. More data and expert input are needed for improved accuracy.
2. Complexity of Risk Assessment: Prioritizing risks effectively was difficult, highlighting the need for clarification on quantitative vs. qualitative analysis methods.
3. Collaboration Dynamics: Integrating diverse peer perspectives into cohesive analyses proved challenging. I need clearer communication strategies to better synthesize feedback.

**Personal development activities:**

1. Problem Initiation and Market Analysis: I studied the significance of problem initiation and market analysis, which deepened my understanding of identifying project challenges and aligning solutions with market needs, ultimately informing my project strategy.
2. Engaged in group discussions and collaborative activities with peers, which improved my communication skills and allowed me to gain diverse perspectives on project challenges.
3. Pitch Presentation: Delivered a pitch for my project, which enhanced my presentation skills and boosted my confidence in articulating project objectives and value to stakeholders.

**Goals for the Next Week:**

1. **Enhance Risk Management Skills:** Review and analyze different risk management frameworks in software projects to apply effective strategies in my ongoing projects.
2. **Improve Presentation Abilities:** Focus on enhancing my presentation skills by practicing delivery techniques and receiving feedback from peers. This will strengthen my ability to communicate project objectives clearly and confidently in future discussions.