Learning Journal Template

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Course: SOEN6841 Software Project Management

Journal URL: https://github.com/nisarg291/SOEN6841_Journal

Week 2: 03/01/24 to 10/02/24

Date: 08/01/24

Key Concepts Learned:

I've gained knowledge about the various kinds of risks that can arise in a project and the factors that lead to those risks in a project. Additionally, it comprehends the consequences of risks within a project and possesses the capability to conduct risk analysis. It is well-versed in the development of strategies essential for mitigating those risks.

Risk: Risks are unexpected or unplanned events that, when they happen, can either devastate or, at the very least, harm our plans.

Risk identification: Identify risks related to the overall project, to the product and the business. The outcome of this step is a collection of risk items.

Causes of Risks: Some possible causes of Risks are quality constraints, resource unavailability, disinterest, attrition, scope creep, cost constraints, bad negotiation, unrealistic estimates, human error, and poor management.

Risk Categories:

1. **Budget Risks:** It's crucial to prioritize and manage risks affecting the project budget consistently. If the budget exceeds the allowed limit, the project manager must take action to bring it under control.

2. **Time (Schedule) Risks:** Ensuring projects meet targeted release dates is crucial to avoid significant business opportunity losses. Unforeseen circumstances, such as unexpected rework, or communication gaps, can lead to project schedule slippage. To reduce the impact of schedule slippages, a risk buffer should be used.

3. **Resource Risks:** Balancing the need to minimize project costs while creating reserved resources for potential team member losses poses a challenging dilemma for project managers in software projects.

4. **Quality Risks:** High-quality software is essential for minimizing support costs and avoiding the pitfalls of supporting a poor-quality product. Risks to software quality arise from design flaws, construction issues, complexity, integration challenges,

and design alterations. To deal with quality risks, the best policy is to have a check for quality integrated into the project schedule itself (quality planning).

5. **Technology Risks:** Technology obsolescence is a common challenge as new products quickly replace older ones. Careful selection of programming languages, hardware, and vendor support ensures software longevity and usability.

Risk Analysis: Dealing with any kind of risk requires some risk analysis. Project risks are dynamic and can emerge at any project stage. Regularly revising the risk matrix enables timely assessment and remedial actions by the project manager. The project risk matrix is where the project manager has listed risks and their impact as well as their probability. Risk exposure (RE) can be calculated by multiplying risk probability and its impact.

Risk Prioritization: After identifying and analyzing risk items based on their likelihood and impact, priorities are set to guide mitigation efforts. By combining these values in a quantitative model, the priority scheme ensures significant risks are addressed first, placing fewer concerns at the bottom of the list.

Risk Control: Risks can be avoided or mitigated by doing risk planning, resolution, and risk monitoring.

Risk Planning: Manage negative risk items using some strategies.

- **Acceptance:** The project has decided not to change the project plan to deal with a risk or is unable to identify any other suitable response strategy.

- **Avoidance:** Avoidance involves altering the project plan to eliminate the risk and safeguard project goals. Examples include avoiding unfamiliar subcontractors, reducing the scope for high-risk activities, and opting for familiar approaches.

- **Transference:** Risk transference entails passing the consequences and responsibility for managing risk to a third party. This is achieved through methods like insurance, warranties, contracts, and fixed-price agreements with subcontractors.

- **Mitigation:** Mitigation involves reducing the probability or consequences of a risk to an acceptable level. Proactive measures, such as adopting simpler processes or planning additional testing, are more effective than reactive responses.

    - **Risk Reduction Leverage:** the ratio of the reduction in risk exposure over the cost of reduction.

        - **RRE = (RE (Before) - RE(After)) / cost of risk reduction**

            - RRE > 1 -> cost-effective risk reduction. RRE<1 -> non-effective.

Furthermore, understand how to manage risks in iterative models and what are the practical considerations for risk management.

Reflections on Case Study/course work:

This case study delves into the effort and cost estimation process for a SaaS vendor's project, followed by a focus on risk identification and mitigation in this chapter. Businesses consistently assess their market standing, size, competitors, and product strategies to shape their market plan. Risk assessment is critical for a business's survival, particularly for software vendors concerned about meeting market expectations. After determining market potential, the vendor initiates software development, bringing about known risks. Challenges faced by our SaaS vendor encompassed offshore team coordination, attrition, communication gaps, development costs, schedule adherence, and software quality.

To overcome these challenges, the vendor implemented several strategies:

- Standardized templates and virtual meetings addressed communication challenges between onshore and offshore teams.

- A 10% buffer in the schedule estimate ensured project and iteration schedules stayed on track, with prioritized features providing flexibility.

- Team managers were authorized to request overtime or redistribute tasks to manage the unavailability of team members.

- Thorough reviews and checks were integrated into the process after completing each work product to maintain high software quality.

These strategies proved effective in helping our SaaS vendor successfully navigate and mitigate identified risks throughout the development of their flagship software product.

Collaborative Learning:

This week, our project group held multiple meetings to discuss our project which is a food waste reduction and redistribution platform and to discuss the problem identification and market analysis for our project.

While working with my team on my project, I understood the concepts of project management more clearly and now I can identify any major problems in any field and how to make market analysis reports and the importance of competitors analysis by listing the strengths and weaknesses.

Further Research/Readings:

After reading risk management from the textbook, to gain more knowledge about risk management, I read Chapter 10: Managing Quality and Risk from the

Troubled IT Projects Prevention and Turnaround textbook by John M. Smith which is mentioned in Recommended Reading.

I understood the difference between quality and risk management, how to make a good quality plan, the goal of risk management, The Strategies, contingency plans and scenarios that need to be considered to mitigate risks, what is the risk register and how to find the cost of residual tasks.

Adjustments to Goals:

I reviewed my previous week's goal, and I was able to achieve the previous week's goal, I reviewed Chapter 4 and some concepts of Chapter 5. Moreover, completed the project initiation and market analysis of our group project and made the report.

Plan for the upcoming week includes reading all concepts of Chapter 5 and Chapter 6. Planning to read chapter 5 from the recommended reading textbook to gain more in-depth knowledge about Configuration Management.