CSP 587 - Software Quality Management

Homework #2

Name: Abhiram Ravipati

Student ID: A20539084

1. Steps to mitigate each risk:

a) "The partner does not know our procedures"

In the case, where "the partner does not know our procedures" to mitigate this risk, we will have to conduct various knowledge transfer sessions where we will be giving them a clear picture of our procedures and standards. Also, developing a document which explains clear steps and standards which include our procedures would be helpful. We should assign a person or team based on the size of organization to regularly check the procedures if any deviations are found in the procedures followed by our partner. So that, we can fix them at an early stage. Also, scheduling regular meetings can make sure that the partner follows our procedures and address their questions regarding our procedures.

b) "We need accurate awareness of their progress at all times"

It is very important that we have regular awareness of the partner's progress because this helps us to have a clear track of the tasks going on currently or the completed tasks. Sometimes, we may have some changes to be made in a task according to the changes in the requirements from the client. In these situations, you will be able to easily track the tasks whether it is completed, in progress or a future task. This can be achieved by the use of any project management tool available in the market like Jira, Notion etc., whichever tool best suits our organization needs. Also, having frequent meetings with the partner team helps us enable transparency between our organization and the partner. In the above risk, where "the partner does not know our procedures" we suggested assigning a person or team to regularly check the procedures. Here, we can also use them to check the progress on a regular basis so that they can have a track and whenever the weekly review session happens, they can address all the pending tasks or missed deadlines. So that, potential issues can be addressed and solved at an early stage which will help us save thousands of dollars for rework of the system.

c) "We will need to maintain their code"

When it comes to maintenance of the partner's code, we need to make sure that the code written follows all our organization's standards. Apart from our organization standard's we should also make sure that it follows best practices in the industry. So, when it follows all the norms like well-formatted code structure, commenting the code for better readability,

etc., One can easily understand the code. Whenever we face an issue, it will easier for the team to make necessary changes in the code easily. It is always suggested to use a version control system like git to manage the different versions of the code. It helps us to rollback to an older version in case of bugs in the newer version developed. Frequent code reviews will help us to understand the code and make necessary changes if needed. All the code must be documented with proper structure so that it will be easier for a person who joins the team later to understand.

2. Risk Exposure Analysis:

For calculating Risk Exposure, we will be using the formula discussed by professor in the class

Risk Exposure = Probability * Impact

To calculate Savings with Mitigation:

Savings = (Risk Exposure without Mitigation) - (Risk Exposure with Mitigation) - Mitigation Cost

For this calculation, we will be assuming some values

a) "The partner does not know our procedures"

Impact = $400,000

Risk Exposure without Mitigation:

Probability = 75 %

Risk Exposure = 0.75 * $400,000 = $300,000

Risk Exposure with Mitigation:

Mitigation Cost = $40,000

New Probability = 20%

New Risk Exposure = 0.2 * $400,000 = $80,000

Savings = $300,000 - $80,000 - $40,000 = $180,000

So, we are saving $180,000 dollars with mitigation. So, it is worth

b) "We need accurate awareness of their progress at all times"

Impact: $600,000

Risk Exposure without Mitigation:

Probability: 60 %

Risk Exposure = 0.6 * $600,000= $360,000

Risk Exposure with Mitigation:

Mitigation Cost = $50,000

New Probability = 10%

New Risk Exposure = 0.1 * $600,000 = $60,000

Savings = $360,000 - $60,000 - $50,000 = $250,000

Here, we are saving $250,000 dollars with mitigation. So, it is worth

c) "We will need to maintain their code"

Impact: $ 800,000

Risk Exposure without Mitigation:

Probability: 90 %

Risk Exposure = 0.9 * $ 800,000= $720,000

Risk Exposure with Mitigation:

Mitigation Cost = $120,000

New Probability = 20%

Risk Exposure = 0.2 * $800,000 = $160,000

Savings = $720,000 - $160,000 - $120,000 = $440,000

Here, we are saving $440,000 dollars with mitigation. So, it is worth

3. 4 QMPs of ISO 9001 that would our Project:

We have 7 Quality Management Principles of ISO 9001. All of them would benefit our profit. But here, we are considering the four principles that would most benefit our project.

1. Customer Focus:

In our project of developing a mission-critical system, it is always very crucial that the customer is given utmost importance. We need to have regular check-ins with the customer by setting up some feedback sessions through user testing or stakeholder meetings. These things help us deliver a system which truly meets the requirements of the customer which will help us reduce the cost of rework. By taking continuous feedback from the customer, we can develop a better system with effective features within our budget and the timeframe. So, this approach could potentially lead to customer satisfaction.

2. Leadership:

Strong leadership is a key aspect of any successful project and it is particularly crucial when working with an outsourcing partner. A strong leadership would set a clear vision and give us a direction for our internal team and our partners. Leaders would be in the middle of the internal team and the partners that bind us together by creating a shared vision. Leaders should be always visible and easily approachable. It is their responsibility to create an environment where quality is kept at the top level. They play a vital role in driving the

teams to success. Leadership helps the team to navigate through the challenges and extremities faced by both the teams (internal and partner teams).

3. Improvement:

In this competitive and rapidly evolving world, continuous improvement is very essential. This QMP will help us by guiding us to continuously searching ways to improve our system throughout the project lifecycle. We can implement this by frequent analysis where both our team and partner's team share their feedback by analysing what can be done more to enhance our system. This enhancement could be focusing on an additional feature, performance improvement or better coding practices, etc., An automatic system can be developed for collecting the performance metrics, which can later be used for analysis and continuous improvement of the system.

4. Engagement of People:

This QMP focusses on collective involvement of every person in the team. Everyone in the team should feel that their voice is valued, this creates an environment where everyone shares their opinions, ideas. When everyone in the team owns the work that they do, that is where innovation starts. This could be implemented by encouraging open communications between the teams and the leadership. Each and every team member should be involved in decision-making wherever it is needed. This approach could lead to success of the team.

4. Implementing Agile Meetings in this Project:

1. Sprint Planning:

At the beginning of each sprint, we will have to gather all the key members from our internal team and the outsource partner. We have to conduct a proper structured planning session at the start of each and every sprint. Usually, this meeting would be focussing on reviewing and prioritizing the product backlog, defining the clear goals of the sprint and breaking down the project to specific tasks. The product Owner will go through the items from top priority from the product backlog. Then the team will be deciding those which can be delivered within the next sprint. This will be creating a collaborative planning nature while clearly defining the goals that are achievable for each sprint.

2. Daily Stand-ups:

Daily Stand-ups are basically short, focused meetings that will be conducted everyday morning which usually might not take more than 15 to 30 minutes. The participants of the stand-up would include all the team from our organization and also the outsource partners

team. During these meetings, everyone should brief their previous day's progress and what they are planning to do today. This will help the team to be in constant touch and identify any problems as early as possible.

3. Sprint Reviews:

Sprint Reviews will be held at the end of each and every sprint. These are usually 1 to 2 hour meetings that allows the team to review the work which was completed during the sprint. Stakeholders will be invited to the meetings for feedback to ensure that the project stays in the focus. This will enable transparency which is very important considering the system that is being developed. This review will help us to ensure that the project is staying on track with the requirements of the customer.

4. Sprint Retrospectives:

After each sprint review, a sprint retrospective will be conducted. This is a meeting where the development team including our outsource partner will participate. In this meeting, we will be discussing what went right, what went wrong and what can be improved. A list of items like a check-list will be prepared which includes improvements. This will help us to create a positive environment for continuous improvement.

5. Backlog Refinement:

Backlog Refinement is used to keep the track of backlog in an organized way in the order of priority. The Backlog Refinement meetings are scheduled between the sprints. These meetings usually include Product Owner, Scrum Master and other important team members. In this meeting, we will be breaking down the tasks into manageable tasks and the backlogs are prioritized in a proper way. This practice will help us in a better planning for next sprint and head towards a clear direction.