CHAPTER VI

RISK MANAGEMENT

This chapter discusses the risks that may affect the outcome of the project or the quality of the product. Risk management is one of the key attributes of a successful software project. The team really do need to know what might go wrong and establish a plan to mitigate it the risk happen. So many software failed because of the assumptions that nothing go wrong, as a consequence, when a risk becomes a reality, chaos and problems reigns, and the team have a hard time to mitigate that risk.

6.1 Project Risk

There are different types of risk that the team encounter during the development of the system. These risk might hinder or affect the development and implementation of the system that the team proposed. One of the risk that the team might encounter be the project risk. Project risk threaten the project plan. That is, if project risks become real, it is likely that the project schedule slip and that costs increase.

The possible risks that the team identified includes the underestimation of the project scope, delays in the schedule for completing the system, expertise of the language to be used, definition of requirements from the clients or organization, budget for all the expenses from the development to the implementation of the system, and the appropriate platform to be used.

6.2 Risk Table

Table 17 shows the risk that the group identified while developing the system. The table shows the risk probability and the impact of each risk to the development of the system. Each of the risk mentioned in table 17 analyzed by the team if it could highly affect and fail the system development.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ID | Risk | Category | Probability | Impact |
| R1 | Underestimation of the project scope | PS | 10% | 3 |
| R2 | Delays in the schedule for completing the system | PS | 50% | 2 |
| R3 | Expertise of the language to be used | PS | 40% | 3 |
| R4 | Underestimation of the budget cost | PS | 10% | 3 |
| R5 | Unclear process knowledge | PS | 20% | 3 |
| Legends:  Impact Values:  1 – Catastrophic  2 – Critical  3 – Marginal  4 - Negligible | | | | |

Table 17. Risk Table.

6.3 Risk Mitigation, Monitoring and Management

This section explains the possible solutions to prevent the identified risks that possibly happen. Risk management helps the group analyze and creates possible solutions to the different risks that the team encountered. Through Risk Mitigation, Monitoring, and Management (RMMM) the identified risks are given possible solutions in order to prevent those risk that might happen during the system development.

Table 18 show the possible solution that may apply in the given risk which is underestimation of the project scope. This table shows the possible risk mitigation, risk monitoring and risk management. The estimated cost and exposure is also show in this table. And lastly it has a description about the risk that been defined.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Description | With regards in analyzing the scope of the system, the group did not clearly discussed or understand some portions in the system. | | | | |
| Probability | 10% | Cost | 16,000 | Exposure | 8,000 |
| Mitigation | 1. The group must clearly discuss the scope of the system  2. The group must also understand the process that happen in the system. | | | | |
| Monitoring | 1. Understand the complexity of the system.  2. Compute for the complexity of each module. | | | | |
| Management | 1. Research some other strategies that use to estimate the scope of the project. | | | | |

Table 18. Underestimation of the Project Scope.

Table 19 show the possible solution that may apply in the given risk which is delays in the schedule for completing the system. This table shows the possible risk mitigation, risk monitoring and risk management. The estimated cost and exposure is also show in this table. And lastly it has a description about the risk that been defined.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Description | This risk discuss the difficulties of the group in submitting the required chapters in the given deadline. | | | | |
| Probability | 50% | Cost | 25,000 | Exposure | 15,000 |
| Mitigation | 1. The group must manage their time in terms of submission.  2. Every member of the team must finish the task that given to them. | | | | |
| Monitoring | 1. The group must always check the given deadline of submission. | | | | |
| Management | 1. The group must submit the requirements on time.  2. Use the time in working some sections of the paper. | | | | |

Table 19. Delays in the Schedule for Completing the System.

Table 20 show the possible solution that may apply in the given risk which is expertise of the language to be used. This table shows the possible risk mitigation, risk monitoring and risk management. The estimated cost and exposure is also show in this table. And lastly it has a description about the risk that been defined.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Description | This risk discuss the difficulties of the group, using some words to be used in constructing paragraphs and sentences in every section of the paper. | | | | |
| Probability | 40% | Cost | 20,000 | Exposure | 15,000 |
| Mitigation | 1.Read books or e-books that are related to the language chosen by the group. | | | | |
| Monitoring | 1. Attend tutorials of the programming language used in developing the system.  2. Research for related literature of the system to develop. | | | | |
| Management | 2. Collaborate with persons with expertise in the programming language. | | | | |

Table 20. Expertise of the Language to be Used.

Table 21 show the possible solution that may apply in the given risk which is underestimation of the budget cost. This table shows the possible risk mitigation, risk monitoring and risk management. The estimated cost and exposure is also show in this table. And lastly it has a description about the risk that been defined.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Description | Regarding with the budget cost proposed by the group, if this certain problem arises, it might be a big problem for the group to present the proposed budget. | | | | |
| Probability | 10% | Cost | 10,000 | Exposure | 5,000 |
| Mitigation | 1. Identify the possible risks that might affect on the development of the system.  2. Review or check the expenses used by the development group. | | | | |
| Monitoring | 1. Analyze all the requirements to be included in developing the system. | | | | |
| Management | 1. Compute clearly all the requirements that must be included when implementing the system.  2. Inform the users of the organization regarding the budget cost of the system. | | | | |

Table 21. Underestimation of the Budget Cost.

Table 22 show the possible solution that may apply in the given risk which is unclear process knowledge. This table shows the possible risk mitigation, risk monitoring and risk management. The estimated cost and exposure is also show in this table. And lastly it has a description about the risk that been defined.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Description | This risk discuss the difficulties of the group in terms of exchanging of ideas about the different process that applied in the system. | | | | |
| Probability | 20% | Cost | 18,000 | Exposure | 8,000 |
| Mitigation | 1. Conduct an interview as much as possible to the company to avoid confusion of understanding to each other.  2. Research about the company in order to know their other processes. | | | | |
| Monitoring | 1. To promote innovation within the group and gives feedback to all the area that has opportunities to improve. | | | | |
| Management | 1. Be specific in giving a possible process that may apply in the system.  2. Help the process to be more productive and efficient. | | | | |

Table 22. Unclear Process Knowledge.

Furthermore, risk management is the identification, analysis, assessment, control, and avoidance, minimization, or elimination of unacceptable risks. An organization may use risk assumption, risk avoidance, risk retention, risk transfer, or any other strategy in proper management of future events.