Project Risk Assessment

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Risks are part of the projects cycles and they can become a hurdle in the completion of the project if precautionary measures are not taken in time (Forteza et al.,2016). As 3M Maintenance company is planning to expand their office by renovating the two floors of the building, therefore, there might be some risks they might face during the execution of the project. In this paper, the risk assessment will be undertaken by taking certain steps for the building renovation project of the 3M Maintenance company.

There are five steps, in general, that must be taken to assess the risks related to this project. They are as follows.

1. Identification of potential risks
2. Investigate the risk category
3. Evaluate the damages of that risk
4. Take precautionary measures
5. Review the risk assessment procedure
6. **Identification of Risks**

There are certain risks that might occur in the completion of the project. They are:

1. Disapproval of renovation by authorities
2. Labor unavailability
3. Incomplete drawings
4. Health and Safety Hazards
5. Inefficient contractor
6. Change in scope
7. Poor weather (Snowfall, heavy rainfall)
8. Shortage of materials in the market
9. Technical issues for wiring
10. Site issues
11. An unexpected increase in costs
12. Poor management
13. Inappropriate design
14. **Investigate the Risk Category**

It is very important to categorize the identified potential risks because this will help the company in focusing on the root causes of these risks. Below is the table made for risk categorization.

|  |  |  |
| --- | --- | --- |
| **S.No.** | **Risk Factors** | **Risk Category** |
| 1. | Disapproval of renovation by authorities | Legal Risk |
| 2. | Labor unavailability | Site Risk |
| 3. | Incomplete drawings | Technical Risk |
| 4. | Health and Safety Hazards | Site Risk |
| 5. | Inefficient contractor | Management Risk |
| 6. | Change in scope | Process Risk |
| 7. | Poor weather (Snowfall, heavy rainfall) | Environmental Risk |
| 8. | Shortage of materials in the market | Material Risk |
| 9. | Technical issues for wiring | Technical Risk |
| 10. | Site issues | Site Risk |
| 11. | An unexpected increase in costs | Financial Risk |
| 12. | Poor management | Process Risk |
| 13. | Inappropriate design | Technical Risk |

1. **Evaluate the damages of that risk**

It is very critical to evaluate the damages of the risks listed above. Therefore, the risk register is made to keep on record all the risks and the damages they can incur.

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| --- | --- | --- | --- | --- | --- | --- |
| **S.No.** | **Risk Item** | **Risk Category** | **Likelihood**  **(L, M, H)** | **Impact**  **(L,M,H)** | **Severity**  **(L,M,H)** | **Effect on Project** |
| 1. | Disapproval of renovation by authorities | Legal Risk | **Low** | **High** | **High** | Delays |
| 2. | Labor unavailability | Site Risk | **Low** | **Medium** | **High** | Delays |
| 3. | Incomplete drawings | Technical Risk | **Medium** | **High** | **Low** | Scope affected |
| 4. | Health and Safety Hazards | Site Risk | **High** | **High** | **Medium** | Injuries |
| 5. | Inefficient contractor | Management Risk | **Medium** | **Low** | **High** | Quality affected |
| 6. | Change in scope | Process Risk | **High** | **Medium** | **High** | Change Management |
| 7. | Poor weather (Snowfall, heavy rainfall) | Environmental Risk | **Medium** | **High** | **Medium** | Delays |
| 8. | Shortage of materials in the market | Material Risk | **Low** | **Low** | **Medium** | Delays |
| 9. | Technical issues for wiring | Technical Risk | **High** | **Medium** | **Low** | Quality affected |
| 10. | Site issues | Site Risk | **Low** | **Low** | **Medium** | Schedule affected |
| 11. | An unexpected increase in costs | Financial Risk | **Medium** | **High** | **Low** | Cost overrun |
| 12. | Poor management | Process Risk | **High** | **Medium** | **Medium** | Quality affected |
| 13. | Inappropriate design | Technical Risk | **High** | **Medium** | **Medium** | Scope affected |

1. **Take precautionary measures**

In project management, there are four main approaches suggested to manage any kind of risk (Haimes, 2015).

1. Risk Avoidance
2. Risk Reduction
3. Risk Transferability
4. Risk Acceptance

Keeping in consideration all the aspects of the risks, above mentioned four strategies will be adopted to deal with the risks. Every risk requires a different type of approach that is why precautionary measures will be taken for their settlement. For example, in the case of an inefficient contractor, a well-experienced contractor will be hired after checking all the available contractors. For weather conditions, the forecast will be updated to all the team so that the project does not delay.

1. **Review the risk assessment procedure**

It is very important to review the whole risk assessment procedure so that the mistakes can be highlighted in their implementation and avoided next time.

**References**

Forteza, F. J., Sese, A., & Carretero-Gómez, J. M. (2016). CONSRAT. Construction sites risk assessment tool. *Safety science*, *89*, 338-354.

Haimes, Y. Y. (2015). *Risk modeling, assessment, and management*. John Wiley & Sons.