



جامعة الجميع الذكية  
EVERYONE'S SMART UNIVERSITY

## Everyone's Smart University

### Project (Spring 2021)

|              |                  |               |
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## Project Risk Management

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# **Risk Plan**

## **GSM tower installation**

**Project Manger**

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## **1. Introduction**

The risk management plan is "a component of the project, program, or portfolio management plan that describes how risk management activities will be structured and performed"(1).

In this document will provide the risk plan of GSM tower installation project and will describe the risks and potential impacts with response strategies.

The project will be installing a new GSM tower to increase GSM coverage on a highway road.

We will expect risks scenarios and evaluate the probability and Impact after that we select response plan for each risk with impact cost.

## **2. Literature review**

In this section, we try to provide an idea about the risk management based on the literature review.

Risks can be both financial and non-financial and are associated with unknown events that may occur within the internal and external environment as a result of certain actions or inactions(Verbano & Venturini 2013).

The International Organization for Standardization (ISO 31000, 2009) has outlined a set of principles for risk management in organizations(Knight 2009; Short reed 2008) .

. In Australia and New Zealand the AS/NZS 4360:1999 has put forward an iterative process for managing risks which provides a framework to support better.

### 3. Methodology

We are using 5 steps to cover the risk plan on our project :

- Identify potential risks
- Evaluate and assess potential risks
- Assign ownership for each potential risk
- Create preemptive responses
- Continuously monitor risks

#### 3.1 Identifying risks

Risk identification occurs at the beginning of the project, as well as throughout the project and during brainstorming with stakeholders we identify all the possible risks.

Table 1. List of Risks

| No. | Risks                                                      |
|-----|------------------------------------------------------------|
| 1   | Failure of Soil test                                       |
| 2   | Equipment delays on customs because COVID- 19 restrictions |
| 3   | Site acquisition                                           |
| 4   | Labor productivity                                         |
| 5   | Safety (incident)                                          |
| 6   | Site access road                                           |
| 7   | Delay payment of contract                                  |
| 8   | Professionalism of integration engineers                   |
| 9   | Equipment theft                                            |

#### 3.2 Risk Analysis

Impact and probability are the two main components of Risk analysis. Looking at impact versus probability is common to categorize and prioritize risks as some risks may have a severe impact on projects objectives but only happen on rare occasions, while other have a moderate impact but occur more frequently. (1)

Will assess the probability and Impact of each risk occurring and assign it a rating by using risk matrix and we have decided to use three distinct levels for risk: Low, Medium, and High.

Figure1. Risk Matrix

|             |          |        |          |        |
|-------------|----------|--------|----------|--------|
| Probability | 0.8-1    | High   | High     | Medium |
|             | 0.4-0.79 | High   | Medium   | Low    |
|             | 0-0.39   | Medium | Low      | Low    |
|             |          | 0.8-1  | 0.4-0.79 | 0-0.39 |
|             |          | Impact |          |        |

Table 2. Risks Probability and Impact

| No. | Risks                                                      | Probability | Impact |
|-----|------------------------------------------------------------|-------------|--------|
| 1   | Failure of Soil test                                       | 0.4         | 0.7    |
| 2   | Equipment delays on customs because COVID- 19 restrictions | 0.9         | 0.8    |
| 3   | Site acquisition                                           | 0.8         | 0.4    |
| 4   | Labor productivity                                         | 0.3         | 0.2    |
| 5   | Safety (incident)                                          | 0.2         | 0.3    |
| 6   | Site access road                                           | 0.4         | 0.2    |
| 7   | Delay payment of contract                                  | 0.2         | 0.3    |
| 8   | Professionalism of integration engineers                   | 0.5         | 0.6    |
| 9   | Equipment theft                                            | 0.9         | 0.8    |

Then the severity calculated and evaluated and select the best response plans for each risk and try to mitigate the impact, also we assign risk owner to track the risks.

Table 3. Risk Register

| No. | Risks                                                      | Probability | Impact | Severity | Owner                    | Response plan                                                | Mitigate Action                                    |
|-----|------------------------------------------------------------|-------------|--------|----------|--------------------------|--------------------------------------------------------------|----------------------------------------------------|
| 1   | Failure of Soil test                                       | 0.4         | 0.7    | Medium   | Project Manager          | Change the location                                          | Will do a new soil test                            |
| 2   | Equipment delays on customs because COVID- 19 restrictions | 0.9         | 0.8    | High     | logistics department     | Escalate the issue to the client to understand the situation | Execute the tasks which not dependent on equipment |
| 3   | Site acquisition delay                                     | 0.8         | 0.4    | High     | Project Manager /Sponsor | Follow up with the client to receive the land ASAP.          | Increase resources during civil work               |
| 4   | Labor productivity                                         | 0.3         | 0.2    | Low      | Project Manager          | Add professional labor                                       | Tracking tasks daily                               |
| 5   | Safety (incident)                                          | 0.2         | 0.3    | Low      | Project Manager          | apply safety procedure                                       | Training                                           |
| 6   | Site access                                                | 0.4         | 0.2    | Low      | Project Manager          | Open access road to the site                                 | Use temporary access                               |

|   |                                          |     |     |        |                      |                                                              |                                                                             |
|---|------------------------------------------|-----|-----|--------|----------------------|--------------------------------------------------------------|-----------------------------------------------------------------------------|
| 7 | Delay the payments to the vendor         | 0.2 | 0.3 | Low    | Finance department   | Follow up with finance department to accelerate the payments | Identify clear payment process                                              |
| 8 | Professionalism of integration engineers | 0.5 | 0.6 | Medium | Technical department | Review the result and identify the reasons                   | Support the team with consultant                                            |
| 9 | Equipment theft                          | 0.9 | 0.8 | High   | Project Manager      | Damage assessment rework. and                                | Provide high security around the site until handover the site to the client |

### 3.3 Expected monetary value (EMV)

Expected monetary value (EMV) analysis is a statistical concept that calculates the average outcome when the future includes scenarios that may or may not happen Table 4.

EMV relies on two basic numbers.

- P—the probability that the risk will occur
- I—the impact to project if the risk occurs

The risk contingency calculated by multiplying the probability by the impact (2).

Table 4. Expected monetary value (EMV)

| No. | Risks                                                      | Probability | Impact cost (SR) | Risk contingency (SR) |
|-----|------------------------------------------------------------|-------------|------------------|-----------------------|
| 1   | Failure of Soil test                                       | 0.4         | 3000             | 1200                  |
| 2   | Equipment delays on customs because COVID- 19 restrictions | 0.9         | 15000            | 13500                 |
| 3   | Site acquisition                                           | 0.8         | 2000             | 1600                  |
| 4   | Labor productivity                                         | 0.3         | 1500             | 450                   |
| 5   | Safety (incident)                                          | 0.2         | 1000             | 200                   |
| 6   | Site access road                                           | 0.4         | 2500             | 1000                  |
| 7   | Delay payment of contract                                  | 0.2         | 500              | 100                   |
| 8   | Professionalism of integration engineers                   | 0.5         | 2000             | 1000                  |
| 9   | Equipment theft                                            | 0.9         | 4000             | 3600                  |
|     | TOTAL                                                      |             | 31500            | 22650                 |

#### 4. Result and Discussion

Table 4. Showing how much money we could expect to cover the risk during GSM tower installation also the cost impact if the risks happened, the risk contingency will be equal 22,650 SR and will be added it in the budget during planning.

#### 5. References

- Paul Hopkin, Fundamental of risk management 5<sup>th</sup> edition.
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