



جامعة الجميع الذكية  
EVERYONE'S SMART UNIVERSITY

## Everyone's Smart University

### Project (Spring 2021)

|              |                             |               |
|--------------|-----------------------------|---------------|
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Section

Master

Date

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Course Code

(PMG510)

## Project Risk Management

### Instructions:

- اخر موعد للتسليم هو يوم الخميس 2021-05-20 في تمام الساعة ٩ مساءً.
- الإجابة متاحة باللغة الإنجليزية أو اللغة العربية مع مراعاة أن تكون المصطلحات العلمية باللغة الانجليزية.
- يتم تسليم المشروع في صيغة ملف . pdf مع الالتزام نموذج الجامعة ولن تقبل أي مستندات أخرى.
- يجب مراعاة أقسام البحث الرئيسية (مقدمة Introduction، دراسات علمية سابقة Literature Review، طريقة البحث Methodology، النتائج والمناقشة Results and Discussion ، وأخيراً المراجع References . وان كان هناك ملحقات Appendices يتم إضافتها)
- يجب الالتزام بـ Theme موحد كما يلي:
- حجم الخط 12.
- نوع الخط Arial.
- لون الخط أسود.
- المسافة بين الأسطر 1.5 line spacing
- عدد صفحات البحث (لا يقل عن ثلاث صفحات ولا يزيد عن ست صفحات).

Instructor's Name: Eng. Mosaab M. Hamed

# OFFICE BUILDING AND PARKING LOT PROJECT RISK MANAGEMENT

## Introduction

Risk Assessment concentrates on predicting what may not be planned and taking measures at tolerable levels to reduce uncertainty. Risk can be seen either positively or negatively. A risk is a condition or occurrence potentially affecting the accomplishment of particular project goals. The project professional works with the risk owner to make sure the risks are properly defined in the risk assessment phase prior to going into the risk analysis stage.

This project aims to prepare a risk register for the Office Tower and Apartment Lot Construction Project selected in APM and perform risk analysis. In the first part, risks are identified with their description and risk category. In the next step, risk probability, impact, and risk score are calculated. In the last step, a risk mitigation plan is developed along with an EMV analysis of all risks.

## Literature Review and Methodology

### **Risk Identification**

Risk assessment allows companies to create strategies to reduce adverse incidents before they occur. The aim of this move is to classify any potential threats, such as fraud, technical violations, corporation disruption, or even a natural disaster, which could damage company operations. However, some approaches to assess the danger

to an enterprise include brainstorming, negative thought, and the need for feedback from employees.

Brainstorming: risk management can determine that brainstorming with other players such as managers and certain C-level workers can better detect new risks to different catastrophe incidents.

Pessimism: safety management careers often include preparing the worst while waiting for the best. Though pessimism is not always promoted in the workplace, it can aid in detecting danger by having time to think about "what's the scariest thing that might happen to a business."

Request Feedback from employees: The management's viewpoint on the dangers of an organization will vary greatly from those of workers. Staff may face new threats that may not otherwise have been faced in their day-to-day operations. Inadequate preparation in operating equipment, for example, will place employees at risk of injury.

Risk identification offers advice on the most vulnerable areas. Due to the fact that risk analysis is inherently perceptive, it is critical that stakeholders get involved in identifying risks early on. Below are some of the risks identified for this project after brainstorming sessions.

| Sr. No. | Project Risk                    | Descriptions                                                                                        | Risk Category |
|---------|---------------------------------|-----------------------------------------------------------------------------------------------------|---------------|
| 1       | Construction Permit Issue       | Failure to secure construction permit                                                               | Managerial    |
| 2       | Material Cost Changes (Tariffs) | Due to changing trade agreements, the cost of material may change from originally budgeted.         | Budget        |
| 3       | Material Delays                 | Materials might not arrive on time due to shipping delays.                                          | Material      |
| 4       | Communication                   | Communication failure may occur due to involvement of stakeholders having little English knowledge. | Managerial    |

|   |                |                                                |            |
|---|----------------|------------------------------------------------|------------|
| 5 | Illness/Injury | Key resource might become ill or gets injured. | Managerial |
| 6 | Material       | Purchase too much material.                    | Material   |
| 7 | Schedule       | The project may fall behind schedule.          | Managerial |
| 8 | Budget         | The project might go over budget.              | Budget     |

## Risk Evaluation

After identifying the possible threats, the project manager will then assess any risk, depending on the likelihood of a risk and the possible loss. Not all risks are the same. Few risk incidents are more likely than others and risk costs can differ significantly. The next step in the risk assessment process is to assess the likelihood of risk, the magnitude, or the possible damage to the project.

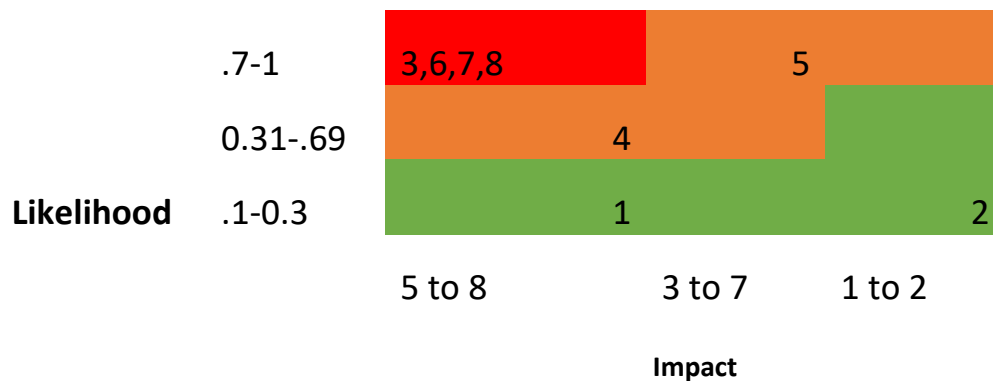
| Sr. No. | Project Risk                    | Probability | Impact | Risk Score   |
|---------|---------------------------------|-------------|--------|--------------|
| 1       | Construction Permit Issue       | 0.1         | 8      | .8 (Low)     |
| 2       | Material Cost Changes (Tariffs) | 0.3         | 2      | 0.6 (Low)    |
| 3       | Material Delays                 | 0.7         | 8      | 5.6 (High)   |
| 4       | Communication                   | 0.4         | 8      | 1.2 (Medium) |
| 5       | Illness/Injury                  | 0.2         | 8      | 1.6 (Medium) |
| 6       | Material                        | 0.7         | 6      | 4.2 (High)   |
| 7       | Schedule                        | 0.7         | 6      | 4.2 (High)   |
| 8       | Budget                          | 0.7         | 6      | 4.2 (High)   |

The interpretation of the risk score is provided below:

- Risk Score 0-1 Low Risk
- Risk Score 1-2.5 Medium Risk
- Risk Score 2.5-6.0 High Risk

## Risk Matrix

A risk matrix visualizes risks together with their potential magnitude and probability. The Risk Matrix is an important means of assessing the possibility or likelihood of severity, related to the possible risks of a project that helps to evaluate the risk. It is a mechanism to reduce the effects of risk that may negatively influence a company otherwise.



Risks in red need the most attention because these risks may have catastrophic impacts on the project as well as the company followed by risks in orange.

## Risk Mitigation and EMV

The project manager will create a risk mitigation plan, which will minimize the effects of an unwanted outcome when the risk has been assessed. The risk mitigation strategy identifies each defined risk occurrence in a risk mitigation strategy, and the measures the project team takes to minimize or eliminate harm. Contingency funding is the project team's finances for addressing unexpected events that escalate the costs of the project. High-risk projects typically have a substantial contingency budget.

| Sr. No. | Project Risk                    | Probability | Impact Cost | Mitigation Plan                                                                                                     | Risk Contingency (EMV) |
|---------|---------------------------------|-------------|-------------|---------------------------------------------------------------------------------------------------------------------|------------------------|
| 1       | Construction Permit Issue       | 0.1         | 50000       | Involve relevant stakeholders.                                                                                      | 500                    |
| 2       | Material Cost Changes (Tariffs) | 0.3         | 1000        | Look for alternatives to the originally specified material. See if bulk pricing is available.                       | 300                    |
| 3       | Material Delays                 | 0.7         | 5000        | Utilize contractor Contingency.                                                                                     | 3500                   |
| 4       | Communication                   | 0.4         | 2000        | Make a communication plan and use good communication channels.                                                      | 800                    |
| 5       | Illness/Injury                  | 0.2         | 20000       | Illness is beyond control for preventing injuries make sure safety guidelines are being followed and train workers. | 4000                   |
| 6       | Material                        | 0.7         | 500         | Return unused material.                                                                                             | 350                    |
| 7       | Schedule                        | 0.7         | 6000        | Speed up or cut out certain parts of the project that are not as important.                                         | 4200                   |
| 8       | Budget                          | 0.7         | 6000        | Something might have not been purchased                                                                             | 4200                   |

**Total Expected Monetary Value of Risks=17,850 SR**

# Results and Discussion

Risk is present in all projects as projects improve or expand on an operational framework by definition. There is at least a chance that the project will not achieve its goals. The safer your projects are, the more risk planning you do. This is why risk assessment is associated with project management. The time of a project manager is, of course, often useful and, when many have other professional responsibilities, the right amount of risk preparation is crucial. As can be seen in this project, budget and schedule risks have high contingency because each added day on the project requires the extra budget to pay workers, machinery costs, and various other costs.

## References

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