

Everyone's Smart University

Project (Spring 2021)

Student Name	Naif Omar Alamoudi	اسم الطالب
Students I.D	2021200128	الرقم الجامعي

Section

Master

Date

Thursday

18 / 03 / 2021.

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 الإنجليزية.
- 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

Project:

Risk Identification and Analysis (Based on the project you chose in APM)

The objective of this report is to identify project risks, prepare a risk probability matrix, and carry out an analysis of selected risks. Referring to the project you select in **Advanced projects management APM course**, your task is to prepare a risk management plan that identifies potential risks in **each stage of the project** and identify risk management strategies.

From the course content and readings, you know that the overall purpose of risk planning is to anticipate possible risk events and be ready to take appropriate action when risk events occur—to eliminate or reduce negative impacts on the project.

You may wish to begin this exercise with a brainstorming about potential risks to get candidate risks “on the table” for consideration. And then identify and refine that wording for risks that have some realistic chance of occurring in this project. For example, potential weather problems present a real obstacle to completing field data collection by the planned completion date. It is also an issue that the project manager will ultimately have to plan for, as opposed to other issues such as a major disaster (e.g., your office burning down), is not a high-enough probability event that requires much time in planning. As described below, you will select several of the identified risks and carry out a risk analysis.

You will use the distilled list of risks to make a risk probability/impact matrix. The matrix will have at least three categories (high/medium/low) for probability and impact.

Remember that it is important to name risks effectively—use words that describe the risk event and point to the impact on the project (e.g., “injury of field technician disrupts data installation work”).

After completion of the risk matrix, document a risk analysis for the selected risks. This detailed documentation for that selected risk will include:

- a description of the risk and potential impacts (schedule, quality of work, cost, etc.) on the project.
- indicators or triggers that would be monitored to help identify the risk as early as possible.
- specific risk response strategies to take.

Using probability and impact matrix calculate the Expected Monetary Value (EMV) for all risks that have the impact in terms of cost \$\$.

Best of luck...

المشروع:

التعرف على المخاطر وتحليلها (بحث مبني على مشروعك الذي اخترته في مادة ادارة المشاريع المتقدمة)

الغرض من هذا التقرير هو التعرف على المخاطر المحيطة **بكل مرحلة** من مراحل المشروع, تحضير مصفوفة احتمالية المخاطر ومن ثم القيام بالتحليل لهذه المخاطر المختارة. مهمتك هي تحضير خطة متكاملة لإدارة المخاطر تشمل التعريف بالمخاطر المحتملة التي تحيط بكل مرحلة من مراحل مشروعك (**نفس المشروع الذي اخترته في مادة إدارة المشاريع المتقدمة Advanced project management**). ومن ثم القيام بتحديد استراتيجيات ادارة المخاطر المناسبة لكل خطر على حدة.

من محتويات المقرر والمصادر الأخرى المتاحة أصبحت تعلم الان أن الغرض العام لمرحلة التخطيط للمخاطر هي توقع أحداث المخاطر المحتملة والتجهز لاتخاذ ردة الفعل المناسبة عند وقوع الخطر – لمنع أو تقليل الآثار السلبية على المشروع.

قد تحبذ بداية هذا البحث بعصف ذهني عن ماهية المخاطر التي قد تحيط بكل مرحلة من مراحل مشروعك, وذلك للحصول على قائمة بتلك المخاطر. ومن ثم تحديد وتصفية هذه القائمة للوصول إلى قائمة مختصرة بالمخاطر التي لها فرصة واقعية أكبر في الحدوث. على سبيل المثال: المشاكل الجوية المتوقعة والتي تمثل عقبة حقيقية أمام اكتمال جمع البيانات من المواقع في أو قبل الوقت المحدد, هذه تعتبر مشكلة على مدير المشاريع أن يضعها في الحسبان. من ناحية أخرى, فإن المخاطر غير الواقعية مثل الكوارث الطبيعية والأعاصير (تلك التي تسبب حريقاً بمكتبك وفقدان الأوراق المهمة) ليست لها احتمالية وقوع عالية وبالتالي لاتستدعي تضيق الكثير من الوقت في التخطيط لها. كما سيتبين لك, ستقوم باختيار عدة مخاطر من تلك التي قمت بالتعرف عليها لتحليلها.

ستقوم باستخدام هذه القائمة المختصرة لعمل مصفوفة المخاطر (الاحتمالية/الأثر). المصفوفة ستحتوي على الأقل على ثلاث تصنيفات (عالي/متوسط/منخفض) للإحتمالية والأثر.

لا تنس استخدام أسماء تصف طبيعة المخاطر بصورة فعالة – قم باستخدام كلمات تصف الحادثة الخطرة وتشير الى أثرها على المشروع (مثل: إصابة أحد الفنيين في الموقع مما يؤثر على أعمال التركيب).

بعد انتهاءك من مصفوفة المخاطر، قم بتوثيق تحليلك للمخاطر المختارة. هذا التسجيل المفصل للمخاطر يجب أن يتضمن:

- وصف للخطر واثاره المحتملة (الجدولة، جودة العمل، التكلفة، الخ)
- المؤشرات والمحفزات التي يجب مراقبتها للمساعدة في التعرف على هذا الخطر قبل وقوعه
- تفصيل للاستجابة المقترحة للتصدي لهذا الخطر

باستخدام مصفوفة الاحتمالات والتأثير ، احسب القيمة النقدية المتوقعة (EMV) لجميع المخاطر التي لها تأثير من حيث التكلفة \$\$.

مع تمنياتي بالتوفيق..

Conceptual Engineering design for Jeddah Eco Park

Introduction:

In my research i will identify the risk around my project which will effect my project during different phases as this event will have impact in my project as positive or negative.

Methodology:

I will use best practice for risk management on project additional to study the risk books.

Results and Discussion:

As project already identified and my study base on actual project under my management, I will present the risk and showing the result of my research in below points.

The objective of this process is to determine

- the overall risk classification of a project (i.e., HIGH, MODERATE and LOW)
- any mandatory notifications or actions
- the level of management approval for key decision points
- the risk management requirements for the project

Identified risk for Eco Park:

To identify the project, I will split the risk for different category as per below:

- External
- Internal

We will consider the risk under this project as per following risk type:

- Compliance risk
- Control Risk
- Hazard Risk
- Opportunity Risk

All identified risk on this project will effect and classified under below points:

- Opportunity risks
- Execution risks
- Customer risks
- Geography / Legal and Regulatory risks
- Commercial risks
- Contractual risks

List of risk:

- 1- Contract type suitable for this project
- 2- Availability of resources to execute the project
- 3- Internal and external Communication
- 4- Environmental regulation
- 5- Schedule of project

- 6- Availability and delivery of material complied with project requirement
- 7- Soil suitable for planting
- 8- Manage of stakeholder expectation
- 9- Design the eco park within right budget
- 10-Selection the plants can survive in area climate
- 11-Quality of deliverables
- 12-Location of park near to highway
- 13-Water supply to park for irrigation to serve huge number of trees
- 14-Electrical power supply to park
- 15-Quality of water for irrigation
- 16-Software utilize for design the park
- 17-Construction contractor specialty and capable to execute the project
- 18-Availability of land with 1million m2.

Risk Register and analysis:

In this analysis I will list the risk and identify the owner, possibility, action by who, how to deal with risk

We rank the risk as per below:

No.	Level	Likelihood
1	Low	Some incidents in the industry
2	Medium	Incident has occurred in the company
3	High	Happens several times in the project or high cost impact

Three-Point for Hazard Severity Levels

Level		Severity
1	Low	Minor employee injury or damage to health not affecting work performance nor requiring treatment beyond first aid
		Minor environmental effect or contamination within the project with no permanent effect
		Minor design damage and/or operational impact with costs up to \$100 K
2	Medium	Employee serious injury or health effect that can result in lost workdays, restricted work, or irreversible health effects
		Localized environmental effect within the project with limited damage
3	High	Single employee fatality or permanent total disability, or some impact on third party
		Severe environmental damage to be extensively restored with no significant lasting consequences
		Major damage and/or operational impact with costs up to \$10 million

No.	Risk	Category	Type of risk	Sub-Type	Owner of risk	Action by	likelihood	Impact	Severity	Risk response
1	Contract type suitable for this project	Internal	Opportunity risks	Contractual risks	Project Sponsor	PS to agreed to right contract type	Medium	High	High	Avoidance the risk by select the contract fit for this project
2	Availability of resources to execute the project	Internal	Control Risk	Execution risks	PM		Medium	High	High	Mitigate the risk by good planning and negotiation

3	Internal and external Communication	Internal/ External	Control Risk	Execution risks	PM		Low	Medium	Medium	Mitigate by good communication planning
4	Change on Environmental regulation	External	Compliance risk	Geography / Legal and Regulatory risks	PM/Client		Low	High	High	Avoidance the risk by agreed cut-off date for standards and requirements
5	Slippage on Schedule of project	Internal	Control Risk	Execution risks	PM		Medium	Medium	Medium	Mitigate the risk by proper planning
6	Availability and delivery of material complied with project requirement	External	Control Risk	Execution risks	Client		N/A	N/A	N/A	Transfer to 3 rd party
7	Soil suitable for planting	External	Control Risk	Execution risks	PM/Client		Low	Medium	Low	Mitigate by study the soil and select the proper soil
8	Manage of stakeholder expectation	Internal	Control Risk	Execution risks	PM		Medium	High	High	Mitigate by collect all stakeholder requirement and recorded
9	Design the eco park within right budget	Internal	Control Risk	Commercial risks	PM		Low	Medium	Low	Mitigate the exaggerate of cost by optimize the design
10	Selection of plants can survive in area climate	Internal/ External	Control Risk	Execution risks	PM		Low	High	Low	Mitigate the risk by including EIV SME
11	Quality of deliverables	Internal	Control Risk	Execution risks	PM		Medium	High	High	Mitigate the risk by follow QA/QC procedure
12	Location of park near to highway	External	Control Risk	Execution risks	PM		Medium	High	High	Mitigate the risk by complete traffic study

13	Water supply to park for irrigation to serve huge number of trees	External	Control Risk	Execution risks	Client		N/A	N/A	N/A	
14	Electrical power supply to park	External	Control Risk	Execution risks	Client		N/A	N/A	N/A	
15	Quality of water for irrigation	External	Control Risk	Execution risks	Client		N/A	N/A	N/A	
16	Software utilize for design the park	Internal	Compliance risk	Execution risks	PM		Low	Low	Low	Eliminate the risk by select approved Software by client and company
17	Construction contractor specialty and capable to execute the project	External	Hazard Risk	Execution risks	Client		N/A	N/A	N/A	
18	Availability of land with 1million m2.	External	Control Risk	Execution risks	Client		N/A	N/A	N/A	

All risk owner by client not classified as this will not effect the project and client should interface with 3rd part to comply.

References:

- Project risk management: processes, techniques and insights, Chapman, Chris and Ward, Stephen (1996)
- Project Risk Management Using the Project Risk FMEA, Carbone, Thomas A
- Reducing Project Risk By Ralph L. Kliem, Irwin S. Ludin