



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

Everyone's Smart University

Project (Spring 2021)

Student Name	Marah Rashed Alotaibi	اسم الطالب
Students I.D	2021202070	الرقم الجامعي

Section

Master

Date

Thursday

18 / 03 / 2021.

Course Code

(PMG510)

Project Risk Management

Instructions:

- اخر موعد للتسليم هو يوم السبت 2021-05-08 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 line spacing 1.5
- 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 **the selected 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 stage. 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 بالمرحلة التي تختارها المرحلة من مراحل مشروعك (نفس المرحلة التي اخترت التطرق لها في مشروعك لمادة إدارة المشاريع المتقدمة Advanced project management) حيث أن مهمتك هي تحضير خطة متكاملة لإدارة المخاطر تشمل التعريف بالمخاطر المحتملة التي تحيط بتلك المرحلة وتحضير مصفوفة احتمالية المخاطر ومن ثم القيام بالتحليل لهذه المخاطر المختارة وتحديد 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 الاثار السلبية على المشروع.

قد تحبذ بداية هذا البحث بعصف ذهني عن ماهية المخاطر التي قد تحيط بتلك المرحلة 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.

لاتنس 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..

Risk management is one of the most critical issues a project manager has to discuss in project management. Risk management involves the identification of risks, quantitative and qualitative risk assessments, selection of the right risk management system and monitoring and recording of risks. Risk management In defining risks at an early stage, project management should recognize and evaluate the relative importance of risk reduction approaches, and assign the right people in order to minimize risks.

Risks aren't a bad necessarily. recognizing and handling risk efficiently will lead to greater profits, good customer relations that lead to more investments, and to the business expanding to new markets and industries.

You need to know the types of risk found in construction projects to properly handle construction risk. It may be physical, contractual, operational, and environmental, and both internally and externally. Common risks include:

Safety risks resulting in collisions and injury to staff

Exchange rate orders management

Unfinished sketches to badly defined extent

Conditions of unknown site

Badly written contracts

Inattentive material expense spikes

Shortage of labor

Equipment and tools damage or theft

Environmental disasters

Subcontractors and providers issues

Building materials availability

Poor management of projects

To identify risks, hold brainstorming with the project team and stakeholders. You don't seek to fix any problems at this point. The objective here is to find as many scenarios as possible that may adversely affect the project. Make sure you depend on your team's know-how, knowledge and experience. To understand better the construction risks your current project has to face, review previous projects of similar size, scope and locations.

Any uncertain incident or situation that could affect the project is a risk. Any risk is not negative by necessity. Certain activities (such as an easy way to perform an activity) or circumstances (such as cheaper costs on some materials) can improve the project. We call it a chance when it occurs; but it is always treated only like a risk.

The risk is still uncertain when you prepare your project: it's not yet done. But at the end of the day some of the threats you intend on, and you must address them. Four basic ways to deal with a risk are essential.

If you have identified the project's potential risks, then you must sit and evaluate any risk on the basis of the probability of fact and the effect it will have on the project as they arise. Each risk has a high, medium or low effect of probability.

The first task should be to deal with high impact, high probability risks, and the last to address risks with low probability and low impact. Any risk would need to be successfully handled by the factor in time, money and work.

Avoid: avoiding a risk is the safest thing you can do. It surely won't affect the project if you can prevent it. The best way of avoiding this risk is to get away from the cliff, and that might be no option.

Mitigate: You should mitigate this if you are unable to avoid the risk. This means taking some kind of action which will do as little harm as possible to the project.

Transfer: One successful means of handling a risk is accounting for it to someone else. The most popular approach is to buy insurance.

Accept: if you are unable to avoid, mitigate or transfer a risk, you must accept that. But even though you take a chance, you have looked at the alternatives at least and you know what will happen if it does. If you can't avoid the risk and you can't do anything to reduce its effect, you will accept it.

Now that each risk has been categorized, check each risk closely to decide if each risk can be avoided, eliminated, reduced, transferred or accepted.

It could be without saying, as early as possible in the process, that risks should be identified and documented. In addition, you need to determine the probability of a risk, the amount of impact if it occurs, the risk scenarios and what the risk response will be, and even the identification of the risks. You are now identifying the risk management triggers. Triggers can seem at first to be hard to name, but normally it's a clear cause and effect. For example, a coming storm may be a warning sign that a risk occurrence is about to take place if strong winds have been identified as a possible risk to a project site. The root cause of the risk should first be identified as a valid method to identify the risk trigger. Triggers, such as the previous example of strong winds, are in many cases evident. Obviously, the underlying cause of high winds is the weather. You can quickly predict the possibility of heavy winds by monitoring the weather.

The probability assessment includes estimating the probability of a risk. The impact assessment measures the impact on a project objectives of a risk event. These effects can be both positive and negative, i.e. opportunities and threats. There are various project objectives, e.g. time, costs, quality and scope. The effect and likelihood are evaluated for each identified risk.

The probability and impact matrix is one of the qualitative assessment methods most widely used. This is dependent on the two risk components, the likelihood of occurrence and the impact on target(s).

Probability	Threats				
Very High / 0.9	0.05	0.09	0.18	0.36	0.72
High / 0.7	0.04	0.07	0.14	0.28	0.56
Moderate / 0.5	0.03	0.05	0.10	0.20	0.40
Low / 0.3	0.02	0.03	0.06	0.12	0.24
Very Low / 0.1	0.01	0.01	0.02	0.04	0.08
Impact	Very Low / 0.05	Low / 0.1	Moderate / 0.2	High / 0.4	Very High / 0.8
High risk	Score > 0.14		An organization defines its risk thresholds, low, moderate and high. These thresholds can differ between projects.		
Moderate risk	0.05 < Score < 0.14				
Low risk	Score < 0.05				

description	risks		
	impact	probability	I*P
Conditions of unknown site	5	3	15
Equipment and tools damage or theft	7	2	14
Environmental disasters	7	1	7

EMV

risks	P	I	EMV
Conditions of unknown site	40%	10000	4000
Equipment and tools damage or theft	10%	6000	600
Environmental disasters	15%	7000	1050

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Total EMV= 5650

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