



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

Everyone's Smart University

Project (Spring 2021)

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Section

Master

Date

Thursday

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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..

Risks management in Waterproofing Projects

1. INTRODUCTION

Extensive experience shows that poor design and management of waterproofing systems in buildings can cause outbreaks of risks. Water is vital for all known forms of life. Yet, many of our homes and buildings suffer from water and moisture damages. However, many cases show that a high percentage of people acknowledge the importance of applying waterproofing systems, yet they tend not to apply it due to the uncertainty of risks attached to it.

In this paper, the brainstorming method will be used to identify all possible risks to this kind of projects, as there are standard factors to be considered during execution. These findings are usually inspected by an inspection team before starting the waterproofing works and work can be started according to the risks listed.

One of these items which is considered a challenge in managing building water, is that the water table is often increased and decreased according to seasonal factors and the location of the land. Moreover, the pressure of the water has a strong impact on the water table level. In many countries and regions, the water table level in lands can be anticipated according to the location, near or far from the sea. But as our project is located in Jeddah, the coastal city, and because of the difference in the infrastructure types and ages, the water level can be changeable in unexpected rates.

On the other hand, the conditions of the surfaces that are needed to be waterproofed are a key factor that might cause a failure in waterproofing works. Some of the concrete works are done with full of cracks and holes that might if not repaired well and smoothed enough will be a source of water after installation of the waterproofing paints or membrane. Based on previous projects, 40% of the concrete surfaces need to be repaired before the installation of the waterproofing.

Furthermore, human failure is a common risk while applying waterproofing systems, as some of the waterproofing termination and overlapping areas are considered as a weak point. Laborers who work in waterproofing works should be well trained and capable of completing the work in a flawless way.

2. LECTRITURE REVIEW

Identify Potential Risks

Researches showing that in these types of project, there is some factors and variables to be taken into account when identifying potential risks, beside the brainstorming method, there is basic risks sources are repeated in this type of projects, using this templet can help identifying basic risks in small and not complex projects. Some of these sources is the size, scope, period of work executed.

3. METHODOLOGY

- *Risk Probability matrix*

Is a matrix that is designed to help you minimize the probability of potential risk to optimize project performance. used to identify areas for risk reduction and provide a quick and relatively inexpensive risk analysis and enable more detailed analysis to be focused on high-risk areas.

- *Risk Management Plan*

A risk management plan will be used to foresee risks, estimate impacts, and define responses to risks. That will also contain a risk assessment matrix.

4. Result and Discussion

- *Identify risk table*

Discerption	Risk			Plan to mitigate/ prevent risks
	P	S	P*S	
High water table	5	3	15	To study the site conditions properly and study similar cases in same areas. Study history and collect infrastructure data to anticipate the water table level.
Surfaces	3	4	12	Ensure to receive the requested surfaces to be waterproofed smooth and

				clean and ready to be waterproofed without repairing.
Human failure	3	3	9	to train all labors on all waterproofing systems application and provide all machines and tools to help finish the work in a flawless way.

- Risk Register Matrix**

Risk Probability	Risk severity				
	Negligible 1	Minor 2	Major 3	Hazardous 4	Catastrophic 5
Extremely improbable-1					
Improbable-2					
Remote -3			9		15
Occasional-4			12		
Frequent -5					

HIGH	MEDIUM	LOW
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- EMV**

Risk	P	I	EMV
1. High water table level	40%	9000\$	3,600\$
2. Cracked Surfaces	30%	2000\$	600\$
3. Human failure	15%	4000\$	600\$

Total EMV: 4,800 \$\$

• Risk and triggers

Risk	Source	Prevention	Response	Impact
1. High water table level	Project information and studies in incomplete	Study location history	Dewatering	• Delay in schedule • More cost • Might cause change in scope
2. Cracked Surfaces	Method used is not complying with the project specification.	Obligate to the project specifications	Repair surfaces	• Delay in schedule • More cost • Require more manpower
3. Human failure	Lack of training and needed machines	Training	Trained labors and supervision	More cost to repair the work and delay in time schedule.

• Risk contingency plan

Risk description	Grade	Mitigation action
High water table level	B	Plan a process of dewatering to remove all the water and resume the work as planned as much possible.
Cracked Surfaces leads to water leaking	C	To repair the surfaces and smooth concrete.
Human failure leads project failure	D	to repair the failed work immediately to resume the work as scheduled

A= Mitigation actions, to reduce the likelihood and seriousness, to be identified and implemented as soon as the project commences as a priority.

B= Mitigation actions, to reduce the likelihood and seriousness, to be identified and appropriate actions implemented during project execution.

C= Mitigation actions, to reduce the likelihood and seriousness, to be identified and costed for possible action if funds permit.

D= to be noted - no action is needed unless grading increases over time.

Summary and conclusion

Risk management is becoming the foremost challenging aspect of managing software projects. While we will never predict the longer term with certainty, we will apply an easy and streamlined risk management process to predict the uncertainties within the projects and minimize the occurrence or impact of those uncertainties.

Risk management not only helps in avoiding crisis situations but also aids in remembering and learning from past mistakes. This improves the prospect of successful project completion and reduces the results of these risks.

This certainly isn't the top of the journey for us on the effective risk management. It's a continuing learning process to be ready to constantly improve our practices to extend our process efficiency.

References

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