



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

Everyone's Smart University

Project (Spring 2021)

Student Name	ربيع طاهر عثمان رضوان	اسم الطالب
Students I.D	٢٠٢١٢٠٠١٣٧	الرقم الجامعي

Section

Master

Date

Thursday

18 / 03 / 2021.

Course Code

(PMG510)

Project Risk Management

Instructions:

- اخر موعد للتسليم هو يوم السبت ٠٥-٠٨-٢٠٢١ 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 ١٢.
- 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 إدارة المخاطر المناسبة لكل خطر على حدة.

من محتويات المقرر والمصادر الأخرى المتاحة أصبحت تعلم الآن 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 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، سنقوم باختيار عدة مخاطر من تلك التي قمت بالتعرف عليها لتحليلها.

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

لانتس 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..

Introduction

Risk management is defined as the process of identifying and assessing risk, and to apply methods to reduce it to an acceptable extent . Then, the main purpose of project's risk management is to identify, evaluate, and control the risk for project success. Overall, risk management process includes the following main steps: (1) Risk planning; (2) Risk identification; (3) Risk assessment (qualitative and quantitative); (4) Risk analysis; (5) Risk response; (6) Risk monitoring, and (7) Recording the risk management process.

In the last four decades the risk management research has grown considerably in the construction industry given that construction projects are exposed to risk at the time of their coming into existence and are perceived to have more inherent risk due to the involvement of many contracting parties such as owners, contractors and designers, among others. It is possible to analyze the project risk from two different perspectives. On one side we have the project owner, a key stakeholder and decision maker in construction projects, and on the other side we have contractors. Contractors have traditionally used high mark-ups to cover for risk but as their margins have become smaller this approach is no longer effective . These two groups have dissimilar behaviors facing project risk and different possibilities to transfer them to the party that is in the best position to deal with it .

We will study risk management process to find risk probabilities and its impacts on our Jannah automated warehouse project .

Literature Review

risk management in construction projects is full of deficiencies that affect its effectiveness as a project management function and in the end, projects' performance. For many years, risk management in construction projects has been approached using a reductionist approach that produces poor results and limits the quality of project management. For example, most of the times risk is handled through the application of contingencies (money) or floats (time) that are not determined based on a comprehensive analysis of the risks that can affect a particular project, and that in many cases are clearly insufficient to cover the consequences of risks that do occur during the project realization. Then, in most of the cases projects end with costs overrun and late. To make an effective and efficient risk management it is necessary to have a proper and systematic methodology and, more importantly, knowledge and experience of various types. For example, it requires knowledge of the unforeseen events that may occur during the execution of a project, on the actions that work well or not when one of these events happens, on ways to assess a risk or estimate the likelihood that it will occur, and so on.

The absence of an effective project risk management function has several negative consequences for participants in a project due to lack of preventive action against the risks and uncertainty that any project presents. For example, the lack of prevention against the risk of scope definition of a project, or environmental hazards or communication risks, between others, leads to delays, significant increases in costs and contractual disputes, among others .

Methodology

No	Risks
1	Cost over Budget
2	Fire damage to property and life
3	Suddenly Terminations from Project team
4	Connection isn't ready
5	Delivery Delay from Vendor

Risk impact:

High – Catastrophic (Rating A – 100)

Medium – Critical (Rating B – 50)

Low – Marginal (Rating C – 10)

Probability

low = 1 to 2

medium = 3 to 4

high = 5 to 6

Impact-Probability Matrix

IMPACT	High	Medium	High	High
	Medium	Low	Medium	High
	Low	Low	Low	Medium
		Low	Medium	High
		LIKELIHOOD		

Risk event	probability	Impact rating	severity
Cost over Budget	3	90	high
Fire damage to property and life	2	95	medium
Suddenly Terminations from Project team	2	30	Low
Connection isn't ready	5	25	Medium
Delivery Delay from Vendor	4	60	high

The following objectives are addressed in the risk response plans:

1. Risk reduction .
2. Reduces the risk probability .
3. Reducing the risk impact on project objectives.

Summary and recommendations:

Managing of project risk is an integral part of quality project management system, and fundamental to achieving good project outcomes. That is, systematic identification and assessment of risk and effectively dealing with the results is significant to the success of the project. Risk management in projects is one of the major areas of interest in the area of project management. Risk management is designated as one of the main project management knowledge areas in the project management body of knowledge (PMBOK) by the Project Management Institute¹ (PMI, 2008).

Reference

- 1-Perera, J., Dhanasinghe, I. & Rameezdeen, R. (2009). Risk Management in the Road Construction: The case of Sri Lanka. International Journal of Strategic Property Management.
- 2-Alali, B. and Pinto, A. (2009). Project, systems and risk management processes interactions. Management of Engineering & Technology.
- 3-Chapman, R. J., and Ward, S. (1997). "Project Risk Management Processes, Techniques and Insights" John Wiley & Sons, Chichester, UK.
- 4-Snider, H. W. (1991). "Risk Management: A Retrospective View." Risk Management April, 47-54.
- 5-Hillson, D., & Simon, P. (2020). Practical project risk management: The ATOM methodology. Berrett-Koehler Publishers.
- 6-Ward, S. C., & Chapman, C. (2003). Project risk management: processes, techniques and insights.