



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 السبت 08-05-2021 في تمام الساعة 9 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..

Building my dream house project

Introduction

My project is building a house that will return to me and my family a lot of good things. Which is give us more comfort, independence, security, and saves a lot of money. These days this project will cost more than previous days because of the high price of materials plus tax rate that did not exist in the past. Fortunately, I own the land for construction, and I can benefit from the government's support in real estate finance. All these positive factors make it very appropriate to start this project, which is an opportunity that I have to exploit. I have to take care of multiple uncertain risks that I could face by mange these risks like a good knowledge of the regulations and laws required for construction (in stakeholder chapter in PMBOK), estimating the cost and time, determine the scope and quality required, determine the resources required and a good design that meets all needs.

Methodology

First of all, we will create the risk management plan (we can use the PMBOK standard in this field). And then defining all potential risks by meet all stakeholders in addition to the use of expert judgment. Analysis all these risks and categorize which one will be high probability and impact, medium, or low. After that create a risk register that contains all information about the risks and how to respond to any risks that could appear.

Definition of impact scales for Three Project Objectives			
Objective	Low (0 - 0.40)	Moderate (0.41 - 0.60)	High (0.61 - 1)
Cost	< 20%	(21% - 50%)	> 50%
Time	5 days of work	10 days of work	20 days of work
Scope	A small part of room is not complete	Half of the room are not complete	One of the rooms is not complete

Identify the Risks

Using multiple tools & techniques, like expert judgment and brainstorming we identify potential risks that may face in our project. the potential risks as follows:

#	Risk list
01	Rising material prices.
02	labor escape
03	Lack of quality of materials.
04	Delay in time required to complete construction stages.
05	Chart sizes don't match reality.
06	Changes in the tax rate.
07	Lack of quality of work.

Preform Qualitative Risk Analysis

After determining the potential risks now, we have to category the risks like probability and impact assessment tools as follows:

#	Risk name	Probability	Impact
01	Rising material prices.	0.75	0.80
02	Labor escape	0.23	0.40
03	Lack of quality of materials.	0.19	0.90
04	Delay in time required to complete construction stages.	0.90	0.50
05	Chart sizes don't match reality.	0.20	0.85
06	Changes in the tax rate.	0.25	0.65
07	Lack of quality of work.	0.35	0.60

Using Risk Matrix tool, get the following result:

probability	0.61 - 1	medium	high	high
	0.41 – 0.60	low	medium	high
	0.0 – 0.40	low	low	medium
		0.0 – 0.40	0.41 – 0.60	0,61 to 1
		Impact		

The table of risks that contain the probability and impact for each one:

#	Risk name	Severity	Probability	Impact
1	Rising material prices.	0.6	0.75	0.80
2	Labor escape	0.09	0.23	0.40
3	Lack of quality of materials.	0.17	0.19	0.90
4	Delay in time required to complete construction stages.	0.45	0.90	0.50
5	Chart sizes don't match reality.	0.17	0.20	0.85
6	Changes in the tax rate.	0.16	0.25	0.65
7	Lack of quality of work.	0.19	0.32	0.60

Responsible plan:

Now, we have to determine the appropriate response strategy for each risk. And what we have to do for mitigating this risk.

The table of response plan:

#	Risk name	Severity	Response plan	Action response
1	Rising material prices.	0.6	Mitigate the risk	Following market prices very well in the period leading up to the project, as well as predicting factors affecting the economic situation of the country by consulting the expert judgment. I should be taking in my account the differences in the contingency reserved contingency reserved.
2	Labor escape	0.09	Transfer the risk to the contractor	This will be by contract with the construction establishment. it is responsible for manpower.
3	Lack of quality of materials.	0.17	Avoid the risk	Testing materials through competent laboratories.
4	Delay in time required to complete construction stages.	0.45	Mitigate the risk	A penalty clause is placed in one of the terms of the contract with the construction establishment.

5	Chart sizes don't match reality.	0.17	Avoid the risk	An item must be placed in agreement with the Engineer's Office, which provides the obligation to provide a three-dimensional copy detailing the measurements in detail, as well as take responsibility if the reality does not match.
6	Changes in the tax rate.	0.16	Mitigate the risk	I should be taking in my account the differences in the contingency reserved contingency reserved.
7	Lack of quality of work.	0.19	Mitigate the risk	Hiring an expert engineer for business supervision.

Result

After estimating the cost of the project, it will cost 700,000 S.R., and the expected rising material price depending on the report of consulting experts and tracking market prices will be 25% from the project cost. As the following table shows how we calculate the Expected Monetary Value (EMV) using probability and impact matrix. That is 183,137.50 S.R, and we need contingency reserve depending on the high category 109,500 S.R. Which will be added to the total project budget. And the total impact is 514,550.00 S.R.

#	Risk name	Severity	Probability	Impact
1	Rising material prices.	105,000.00	0.75	140,000.00
2	Labor escape	92.00	0.23	400.00
3	Lack of quality of materials.	59,850.00	0.19	315,000.00
4	Delay in time required to complete construction stages.	4,500.00	0.90	5000.00
5	Chart sizes don't match reality.	3,400.00	0.20	17,000.00
6	Changes in the tax rate.	5,687.50	0.25	22,750.00
7	Lack of quality of work.	4608.00	0.32	14,400.00

The risk with low impact will add to the watch list for monitor and control with it frequently.

References

- PMBOK 6th edition