



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

Everyone's Smart University

Project (Spring 2021)

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Section

Date

Course Code

Thursday

Master

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(PMG510)

Project Risk Management

Instructions:

- اخر موعد للتسليم هو يوم السبت 2021-05-08 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

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 الآثار السلبية على المشروع.

قد تحيّد 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 وتصنيف 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.

سنقوم 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..

- **Introduction.**

Risk has always existed in every part of our daily lives, it is part of every project, every task we do, and every tool or instrument we use, and measure and continuously being taken to avoid the outcome of these risks in a way that safety is always taken for granted. Responding to risks can bring many benefits on an individual, and organizational level.

Project Risk Management includes the processes of conducting risk management planning, identification, analysis, response planning, response implementation, and monitoring risk on a project. The objectives of project risk management are to increase the probability and/or impact of positive risks and to decrease the probability and/or impact of negative risks, in order to optimize the chances of project success.

There is an inevitable level of risk to every project, it is the job of the project manager to be able to produce results while controlling the outcome of these risks by choosing to take project risks in a controlled and intentional manner in order to create value while balancing risks and reward.

Risk management is an ongoing process as risks continue to emerge during the lifetime of the project, it is initially addressed during planning. It should also be monitored and managed as the project progresses so that work can stay on track. It's main goal is to deliver value through reducing the variations between the project plan and project results.

• Literature Review

Risk management is the identification, evaluation, and prioritization of risks (defined in ISO 31000 as the effect of uncertainty on objectives) followed by coordinated and economical application of resources to minimize, monitor, and control the probability or impact of unfortunate events[1] or to maximize the realization of opportunities.

Risks can come from various sources including uncertainty in international markets, threats from project failures (at any phase in design, development, production, or sustaining of life-cycles), legal liabilities, credit risk, accidents, natural causes and disasters, deliberate attack from an adversary, or events of uncertain or unpredictable root-cause. There are two types of events i.e. negative events can be classified as risks while positive events are classified as opportunities. Risk management standards have been developed by various institutions, including the Project Management Institute, the National Institute of Standards and Technology, actuarial societies, and ISO standards. Methods, definitions and goals vary widely according to whether the risk management method is in the context of project management, security, engineering, industrial processes, financial portfolios, actuarial assessments, or public health and safety.

• Methodology

After brainstorming with the internal stakeholders “programm designers, project sponsors, project manager” to come up with the WBS and SOW, the following list of possible risks emerged:

No	Risk	Description
1	Sponsors expectations	The project is managed in iterations that will

	could be unrealistic resulting in rushing to generate income.	generate low income barely enough to push the project to the next milestone, this could result in dissatisfaction and a desire to withdraw at any stage.
2	Inefficient prioritising for the functionality of the programme and the learning method.	The final product has many functionalities to its website, books, and smartphone applications, but rushing to start designing all of these can result in unfinished work in all of them.
3	Increasing tasks that might not be needed or thought of at the beginning can cause the team to lose focus.	The main tasks that the designers are working on will push development fast throughout the project, but because constant feedback will always be recorded, new ideas will emerge and with that new tasks and work will be added.
4	Not being able to register students due to COVID19 possible lockdown, causing the project to delay start.	The first milestone of the project is finished and in order to proceed with developing the course, students have to start buying and using it, if that doesn't happen, developing the course will be more difficult.
5	Delays related to one of the designers to stop working for any reason, causing the others to stop as their work is very dependent on each other.	Every part of the program is connected to each other, designing the book, website, exercises, and media requires a lot of communication so consistency can be assured.
6	More funds could be needed down the road, but because it's an entirely new product, the sponsors might feel insecure about paying more than what was initially agreed upon.	Increasing the number of functionality as more feedback is received can result in a good product at the end, but can be risky for the project sponsor at the beginning of the project.
7	students might not accept this new way of learning	Blended learning methods are a new concept that the local education market isn't used to, this can have major consequences on students learning.

Now brainstorming the probability and impact of every risk, and the responses strategies for every one. The probability and impact of each risk will be scored from 0 to

1 whereas (low = 0 to 0.29, medium = 0.3 to 0.69, high = 0.7 to 1). and based on probability and impact, severity is determined using this table:

Probability	0.7 to 1	High	High	Medium
	0.3 to 0.69	High	Medium	Low
	0 to 0.29	Medium	Low	Low
		0.7 to 1	0.3 to 0.69	0 to 0.29
		Impact		

N o	Probability	impact	Severity	Response plan	Mitigate Action
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1	0.2	0.4	Medium	sticking to the initial plan	Keeping cost as low as possible while keeping sponsors informed about how it's being spent.
2	0.4	0.2	Medium	focusing on the main functions and following a strict schedule.	documenting new ideas for future meetings
3	0.5	0.2	High	focusing on the main functions and following a strict schedule.	prioritize new tasks and work only on what is related to the main functionality.
4	0.3	0.7	High	Following social distancing measures so that students feel safe to join.	Offering online classes as an alternative so students can continue their courses and be able to come whenever classes are back to normal.
5	0.4	0.2	Medium	having a well structured schedule with clear deadlines can make things more predictable	delegating tasks whenever unusual circumstances happen can mitigate the risk.
6	0.1	0.1	Low	Dedicating the funds to the main functionality of the program to avoid unnecessary costs.	Delaying development work based on the availability of the required funds from the generated income.

7	0.3	0.7	High	Provide guidance while students are taking their lessons to make sure they don't withdraw.	Conducting classes to explain how to get the most out of blended learning.
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• Results and Discussion

In order to quantitatively analyse risk using specific numbers and quantities, EMV (Expected monetary value) will be used to have more accurate calculations monetary value (EMV) •

No	Risk	Probability	Impact cost	Risk contingency
1	Sponsors expectations could be unrealistic resulting in rushing to generate income.	Medium	6000	2000
2	Inefficient prioritising for the functionality of the programme and the learning method.	Medium	3000	1500
3	Increasing tasks that might not be needed or thought of at the beginning can cause the team to lose focus.	High	9000	5000
4	Not being able to register students due to COVID19 possible lockdown, causing the project to delay start.	High	15000	7000
5	Delays related to one of the designers to stop working for any reason, causing the others to stop as their work is very dependent on each other.	Medium	2000	500
6	More funds could be needed down the road, but because it's an entirely	Low	5000	2500

	new product, the sponsors might feel insecure about paying more than what was initially agreed upon.			
7	students might not accept this new way of learning	High	9800	5000
	Total		49800	23500

- **References**

- Fundamentals of Risk Management: Understanding, Evaluating and Implementing Effective Risk Management. by Paul Hopkin.
- Project Management Body Of Knowledge, PMBOK GUIDE sixth edition.
- Wikipedia.

- **Appendices**