



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

Everyone's Smart University

Project (Spring 2021)

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Section	Code
Master	

Date
Thursday
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Course
(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 1.5 line spacing
- 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 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، 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 \$\$. حيث التكلفة \$.

مع تمنياتي بالتوفيق.

Risks facing the University Hospital at the University of Tabuk project

1.INTRODUCTION

In every business, from the small corner store to the large manufacturer, there are common challenges with insurance, claims, and risk in general. Buildings can be damaged by fire, someone could slip and fall, vehicle accidents often occur, or losses can occur as a result of defective products. Now, more than ever, it is vital to the success of an organization to understand risk management and to learn to control liability. Risk management is the process of making and carrying out decisions that will minimize the adverse effects of risk on an organization. The adverse effects of risk can be objective or quantifiable like insurance premiums and claims costs, or subjective and difficult to quantify such as damage to reputation or decreased productivity. By focusing attention on risk and committing the necessary resources to control and mitigate risk, a business will protect itself from uncertainty, reduce costs, and increase the likelihood of business continuity and success. A risk exists where there is an opportunity for a profit or a loss. In terms of losses, we commonly refer to the risks as exposures to loss, or simply exposures. A fire is an exposure. Defective products or defamation are liability exposures. The loss of business that results from a damaged building or tarnished reputation is also an exposure.

1.1 Project overview

At the outset, let us take a brief overview of the project. The project of establishing a university hospital at the University of Tabuk is one of the projects that serve the university and the Tabuk region. The project is located on a total area estimated at 390,000 square meters and contains all medical specialties and patient admission departments. The building consists of 7 floors and the current completion rate is 75% of the project is for the first phase, and the second phase has not started until now, pending the award from the Ministry of Finance. The project faced in all its phases many risks that must be taken into account from the start-up phase through the planning phase and currently the implementation phase.

1.2 Research Objective

Analyze the risks in the project and make an analysis of them using a risk analysis matrix, the likelihood of their occurrence, and the impact of these risks on the project's progress, and calculate the EMV for all risks.

2.Literature Review and Conceptual framework

2.1 Risk Management

Risk management is considered the systematic process to identify, analyze, and respond to any project risk. It should balance between maximizing the probability and consequences of positive events while minimizing the probability and consequences of adverse events. Risk management is typically divided into 6 steps, those being planning, risk identification, qualitative risk analysis, quantitative risk analysis, risk response planning, and risk monitoring and control. Risk management as a quantitative practice that began after the emergence of probability theory and statistics in the 17th century. From the 18th and into the 20th century, risk assessment was practiced in limited insurance, banking, and financial spheres. Now, methods in risk assessment are now adopted on a larger scale by medium and large-size enterprises in varying industries. With such growth comes the need for compliance. Efforts have been made to integrate the technical and financial sides of risk management into one function. Insurance buying was the earliest and most common treatment for risk, but now reliance on it has diminished. This method did not always meet the needs to properly address risk. In some cases, other internal methods of control were more suitable. In addition to quantitative methods, qualitative ones for risk analysis do exist. Regardless, both require caution in their application [1],[3]. Risk and strategic risk management are defined in the context of uncertainty, risk, and reliability. There is some difference regarding definitions in literature [2] They are reflected most significantly in the seminal work of Flyvbjerg (2006)[1], and more recently pertaining to risk management standards. In risk management, the traditional emphasis is on scenarios where the probability and magnitude of outcomes are significantly negative. We are concerned not only in the probability and magnitude of

outcome(s) from an undesirable event but also from desirable events. In projects, we are particularly focused on what is desirable in terms of project success and sustainability, and undesirable in terms of failure of implementation [2].

2.2 Purpose of Risk Management

The purpose of risk management is to ensure levels of risk and uncertainty are identified and then properly managed in a structured way. This will help determine that a potential threat to the delivery of outputs (level of resourcing, time, cost, and quality) and the realization of outcomes/benefits by the Business Owner(s) is appropriately managed for the project to be completed successfully. The objectives of risk management in project environments are to identify, assess, and mitigate risks whenever possible, and to continuously monitor risks throughout the remainder of the project to tackle future threats and changes [4]. As risk management is an ongoing process during the lifecycle of a project, this Risk Management Plan and Risk Register must be considered a 'snap shot' of relevant risks at one point in time. Where required, the process of risk identification, assessment, and development of countermeasures will involve consulting the Steering Committee members, project leaders, other stakeholders, and project team members [5].

3.1 RISK LIST:

We brainstorm to identify the risks and put them in a table according to Table 1 as a first step

No.	List of Risks for the University Hospital at the University of Tabuk project
1	The implementing contractor for the project has failed.
2	Renewed poetry, regulations and decisions.
3	High prices for building materials.
4	Lack of financial resources or delaying payment of the contractor's dues.
5	Delayed external supplies due to the Corona pandemic.
6	The second phase of the project is not approved, or its approval has been delayed.
7	Safety and health accidents at the work site.
8	natural disasters

Table .1 List of Risk

After we made the table for the list of potential risks in the project, we will now create a risk matrix Fig .2 to know the impact and the likelihood and the Severity of the risks mentioned in the table according to Table 2

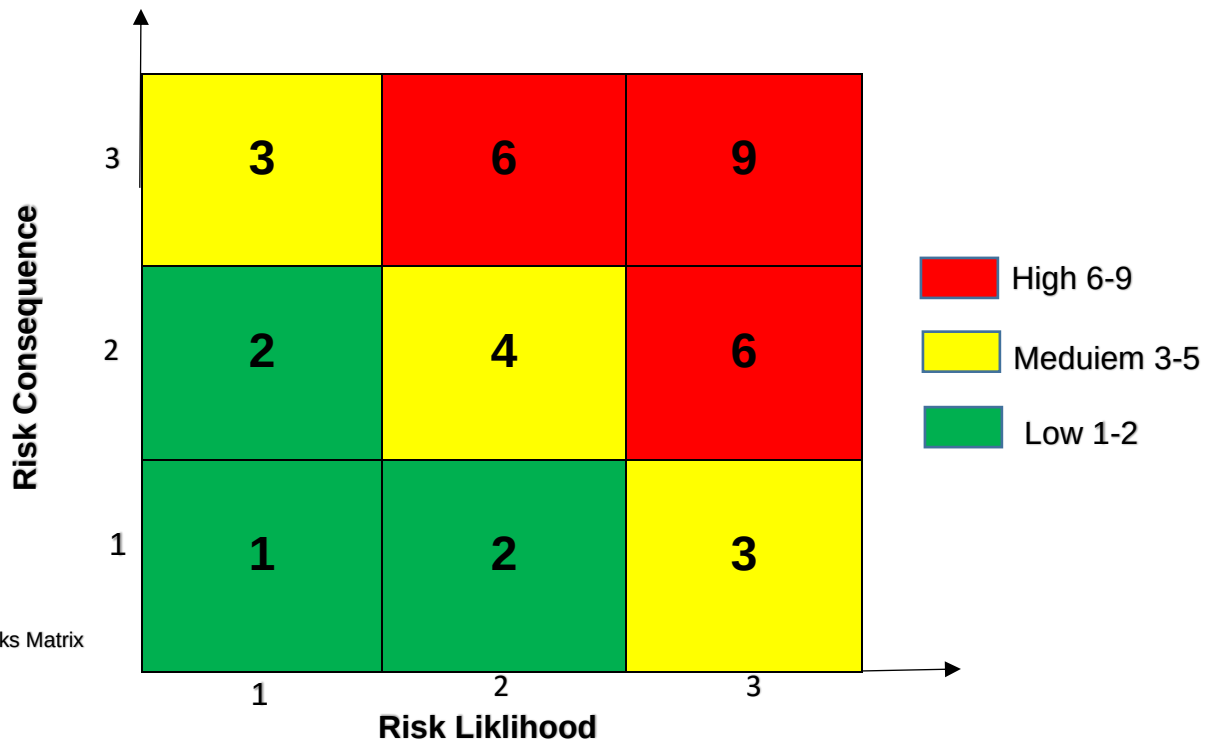


Fig .1 Risks Matrix

No.	List of the Risks	P	I	Risk	Severity	prevent & mitigate
1	The implementing contractor for the project has failed.	1	3	3	Med	Submitting monthly performance reports, following up the contractor's work progress, and following up the progress of financial dues
2	Renewed poetry, regulations and decisions.	1	2	2	Low	Following up on the circulars and developments issued by the state and the concerned authorities, applying them in an optimal manner, and raising the obstacles to the competent authorities in the event of any obstacles hindering the work.
3	High prices for building materials.	3	3	9	High	Following up on the circulars and developments issued by the state and the concerned authorities, applying them in an optimal manner, and raising the obstacles to the competent authorities in the event of any obstacles hindering the work.
4	Lack of financial resources or delaying payment of the contractor's dues.	3	2	6	Med	Urging the contractor to raise the monthly completion rates and periodically raising the monthly dues, and to consult the concerned authorities in the event of a halt in the disbursement or a delay in the payment of the contractors dues.
5	Delayed external supplies due to the Corona pandemic.	3	3	9	High	Trying to search for alternatives and prefer the national product in the event that there are alternatives available in the local market and dispense with the foreign product.
6	The second phase of the project is not approved, or its approval has been delayed.	2	3	6	High	Periodic follow-up with the higher management of the university regarding the follow-up of the higher competent authorities of the Ministry of Finance to speed up the approval of the project and to raise the reports required for the competent authority that indicate a case for the current project and the urgent need for the project to quickly start .implementing the second phase
7	Safety and health accidents at the work site.	3	2	6	Med	Emphasizing on the supervisory apparatus of the necessity to conduct daily rounds on the site and to ensure the availability of safety tools for workers on the site and the availability of first aid tools and follow-up safety measures and preventive precautions for Corona virus
8	natural disasters	3	2	6	Med	Follow-up reports issued by the Ministry of Meteorology and pre-processing of any disaster that may occur at the site

Table.2 The risk results and Severity

4.Results and Discussion

Now we will calculate EMV for the project show in in the table3:

Risk	Risk Probability %	Impact cost SR	Risk contingency
1	10%	3000	300
2	10%	2000	200
3	30%	3000	900
4	30%	2000	600
5	30%	3000	900
6	20%	3000	600
7	30%	2000	600
8	30%	2000	600
TOTAL		20000 SR	2000 SR

Table.3 EMV Calculations

Based on the identification of these 8 risks, the potential impact to your project is SR 2000 . we cannot ask for that level of risk contingency budget, The only reason we would need that much money is if every risk occurred. Because our objective of risk management is to minimize the impact of risks to our projects . the total contingency request for this project is SR 2000 , which could be added to our budget as risk contingency.

5.References

- [1] Flyvbjerg, B. (2006, August). From Nobel Prize to Project Management: Getting Risks Right. Project Management Journal.
- [2] Flyvbjerg, B., Bruzelius, N., & Rothengatter, W. (2003). Megaprojects and Risk: An Anatomy of Ambition. Cambridge University Press.
- [3] Goldratt, E.M., & Cox, J. (2004). The Goal: A Process of Ongoing Improvement (3rd Revised). North River Pr. Goodyer, J., Murti, Y., Grigg, N. P., & Shekar, A. (2011).
- [4] Ahmed, N., Sawhney, R., & Xueping, L. (2007). A model to manage emergent manufacturing. IIE Annual Conference and Expo 2007 - Industrial Engineering's Critical Role in a Flat World, May 19, 2007 - May23, 2007, 31–36.
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