



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

Everyone's Smart University

Project (Spring 2021)

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Course Code:
PMG510

Thursday
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Section:
Master

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
 - 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 لا تستدعي تضييع 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) للاحتمالية والأثر.

لا تنس 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..

Qaren Application Project

Real Project by Consumer Protection Association

> Introduction:

Within the world of risk management, we have different definitions of risk. A few years back, some of these definitions were more at odds with one another. However, there is greater alignment today.

Merriam-Webster defines risk as “the possibility of loss or injury: peril.” Most people think of risk as pure risk, as a possibility of loss. However, risk management has evolved to include a more holistic view that includes the potential for positive outcomes.

Author Peter Bernstein says, “The word ‘risk’ derives from the early Italian *risicare*, which means ‘to dare.’ In this sense, risk is a choice rather than a fate.” A modern definition of risk sees risk as “uncertainty about outcomes that can be negative or positive.” The project manager’s job is to meet the project’s objectives through the management of risks, both positive and negative. The project manager’s choices drive their success or failure.

“When we take a risk, we are betting on an outcome that will result from a decision we have made, though we do not know for certain what the outcome will be.” – Peter Bernstein.

Other definitions of risk:

- **PMBOK Guide:** An uncertain event or condition that, if it occurs, has a positive or negative effect on one or more project objectives.
- **PRINCE2:** A set of events that, should they occur, will have an effect on achieving the project objectives.
- **COSO Integrated Framework:** The possibility that events will occur and affect the achievement of objectives.
- **RIMS:** An uncertain future outcome that can either improve or worsen your position.
- **Institute of Risk Management (IRM):** Risk is the combination of the probability of an event and its consequences. Consequences can range from positive to negative.
- **Oxford English Dictionary:** A chance or possibility of danger, loss, injury or other adverse consequences’, and the definition of at risk is ‘exposed to danger.’

Risk management:

In the project context, Risk Management is the art and science of identifying, analyzing, and responding to risk factors throughout the life of a project and in the best interests of its objectives.

Therefore, risk management is seen as the formal process whereby risk factors are systematically identified, assessed, and provided for. In other words, such provisions constitute response planning and may include such defensive actions as mitigation by risk avoidance, deflection by insurance or contractual arrangement and contingent planning such as the provision and prudent management of budgeted contingency allowances to cover uncertainties.

Pym, D. V. (1987). Risk Management. *PM Network*, 1(3), 33–36.

About Qaren Project:

Starting from 2017, we have established Qaren program. The main objective of this program is to compare the products and services prices between the different stores, to allow the consumer taking a better decision. And today; our project is taking this program to the next level, which is an application with huge products and services updated database to allow the consumer to compare as they need when they want.

> Literature Review:

Different people have different perspective related to a project. Sometimes there is a possibility that even the best people do not get success while executing plans. There are a number of internal and external factors which play a vital role in the outcome of a project.

Risks if managed efficiently can be mitigated and prevented from causing any trouble for the business. There are several factors which need to be considered and proper understanding of risks is must in order to prevent them.

Article from: <https://projectpractical.com>

First, and because the nature of our project, we will consider these main categories to start with risk identification:

- **External Risks:** This category will be related to contracted company, and the data source vendors.
- **Internal Risks:** This category will consider the risks arise from the lack of support from the senior management and the internal change requests.
- **Technology Risks:** Risks related to the technology and the change may require and the associated cost to implement.
- **Regulatory Risks:** Our project might affect by regulation risks because of the nature and dealing with data scraping and showing the products prices to many companies and service providers.
- **Stakeholder Risks:** The project will have many stakeholders, counting each company as a resistance stakeholder will rise the associated risk.

> **Methodology:**

As chosen in Advance Project Management project, we will be focusing on risks related to scope. With taking in mind product scope which includes the features and functions of the products, services, and results.

To identify our project risks we will use these techniques:

- Brainstorming
- Benchmarking.
- Cause and effect diagram
- Expert Judgment.
- Lessons learned
- Risk Breakdown structure

And we will take these strategies in order to respond to risks:

Threats	Opportunities
Accept	Accept
Avoid	Exploit
Mitigate	Enhance
Transfer	Share

> Results and Discussion:

Risks Regarding the purpose, scope, and objectives of the project:

The scope risks will be any risk can affect delivering the project or the product scope.

Risk Identification:

Before Risk Identification we will describe the Probability and impact range in for further quantitative analysis:

Probability:

N	Category	Percentage of occurring
1	Very Low	0 % - 15.99 %
2	Low	16 % - 29.99 %
3	Medium	30 % - 49.99 %
4	High	50 % - 79.99 %
5	Very High	80 % - 100%

Impact:

N	Category	Impact on Cost Percentage of project cost	Impact on schedule
1	Very Low	Little or No impact	Little or No impact
2	Low	1% - 5.99%	1 – 4 weeks
3	Medium	6% - 10.99%	5 – 8 weeks
4	High	11% - 15.99%	9 – 12 weeks
5	Very High	>16%	> 12 weeks

An (OR) Relation will be taken for the impact. **For example:** If a risk has no impact on cost and have >12 weeks impact on schedule, it will be considered as a **very high** impact.

Strategy will be implemented as shown in the Probability and Impact Matrix below:

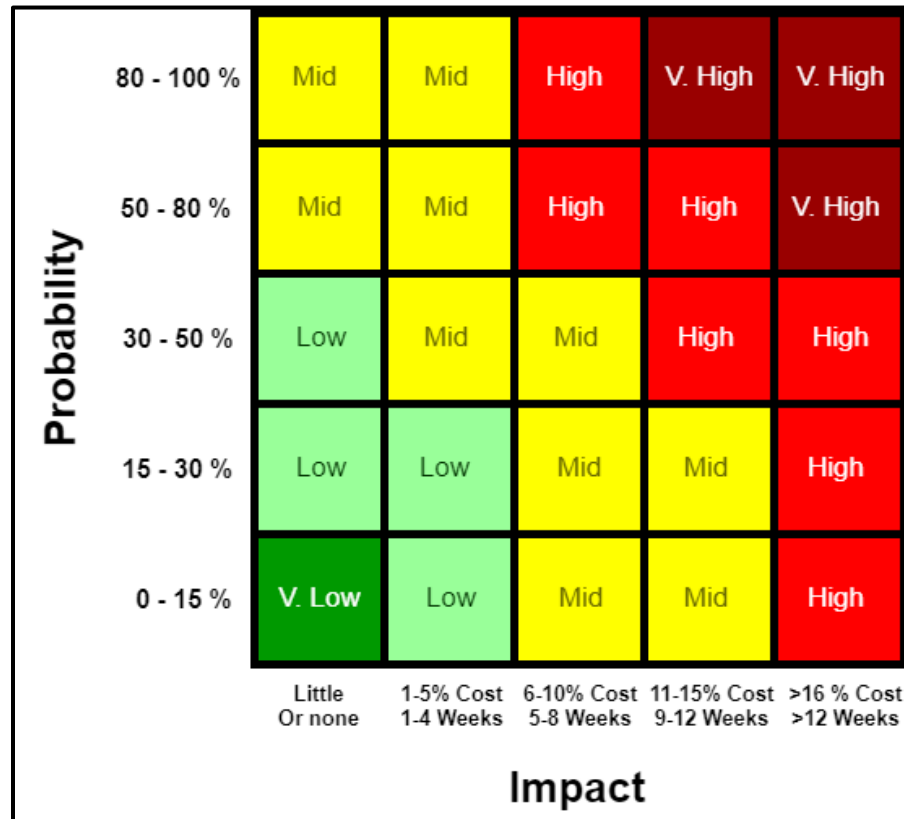


Fig1. Probability and Impact Matrix

List of Major Risks:

N	Risk	Probability	Impact	Severity	Strategy
1	Unstable project Finance.	High	V. High	V. High	Avoid
2	New Regulations prevents data scraping.	Low	Medium	Medium	Mitigate
3	Lawsuits from the companies to prevent showing their prices for comparison.	Medium	Medium	Medium	Transfer
4	Data gathering block from the companies.	V. High	Low	Medium	Mitigate
5	Under qualified contracted company.	Very Low	V. High	High	Mitigate
6	Change Requests from senior management	Medium	Medium	Medium	Mitigate
7	Unclear requirements	Very Low	High	Medium	Mitigate
8	Staff Turnover	Low	Low	Low	Accept

1. Unstable project Finance:

Impact on: Project Schedule, Cost associated to project resources.

Response Plan: According to our financial status this risk has a very high probability. We will avoid the execution of the project without a full commitment to finance the project according to the time-phased budget.

Mitigation Plan: In case of occurring, we will delay/cancel the execution of the least priority requirements.

2. New Regulations prevents data scraping:

Impact on: Cost associated to contracting a data source vendor.

Response Plan: Data scraping is one of the main methods to extract the data from the companies' websites, and that can't be avoided. First, we will write letters for all government agencies who are related to this risk to be sure it's allowed, and we will set alternatives to be ready for implementation once it occurs.

Mitigation Plan: Sign a contract with a data source vendor in another country.

3. Lawsuits from the companies to prevent showing their prices for comparison:

Impact on: Project Schedule, Cost associated to legal office efforts.

Response Plan: A Full legal study will be implemented and make sure that we are not extracting any other data than what they are showing to the public. And assigning a law office to transfer the responsibility.

Mitigation Plan: To work around and follow up with the legal office.

4. Data gathering block from the companies:

Impact on: Cost associated to change.

Response Plan: Companies will try this method for sure to prevent us from scraping their prices, but at the end there is no Front-end protection. We will study all of the available front-end protection method in order to counter it.

Mitigation Plan: Depend on the technology we will implement the anti-protection technique or method.

5. Under qualified contracted company:

Impact on: Product Quality, Project Schedule, Cost associated to change.

Response Plan: Implementation of a very aggressive selection criteria before signing the contract. And include legal and finance penalties and way out in the contract

Mitigation Plan: Implementation of the legal and financial right as per contract.

6. Change Requests from senior management:

Impact on: Project Schedule, Cost associated to change.

Response Plan: Implementation of a high engagement plan with the senior management for each phase or iteration to take their feedback.

Mitigation Plan: Implementation as per the change control process.

7. Unclear requirements:

Impact on: Product Quality, Cost associated to change.

Response Plan: As described in scope identification in Advance Project Management project, we used many techniques to clearly identify the scope with all relevant stakeholders, also we will have another analysis with the contracted company to implement the prototypes and storylines before the coding works. And formal agreement with the contracted company for each requirement.

Mitigation Plan: For major requirements; Change as per the change control process.

8. Staff Turnover:

Impact on: Project Schedule, Cost associated to training.

Response Plan: We will accept this risk regarding its severity, but our staff will include enough resources to continue the project works until we hire a replacement.

Mitigation Plan: Establish a hire process to replace the resource.

Expected Monetary Value:

N	Risk	Probability	Impact	EMV
1	Unstable project Finance.	50%	160,000	80,000
2	New Regulations prevents data scraping.	15%	60,000	9,000
3	Lawsuits from the companies to prevent showing their prices for comparison.	30%	100,000	30,000
4	Data gathering block from the companies.	80%	50,000	40,000
5	Under qualified contracted company.	5%	200,000	10,000
6	Change Requests from senior management	30%	60,000	18,000
7	Unclear requirements	10%	110,000	11,000
8	Staff Turnover	15%	30,000	4,500
Total EMV for project's risks			202,500 SAR	

> References:

- PMBOK Guide.
- PMI Learning Library.
- Article from <https://projectriskcoach.com>
- Article from <https://projectpractical.com>
- Against the Gods: The Remarkable Story of Risk book.
- Project Risk Management Course's Materials.