



جامعة الجميع الذكية  
EVERYONE'S SMART UNIVERSITY

## Everyone's Smart University

### Project (Spring 2021)

|              |                          |               |
|--------------|--------------------------|---------------|
| Student Name | Motaz Abdulfatah Alsagga | اسم الطالب    |
| Students I.D | 2021200135               | الرقم الجامعي |

Section

Master

Date

Thursday

29 / 04 / 2021.

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 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، 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..

# Project Risk Management

## Introduction

Risk management is usually divided into four types which are opportunity risk and risk, control risk, compliance risk and hazard risk. Through these types, we can conclude that the risks in general are divided into positive risks that may benefit the company or negative risks that may lead to material losses or may cause the suspension or delay of projects

During the planning stage for the implementation of the project, several risks surrounding the project were identified, and these risks may be the cause of delaying the delivery of the project or in increasing profits and improving the current situation, and this is the main goal of our project.

From this standpoint, assessing the risks before, during and after the project is a matter that should not be dispensed with and may greatly help to know the risk before its initial awareness, which may help to find appropriate solutions in addition to how to deal with the potential risk regardless of the type of risk.

- Employee assessment factors

if the employee assessment factors were not accurate then the employee re-structuring will not be effective meaning there will be no benefits for the changing the workers distribution.

- machine productivity assessment

if the machine productivity assessment was not designated based on actual and real data then the results will not be reflected well-meaning there will be no any optimizing inputs.

- study of the fabrication process

if the study of the fabrication process and the initial design is not clarifying the modification needs then the requirements will be purchased wrongly meaning the project has a potential to be failed.

- Not hiring an expert

if the implementation was not performed under the expert supervision, then the fabrication will not be beneficial somehow meaning the main project can be impacted.

- employee restructuring

If employee restructuring is available then the opportunity to increase the productivity through additional internal manpower will increase meaning a higher potential for success of the changes.

- training requirements are prepared

if the training requirements are prepared and delivered properly then the purposes are achieved meaning the project is running successfully and on time.

## **Literature Review**

Risk:

The authors have the same opinion with many practitioners and researchers that risk is defined as an uncertain event or condition that has a positive (known as opportunity) or negative effects (known as threat) on the project's objectives.

Therefore, everyone agrees that risk is an integral part of any project and that the method and tools for identifying risks are very similar in almost all projects.

## Methodology

The risk assessment study began from the project planning stage, and it resulted in the identification of many risks that may appear in the project, and plans were created to control them by a team specialized in risk management by referring to similar previous projects also using experts in the same field and we have used some methods to identify and plan risks.

### Risk Register:

| Risk Register |                                                                                                                                                                                                                  |                                   |               |               |                 |                                                                                                                                                                                                                                                                                     |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|---------------|---------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               |                                                                                                                                                                                                                  |                                   | Assessment    |               |                 |                                                                                                                                                                                                                                                                                     |
| ID            | Risk Description                                                                                                                                                                                                 | Owner                             | Probability   | Impact        | Response        | Action Plan                                                                                                                                                                                                                                                                         |
| 1             | <i>if the employee assessment factors was not accurate then the employee re-structuring will not be effective meaning there will be no benefits for the changing the workers ditribution.</i>                    | <i>Project Manager</i>            | <i>Medium</i> | <i>Medium</i> | <i>Reduce</i>   | <i>Ensure that sufficient factors were considered in the assessment procedure.</i>                                                                                                                                                                                                  |
| 2             | <i>if the machine productivity assessment was not designated based on actual and real data then the results will not be reflected well meaning there will be no any optimising inputs.</i>                       | <i>Project Manager/ PRD Eng.</i>  | <i>High</i>   | <i>High</i>   | <i>Reduce</i>   | <i>Ensure that all the production procedures are functionin/ recorded and monitored well.</i>                                                                                                                                                                                       |
| 3             | <i>if the study of the fabrication process and the initial design is not clarifying the modification needs then the requirements will be purchased wrongly meaning the project has a potential to be failed.</i> | <i>PRD/ Maint. Eng.</i>           | <i>Medium</i> | <i>High</i>   | <i>Avoid</i>    | <i>Ensure that modifications have been researched with a relevant and similar mechanism before the study has started.</i>                                                                                                                                                           |
| 4             | <i>if the implementation was not performed under the expert supervision then the fabrication will not be beneficial somehow meaning the main project can be impacted.</i>                                        | <i>Project manager / supplier</i> | <i>Low</i>    | <i>High</i>   | <i>Transfer</i> | <i>Ensure that the implementation plan is scheduled and agreed upon with the supplier in sufficient time.</i>                                                                                                                                                                       |
| 5             | <i>If employee restructuring is available then the opportunity to increase the productivity through additional internal manpower will increase meaning a higher potential for success of the changes.</i>        | <i>COO</i>                        | <i>High</i>   | <i>High</i>   | <i>Enhance</i>  | <i>Ensure that the restructuring proposal has been established based on studying all distribution stations and determining which stations are available to relinquish some of their employees, provided that they do not affect the rest of the distribution stages in company.</i> |
| 6             | <i>if the training requirements are prepared and deleivered properly then the purposes are achieved meaning the project is running successfully and on time.</i>                                                 | <i>Training Center</i>            | <i>High</i>   | <i>High</i>   | <i>Share</i>    | <i>Ensure that all the requirements (Timing, Place, Trainers,...etc) are defined &amp; selected on the right time.</i>                                                                                                                                                              |

### Risk Matrix:

| Impact     | Probability |           |          |
|------------|-------------|-----------|----------|
|            | 70% - 100%  | 30% - 70% | 0% - 30% |
| 70% - 100% | H           | H         | M        |
| 30% - 70%  | H           | M         | L        |
| 0% - 30%   | M           | L         | L        |

H = High, M = Medium, L = Low

### EMV:

| No.   | Probability | Impact Cost | EMV  |
|-------|-------------|-------------|------|
| 1     | 30%         | 3000        | 900  |
| 2     | 70%         | 7000        | 4900 |
| 3     | 30%         | 10000       | 3000 |
| 4     | 10%         | 7000        | 700  |
| 5     | 90%         | 0.0         | 0.0  |
| 6     | 80%         | 0.0         | 0.0  |
| Total |             |             | 9500 |

### Results and Discussion

Through the previous tables, we can conclude that the risks of opportunities and risks are nearly equal, so low and medium risks should not be focused on because the probability of their occurrence is weak and their impact is not great on the project in contrast, the chances of their occurrence are very high and their impact may be beneficial, which will contribute significantly to the success of the project.

## References

Wendy Chia Chin Hui Alfonso Daniel Cardenas Davalos (HOW IS RISK ASSESSMENT PERFORMED IN INTERNATIONAL TECHNOLOGY PROJECTS, 2009)