



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

Everyone's Smart University

Project (Spring 2021)

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Section

Master

Date

Thursday

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Course Code

(PMG510)

Project Risk Management

Instructions:

- آخر 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. وإن كان هناك ملحقات Appendices يتم إضافتها)
- يجب الالتزام بـ Theme موحد كما يلي:
- حجم الخط ١٢.
- 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 الآن 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..

Risks of Laboratory establishment

1.INTRODUCTION

Risk management is the process of identifying, assessing, and controlling threats to an organization's capital and earnings. Testing Laboratory is very important for organization with production line, establishing a testing laboratory for an organization includes several risks. Identifying project risk is a process of determining risk that potentially prevent the project goals to be achieved on time within budget. It also allows to create comprehensive understanding that can be leveraged to influence stakeholders and create better project decisions. Good risk identification creates good project communication and good communication creates good decisions.

Risk management can minimize the chance of errors and ensure reliability of test results, Laboratories specially can be surrounded by many risks, in this project I will consider the risks of establishing the laboratory from zero to reporting results.

2.LITERATURE REVIWE

Several studies presented that understanding weakness of a project planning process is the first step to developing plan based on risk management. Laboratories should develop a process map the outlines all the steps of requirement.

Risk management is an industrial process for managing the potential for error, Effective risk management means attempting to control, as much as possible, future outcomes by acting proactively rather than reactively.

2.1. Laboratory Quality Control Based on Risk Management

The research has Guideline for developing laboratory quality control plans based on risk management. prioritization of risks followed by coordinated and economical application of resources to minimize, monitor, and control the probability and/or impact of unfortunate events or to maximize the realization of opportunities. ⁽¹⁾

3. METHODOLOGY

Risk Analysis and Management is a key project management practice to ensure that the least number of unexpected events while the project is underway. Starting Laboratory establishment project includes project-specific and general risks. Using risk matrix would define the level of risk by considering the category of probability or likelihood against the category of consequence severity.

Risk Identification:

Description	Risk			How to prevent and mitigate the risk
	P	I	P*I	
1- Delay of importing the furniture as well as the instrument.	3	4	12	Ship and order early as soon as the goods are approved, ensure the right address, and keep tracking with suppliers.
2- Excess the budget regarding to the increasing of shipping cost caused by covid-19.	3	3	9	Contingency budget for the shipping cost, try to get discounts and offers.
3- Laboratory regulation might take longer time than expected.	2	2	4	Can be avoided by Meeting all compliance regulation requirements
4- Instrument training might cancel regarding to flight cancelation.	3	4	12	Arrange with supplier's video calls to complete training
5- Injury of team technicians caused by dangerous accident or chemical handling.	4	5	20	Provide training courses for the team, and provide all safety equipment

6- Property Accidents caused by chemical spilling or fire accident.	2	4	8	For chemical spilling the laboratory furniture can be chemicals proof, Lab must provide fire extinguisher for each type of chemicals that are handled, fire alarm
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Risk Matrix:

Red – High

Orange – Medium High

Yellow – Medium Low

Green – Low

Impact / probability	Unlikely	Remote	Occasional	Certain	Frequent
Catastrophic				20	
Major		8	12 12		
Serious			9		
Marginal		4			
Negligible					

Expected monetary value (EMV):

No. Risk	P	I	EMV
1	30%	4000	1200
2	30%	3000	900
3	20%	2000	400
4	30%	4000	1200
5	40%	5000	2000
6	20%	4000	800

Total EMV= 6500

Risk and triggers:

Source of Risk		Prevention Controls	Response Controls	Impact
1	Delay Shipped	Ship early, keep tracking the goods	Prepare other equipment while waiting, and tracking for goods to arrive	Project over time
2	increasing of shipping cost	Try to get offers	Contingency budget	project over budget
3	Regularity Risk	Fulfill all requirement	Contact and response with association	Regulation not issued, project over time
4	Training Cancelation	Plan B, arranging video calls to complete the training	Keep good connection with suppliers	Team is not familiar with whole operation process
5	Injury	Safety Equipment	Health insurance	Physical impact, psychological effects as well
6	Fire, Chemical spilling	Supervision, safety training, safety equipment.	Fire alarm, Fire extinguisher	Asset destruction, smoke inhalation, burns, death

Risk Contingency Plan:

Risk description	Grade	Mitigation Action
1. Delay of importing the furniture as well as the instrument.	B	Ship and order early as soon as the goods are approved, ensure the right address, and keep tracking with suppliers.
2. Excess the budget regarding to the increasing of shipping cost caused by covid-19.	C	Reduce the project cost in other matters, Project manager must use the contingency budget
3. Laboratory regulation might take longer time than expected.	B	Communicate with the competent government agencies
4. Instrument training might cancel regarding to flight cancelation.	C	Keep up with suppliers to take adequate information as possible
5. Injury of team technicians caused by dangerous accident or chemical handling.	A	Compensation and support for those affected as possible
6. Property Accidents caused by chemical spilling or fire accident.	A	After the fire damages, the lab must immediately rebuild and re-operate as quickly as possible whilst waiting for insurance payments.

A	Mitigation actions, to reduce the likelihood and seriousness, to be identified and implemented as soon as the project commences as a priority.
B	Mitigation actions, to reduce the likelihood and seriousness, to be identified and appropriate actions implemented during project execution.
C	Mitigation actions, to reduce the likelihood and seriousness, to be identified and costed for possible action if funds permit.
D	to be noted - no action is needed unless grading increases over time

4.RESULTS AND DISSCUTION

Risk Management is an ongoing process of forecasting, identification, evaluation, acceptance, or avoidance of risks encountered in projects. The degree of risks decides the next course of actions to be taken. Risks needs to be followed up and evaluated. The effectiveness of suggested strategy must be evaluated on an ongoing basis.

Risk matrix is a safety tool used to assess various workplace hazards. It plots the severity of an event occurring on one axis, and the probability of it occurring on the other.

Using Risk management tools and techniques like risk matrix, triggers, EMV can contributes from a decision-making point of view to improved project understanding, it helps quantify and compare risks in many aspects of the project.

5.REFERENCES

- 1- James H. Nichols, Laboratory Quality Control Based on Risk Management, From the Tufts University School of Medicine 2011, Springfield, MA, USA.
- 2- Paul Hopkin , Fundamentals of Risk Management, Kogan Page; 5th edition (July 28, 2018)