



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:

- اخر موعد للتسليم هو يوم الخميس 2021-05-20 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 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 **each 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 project. 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 بكل مرحلة من مراحل المشروع, تحضير مصفوفة احتمالية المخاطر ومن ثم القيام بالتحليل لهذه المخاطر المختارة. مهمتك هي تحضير خطة متكاملة لإدارة المخاطر تشمل التعريف بالمخاطر المحتملة التي تحيط بكل مرحلة من مراحل مشروعك (نفس المشروع الذي اخترته في مادة إدارة المشاريع المتقدمة Advanced project management). ومن ثم القيام بتحديد استراتيجيات إدارة 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 ردّة 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 بكل مرحلة 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 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..

RISK MANAGEMENT

Introduction:

I'm going to talk today about opening a new agency for airplane which will be facing several types of risk. I will make a study of the most common issues with their impact and consequences, how to solve it, make the percentage for the possibility of loss then analyze it.

Basically, I will identify the risk and its type. Approaches to defining risk a chance or possibility of danger, loss injury or other adverse consequences and the definition when risk is exposed to danger.

The organization defines the risk as effect of uncertainty on objectives. An effect may be positive, negative or a deviation from the expected. Also, risk is often described by an event, a change in circumstances or consequences. (ISO Guide 73).

The uncertainty of an event occurring that could have an impact on the achievement of the objectives. Risk is measured in terms of consequences and likelihood. (Institute of internal auditors).

Every risk has its own characteristics that require particular management or analysis.

Risks are divided into four categories as follows:

- Compliance risk.
- Hazard risk.
- Control risk.
- Opportunity risk.

I'm going to explain along with my project some of risks that might come on my way, how to solve it and deal with it in a project management procedure.

Literature Review

Project management is the application of knowledge, skill, tools and techniques to project activities to meet project requirement. Project management is accomplished through the use of the processes such as: initiating, planning, executing, controlling, and closing.

Methodology:

We conduct a quantitative bibliographic study on past papers published from year 2000 to 2007. We collected papers and journals from electronic databases– ACM, IEEE and ProQuest. Our objective of this paper is to find the current research trend on Risk Management by analyzing and categorizing those research papers.

Risk management is the process of identifying areas of risk that could negatively impact the success of the project and proactively managing those areas. Risk is analyzed during the initial stages of the project to lay the foundation for success and on an ongoing basis throughout the project.

There are several methods of project risk management in common use. Some are extremely cost-effective but the subject still attracts a lot of muddled thinking and well-intentioned efforts that can absorb more effort than the benefit they deliver. It is important to be clear about what you want from risk management and how it fits into your organization's other processes and tailor your approach to suit.

There are proprietary methods and tools that purport to do everything for you as well as many openly documented approaches to project risk management. The vast majority with any merit at all fit into one or more of the following categories:

1. Informal direct assessment of risks – experienced judgement
2. Checklists – lists of risks that have happened before or features of a project generally thought to be risky
3. Risk indicator scales – scoring schemes
4. Structured brainstorming and evaluation
5. Probability-Impact calculations
6. Probabilistic modelling of costs, schedules and cash flows.

The features of each of these are summarized in the following table in terms of their ability to achieve the two main aims of project risk management that were described earlier.

RISK DETERMINATION:

Threat Likelihood	Impact		
	Low. (10)	Medium (50)	High (100)
High (1.0)	Low $10 \times 1.0 = 10$	Medium $50 \times 1.0 = 50$	High $100 \times 1.0 = 100$
Medium (0.5)	Low $10 \times 0.5 = 5$	Medium $50 \times 0.5 = 25$	Medium $100 \times 0.5 = 50$
Low (0.1)	Low $10 \times 0.1 = 1$	Low $50 \times 0.1 = 5$	Low $100 \times 0.1 = 10$

Risk Matrix:

Consequence Likelihood	Insignificant 1	Minor 2	Moderate 3	Major 4	Extreme 5
Almost certain - 5	5	10	15	20	25
Likely - 4	4	8	12	16	20
Possible - 3	3	6	9	12	15
Unlikely - 2	2	4	6	8	10
Remote - 1	1	1	3	4	5

High



Low



Medium



Risks that might happened:

Risk event	Likelihood	Impact	Severity
Upgrading the reservation system which might effect on selling the tickets	2	2	4 LOW
Close the airports du to Covid 19 at these days	4	4	16 HIGH
Changing on weather, Raining, which will delay the trips.	2	1	2 LOW
Closing of some borders due to political issues	2	3	6 MEDIUM
Fallen of airplane which will affect the company reputation	2	5	10 MEDIUM

EMV Calculation Examples:

Risk	Probability	Impact	EMV
1	20%	8,000	1,600
2	40%	20,000	8,000
3	20%	5,000	1,000
4	20%	10,000	2,000
5	20%	20,000	4,000

EMV = 16,600

Discussion:

Following issue and expert selection, a first meeting of experts and analysts should be organized to clearly define and structure the variables to be encoded. At the start of this first meeting, the analyst is likely to have only a rough idea of what needs to be encoded. The purpose of the meeting is to enlist the expert's help in refining the definition and structure of variables to be encoded. The aim is to produce unambiguous definitions of the events and uncertain quantities that are to be elicited. For uncertain quantities the meaning, dimension, and unit of measurement need to be clearly defined. All conditioning events also need to be clearly defined. At this stage it is usually necessary and desirable to explore the usefulness of disaggregating variables into more elemental variables. Previous chapters have discussed the importance of breaking down or disaggregating sources and associated responses into appropriate levels of detail. A central concern is to ensure that sources are identified in sufficient detail to understand the nature of significant project risks and to facilitate the formulation of effective risk management strategies. From a probability elicitation perspective, disaggregation is driven by a need to assess the uncertainty of an event or quantity derived from a combination of underlying, contributory factors. Disaggregation can be used to combat motivational bias by producing a level of detail that disguises the connection between the assessor's judgements and personal interests. Disaggregation can also help to reduce cognitive bias (Armstrong et al., 1975).

References:

- Fundamentals of Risk Management 4th Edition - Understanding, Evaluating and Implementing Effective Risk Management.
- Hillson, D., & Simon, P. (2020). Practical project risk management.
- Del Cano, A., & de la Cruz, M. P. (2002). Integrated methodology for project risk management.