



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

Everyone's Smart University

Project (Spring 2021)

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Section

Master

Date

Thursday

18 / 03 / 2021.

Course Code

(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. وإن 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 \$\$.

مع تمنياتي بالتوفيق..

Risk Identification and Analysis of the restaurant project

1. Introduction:

The restaurant industry has been promoted among other businesses in the economy pie chart. The complicated logistics system plays an essential role in all restaurants. It includes many stakeholders from suppliers, warehouse managers, merchants, and clients. In every step of this supply chain, there are some risks. Some risks are minimized while others are overestimated. This problem produces trouble and makes the plan of a restaurant unsmooth and less efficient. Therefore, this research is written to identify and analyze those risks for a better understanding of how likely and difficult they could be. In this research, I will focus on several hidden and unexpected risks that need fast and proper solutions from the restaurant staff. I will carry out the risk analysis of the material flow in a restaurant to identify risks, analyze them, then decrease and avoid the results.

2. Literature Review:

Risk management is described as a process related to classification, analysis, response to risk including maximizing the result of positive events and reducing the impact of reverse events. The risks included identifying and evaluating project risks, think what to do with the impacts, the possibility of shifting risk to others, or how to decrease risks. Risk management has the final goal of checking the likelihood of risk occurrence and the influence of negative project activities.

The benefits of risk management given to the company can be divided into five main sections :

- Risk management may stop the restaurant from failing.
- Risk management directly supports the rise in profit .
- Risk management can save earnings indirectly .
- The peace of mind for managers generated by protection against pure risk, is a non-material treasure for the restaurants .

- Risk management protects restaurants from pure risk, and since client and supplier creditors prefer a protected restaurant it indirectly helps improve the public image.

The main methods for risk management are four, among others:

Problem Formulation: The method of evaluating the doubt of why an influence on a project has already happened, or that can happen from human activities. This step is the beginning stage of the overall project risk assessment. Some of the main points in the formulation of the problem cover:

- Identify and explain the problem
- Collect and combine available information
- Develop a conceptual type of problems
- Produce a risk analysis plan

Risk Analysis describes that risk is a probability of an unwanted event that will affect an action or something. The risk is estimated in results (impact) and likelihood (possibly). The likelihood is a probability within a period that a risk will occur. A result is an event of an outcome such as a loss (impact caused). Risk calculation can be formed as multiplication of Likelihood with Consequence as in the following formula:

Risk = Likelihood X Consequences

(1)As in table 1, the evaluation of likelihood is classified into 5, ie, almost certain, likely, moderate, unlikely, and rare. As for the assessment of consequences, as shown in Table 2, the assessment is classified into 5, ie, insignificant, minor, medium, major, and catastrophic. From these five risk analyzes, there are four levels of risk: Extreme, High, Medium, and Low, which will be reported in table 3.

Table 1. The Assessment of Likelihood.

Level	Descriptor	Description
A	Almost Certain	The possibilities happen very often
B	Likely	Often occur
C	Moderate	Happened several times
D	Unlikely	Happens sometimes
E	Rare	Possibilities rarely occur

Table 2. The Assessment of Consequences.

Level	Descriptor	Description
1	Insignificant	Causes death, inflicts serious harm, and enormous financial losses
2	Minor	Needs first aid, medium financial loss.
3	Medium	Requires medical treatment, high financial loss.
4	Major	Caused widespread losses, serious injuries, and huge financial losses.
5	Catastrophic	Causes death, inflicts serious harm, and enormous financial losses.

Table 3. Risk Metrics.

Likelihood	Consequences				
	(1) Insignificant	(2) Minor	(3) Medium	(4) Major	(5) Catastrophic
(A) Almost Certain	H	H	E ^a	E	E
(B) Likely	M	H	H ^b	E	E
(C) Moderate	L	M	H	E	E
(D) Unlikely	L	L ^d	M ^c	H	E
(E) Rare	L	L	M	H	H

. Risk avoidance is to determine not to involve in risky activities at all. The decision-making method is managed by examining the possible benefits and possible losses caused by activity.

- Risk reduction is also called risk mitigation is a way to decrease the likelihood of risk or decrease the influence of damage caused by risk .

- Risk transfer is to shift the risk to other companies, generally through a contract (insurance).

- Risk deferral is the result of a risk that is not always connected. Risk deferral includes delaying the features of a project to the point where the possibility of occurrence of the risk is small .

- Risk acceptance, although certain risks can be reduced by decreasing or transferring them, some risks must persist accepted as an important part of the activity

3. Methodology:

Research Method:

This study is carried out through some stages to investigate the risks as described above, such as knowing activities, classifying risks, estimating the impact and the probability of risk, risk evaluation, and the last step is to discover the acknowledgment of each risk.

4. Results and Discussions

Data Collection

The needed data were collected through meetings and questionnaires. Meetings are done on the people directly related to the restaurants such as leaders, waiters, chefs, and other workers. Questionnaires were made to collect primary data based on current parameters so that the data collected is relevant to the goal of the study. On the determination of the evaluator is set manager and some owner of restaurants in Saudi Arabia. The evaluator is the source of the interview to get the restaurant's data linked to the research, the risk identification method, and to be the respondent in estimating the risks identified. The determination of this evaluator is made with the assumption that the chosen evaluator knows in detail the condition of restaurants.

Result and Analysis

Risk Identification is made by examining the business activity of each business method. From each activity, there is a more extensive understanding to recognize the risks that exist in each activity. These recognized risks were the result of discussions with evaluators at Saudi restaurants and amounted to 59 risks. The 59 risks are shown in Appendix 1. Here are samples of existing risks based on business activity:

Table 4. Risk Identification.

Business Activity	Possible Risks	No Risk
Conducting production process (cooking)	Not available or lack of raw materials used in the production process	R.01
	The equipment used in the production is damaged thus disrupting the production process	R.02
	Work accident in kitchen area or bar	R.03

Risk evaluation

After estimating each of these risks, a risk evaluation is done by mapping risk into the metrics according to its influence and likelihood values. For this mapping do the roundup. Metrics work aims to determine the level of each known risk. Determining the level of risk will be helpful to discover the treatment of risk. The level of risk in the risk model consists of low, medium, high, and extreme. Then the risks that fall into the high and extreme levels will be given risk treatment or reduction. Overall, risk mapping can be seen in table

		Impact				
		Insignificant (1)	Moderate (2)	Major (3)	Severe (4)	Catastrophic (5)
Likelihood	Definite (5)	Medium 5	High 10	Extreme 15	Extreme 20	Extreme 25
	Likely (4)	Medium 4	High 8	High 12	Extreme 16	Extreme 20
	Possible (3)	Low 3	Medium 6	High 9	High 12	Extreme 15
	Unlike (2)	Low 2	Medium 4	Medium 6	High 8	High 10
	Rare (1)	Low 1	Low 2	Low 3	Medium 4	Medium 5

Risk Description	likelihood	Impact	Severity	Severity level
Not Available or lack of raw materials used in the production process	2	3	6	Medium
The equipment used in the production is damaged thus disrupting the production process	2	4	8	High
Work accidents in kitchen area or bar which damage the restaurant	3	5	9	Extreme
An individual is infected with the COVID-19, which stops working in offices.	3	3	9	High
Power outages affecting restaurant machines	1	3	3	Low

From the previous information about the risks and their contingency plans, we reach to an important stage, which is calculating the Expected Monetary Value (EMV) in term of cost to provide an indicator that can affect the project.

No.	Risk	Probability	Impact cost (SR)	EMV
1	Not Available or lack of raw materials used in the production process	0.3	2,500	750
2	The equipment used in the production is damaged thus disrupting the production process	0.4	30,000	12,000
3	Work accidents in kitchen area or bar which damage the restaurant	0.5	3,000	1500
4	An individual is infected with the COVID-19, which stops working in offices.	0.45	8,000	3,600
5	Power outages affecting restaurant machines	0.15	10,000	1,500
Total			53,500	19,350

The results from EMV and the costs that we got we should add to the project cost and this will be used when any of these risks happen.

References:

- [1] Standards Association of Australia 1999 A Basic Introduction to Managing Risk: Using the Australian and New Zealand Risk Management Standard AS/NZS 4360:1999/ Standards Australia (Stathfield, NSW: Standards Association of Australia)
- [2] Darmawi H 2012 Manajemen Risiko (Jakarta: Bumi Aksara)
- [3] Norris C, Perry J and Simon P 2000 Project Risk Analysis and Management (The Assosiation for Project Management. Buckingham)
- [4] Porter M E 1985 The Competitive Advantage: Creating and Sustaining Superior Performance (NY: Free Press)
- [5] Trieschmann, Gustavson and Hoyt 2001 Risk Management and Insurance. 8th Edition (SouthWestern Collage Publishing)