



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

Everyone's Smart University

Project(Spring 2021)

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Section

Master

Date

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Course Code

(PMG510)

Project Risk Management

Instructions:

- آخر 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. 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 \$\$.

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 إدارة 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 وتصنيف هذه القائمة للوصول إلى قائمة مختصرة بالمخاطر التي لها فرصة واقعية أكبر في الحدوث. على سبيل المثال: المشاكل الجوية المتوقعة والتي تمثل عتبة 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..

Instructor's:
Eng. Mosaab M. Hamed

Anticipated risks when adding new products.

INTRODUCTION:

Risks may be positive or negative for the project and they may have one or several reasons, which are the events that are likely to happen and when they happen that affect performance, cost and schedule. "Risk in itself is not bad; risk is essential to progress, and failure is often a key part of learning. But we must learn to balance the possible negative consequences of risk against the potential benefits of its associated opportunity. (Van Scoy, 1992)". In order to manage risks, we must first reduce the likelihood of an event occurring, and secondly to have a contingency plan, which are preventive measures aimed at reducing the impact or eliminating the risks and often implemented after the occurrence of the risk to reduce the impact of these risks. In the study of the advanced project management course, we dealt with the communication process associated with adding new products in the company, and here we will deal with the risks involved when adding new products and how to manage them.

LITERATURE REVIEW:

"Risk management is a series of steps whose objectives are to identify, address, and eliminate risk items before they become either threats to successful operation or a major source of expensive rework. (Boehm, 1989)." The occurrence of the problem could have been avoided or minimized if the high-risk elements in the projects had been warned. These projects fail because issues are reported too late or the wrong issue resolved. Problems happen. Effective teams always race to solve problems, these teams solve problems quickly, high-risk issues often occur late in the schedule, and these problems can lead to a large-scale solution, creating delays that we don't need. These teams think about the risks before starting work. Their goal is to avoid, resolve, and respond to risks in an effective manner if any. The risk management process is divided into risk assessment and risk control, as for the risk assessment, which includes risk identification, risk analysis, and risk prioritization, and the risk control process, it includes risk planning, risk mitigation, and risk monitoring. Risk management has to be implemented throughout the project on a recurring basis. The risks are analyzed after

identifying them, and then the decision is made after the transfer of the risks that have been identified, and then the likelihood and impact of each risk is set through several steps that the team works on, it is:

1. Evaluate the likelihood of the risk occurring, for example (probable and unlikely).
2. Use a scale that reflects the expected likelihood of the risk, and this scale may be numerical, for example (the first risk has a probability of 10%).
3. Create a qualitative likelihood, for example (very unlikely = 5%, unlikely = 30%).
4. Evaluate the impact of the loss, if it occurs, define the consequences of the risk, for example (1 = negligible, 2 = marginal, 3 = critical, or 4 = catastrophic).

After organizing the risks in a schedule, they are arranged in terms of their cost, whether they are high or not, their impact and likelihood is low or high, and upon them the team determines the risks that the procedures will be put in place. The team sorts the risks with a position of high likelihood, cost and impact in the beginning, and then gradually descends to the low likelihood, cost and impact, and then give the effect a monetary number and a likelihood percentage, the exposure to risk will be calculated as follows:

1. Risk Exposure (RE) = $P \times C$

2. Where P = probability of occurrence for a risk and C is the impact of the loss to the product should the risk occur.

For example, if the probability of a risk is 10 percent and

the impact of the risk is \$10,000, the risk exposure = $(0.1) \times (\$10,000) = \$1,000$.

This will be explained further in our project, by making this equation for each risk that we will mention. Risks need to be revisited at regular intervals for the team to reevaluate each risk to determine when new circumstances caused its probability and/or impact to change. At each interval, some risks may be added to the list and others taken away.

" A key to successful risk management is that proactive actions are owned by individuals and are monitored. (Larman, 2004)." Risks must be monitored, and when new hazards are discovered they must be responded to. Risks are monitored and controlled. A body that monitors and controls specific risks by answering them to search for new risks that are expected to occur and are associated with the success or failure of the risk response plan, and records are kept of the occurrence or disappearance of these risks.

METHODOLOGY:

Some risks will be identified when we add new products to us, where we say that there will be five risks entailed by them, which will be arranged and described in a table, and a risk matrix will be used, and we will place the likelihood and impact of each risk, and then the severity of the risks will be evaluated as high or medium or low, such as the schedule that will be set in order to develop response plans and mitigate the impact of these risks when we put them in place and mitigate them, and the expected monetary value (EMV) will be calculated, then the total impact is calculated, and finally the amount of the contingency cost.

RESULTS AND DISCUSSION:

We will take into consideration here some of the risks that may occur to us when adding new products, and these risks are:

1. The factory production line was disrupted.
2. High shipping cost.
3. Ships bringing in products were disrupted.
4. Damaged products.
5. Problems that may face the exporting country and the supplying country (countries policy).

The risk matrix will be listed in order to know the expected percentage of both likelihood and impact of risk. We'll explain this in the main table the List of Risks, Probability, Impact, Severity, Response Plan **and** Mitigate Action. **Finally there will be impact cost and risk contingency.**

Probability	0.7-1	high	high	medium
	0.3-0.69	high	medium	low
	0-0.29	medium	low	low
		0.7-1	0.3-0.69	0-0.29
		Impact		

No.	List of Risks	Probability	impact	Severity	Response plan	Mitigate Action
1	The factory production line was disrupted.	0.4	0.8	High	The parent company is required to periodically maintain machinery and equipment at the plant and install original spare parts	Rent external factories
2	High shipping cost.	0.2	0.6	Low	Sign a contract with a long term shipping company at a fixed price	Find alternative shipping companies

3	Ships bringing in products were disrupted.	0.2	0.3	Low	Not to put eggs in one basket, and to ship products on two or more ships	The shipping company has signed a contract to be responsible for any delay that occurs due to it and for the company to be compensated with an amount of money
4	Damaged products.	0.5	0.7	High	Packaging the products in fleshy and thick carton packages so as not to harm the goods	Damaged goods are sold to recycling factories and part of their price is used up
5	Problems that may face the exporting country and the supplying country (countries policy).	0.1	0.9	Medium	Establishing an approved factory from the country of origin in your country	Look for alternative products or discontinue them temporarily

Now we are going to calculate the expected monetary values:

No.	Risks	Probability	impact cost	risk contingency
1	The factory production line was disrupted.	0.4	20,000 SR	8,000 SR
2	High shipping cost.	0.2	10,000 SR	2,000 SR
3	Ships bringing in products were disrupted.	0.2	50,000 SR	10,000 SR
4	Damaged products.	0.5	5000 SR	5,000 SR
5	Problems that may face the exporting country and the supplying country (countries policy).	0.1	60,000 SR	6,000 SR
	Total		145,000 SR	31,000 SR

The total potential impact on the plan is 145,000 SR, while the contingency cost is 31,000 SR . There was 114,000 SAR that would not have been used had it not been for EMV.

REFERENCES:

1. Hall, E. M. (1998). Managing Risk: Methods for Systems Development, Addison Wesley.
2. Larman, C. (2004). Agile and Iterative Development: A Manager's Guide. Boston, Addison Wesley.
3. Van Scoy, R. L., "Development Risk: Opportunity, Institute, Pittsburgh, PA CMU / SEI-92-TR-030.
4. Fundamentals of Risk Management 5th Edition - Understanding, Evaluating, and Implementing Effective Risk Management - Paul Hawken-2018.