



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 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 الان 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 Data Diode

introduction:

After noticing the significant increase in cyber attacks and their great danger to company data, it was necessary to devise a new product to stop or mitigate these cyberattacks, which cause large losses to companies and the loss of important data.

In this research, the researcher will explain the risks that may encounter the device configuration, what we must do, and how we deal with the risks associated with the device.

In the planning stage, it is important to determine the internal components of the device and the system on which the device will be built in full, and how long it will take to finish the design, as well as how to choose the best components at the best prices within the specified budget.

Literature review:

The purpose of risk mitigation is to lessen the uncertainty associated with risk and provide a way to take advantage of opportunities that arise during these activities. There are four main responses to hazard risks in the form of tolerate, treat, transfer and terminate, commonly known as the 4Ts in risk management literature. It should be noted here that the hazard responses are usually determined for individual risks instead of a more general approach that considers groups of risk. Below is a short description of each response from the Orange Book (HM Treasury, 27-28)

showcases an alternative visualization of the risk management process that is also known as the 8Rs (or in some cases the 7Rs) and 4Ts of risk management. This is widely introduced in the risk management literature, featured in the works of Hampton (2015, 83) and Hopkin(2014,41).

The art and science of recognizing, assessing, and reacting to risk over the life of a project in the best interests of achieving project goals is known as project risk management (Schwalbe,2006).

Methodology

The researcher chose a process such as 8Rs and 4Ts, to help find the probabilities of risks and their impacts. So, we will brainstorm the first step to identify all potential risks. We will write all the possible risks after the Golden Storm.

Table 1

No.	List of Risks
1	Engineers damaged some components at the time of manufacture
2	Some technical errors from the software side that cause the device to malfunction
3	Some liquids got inside the device and this caused the device to malfunction
4	Selecting the appropriate suppliers for the components of the device
5	learn new technologies
6	Inability of the device to send data from the sender to the receiver via TCP
7	The device's inability to send data from the sender to the receiver via UDP
8	Loss of some data sent by the device to send data from the sender to the receiver
9	Difference in parts prices with the pandemic (an increase in prices)
10	Delay in delivering the project on time according to the specified specifications
11	The possibility of penetrating the device physical
12	The possibility of hacking the device through the internet

Now we have a set of risks, and the researcher will do risk matrix

Low = 0 to 0.30

medium = 0.31 to 0.70

high = 0.71 to 1

Table 2

No.	List of Risks	Probability	impact
1	Engineers damaged some components at the time of manufacture	0.4	0.4
2	Some technical errors from the software side that cause the device to malfunction	0.2	0.5
3	Some liquids got inside the device and this caused the device to malfunction	0.1	0.7
4	Selection of unknown suppliers for the components of the device	0.2	0.4
5	learn new technologies	0.1	0.3
6	Inability of the device to send data from the sender to the receiver via TCP	0.1	0.6
7	The device's inability to send data from the sender to the receiver via UDP	0.1	0.6
8	Loss of some data sent by the device to send data from the sender to the receiver	0.4	0.8
9	Difference in parts prices with the pandemic (an increase in prices)	0.2	0.3

10	Delay in delivering the project on time according to the specified specifications	0.7	0.8
11	The possibility of penetrating the device physical	0.2	0.9
12	The possibility of hacking the device through the internet	0.1	0.8

After collecting and evaluating the risks, it's time to evaluate the severity to start thinking about the response plans for each risk and try to mitigate the impact.

Figure1

		Impact 		
Probability 		0 – 0.3	0.31 – 0.70	0.71 - 1
	0 – 0.3	LOW	LOW	MEDIUM
	0.31 – 0.70	LOW	MEDIUM	HIGH
	0.71 - 1	MEDIUM	HIGH	HIGH

Table 3

No.	List of Risks	Probability	impact	Severity	Response plan	Mitigate Action
1	Engineers damaged some components at the time of manufacture	0.4	0.4	MEDIUM	Supplying technical tools and equipment to reduce damage	To train engineers before the start of manufacturing and to ensure their understanding
2	Some technical errors from the software side that cause the device to malfunction	0.2	0.5	LOW	Before performing any software update, more than one person is reviewed and errors, if any, are amended	Having a professional help reduce these errors
3	Some liquids got inside the device and this caused the device to malfunction	0.1	0.7	LOW	Providing a suitable work environment isolated and far from liquids	Not to approach the agency except with authorized persons
4	Selection of unknown suppliers for the components of the device	0.2	0.4	LOW	Ensure that each supplier the ingredients are purchased from and	Ensure that you take the time to choose the best supplier

					whether the components are of the same quality or not	
5	learn new technologies	0.1	0.3	LOW	Providing the necessary educational materials in the event that there are any new technologies for employees to facilitate and speed up work	bring in a trainer to train employees
6	Inability of the device to send data from the sender to the receiver via TCP	0.1	0.6	LOW	Numerous tests are carried out to ensure that the data is delivered correctly and correctly	---
7	The device's inability to send data from the sender to the receiver via UDP	0.1	0.6	LOW	Numerous tests are carried out to ensure that the data is delivered correctly and correctly	---
8	Loss of some data sent by the device to send	0.4	0.8	HIGH	Numerous tests are carried out to ensure that	---

	data from the sender to the receiver				the data is delivered correctly and correctly	
9	Difference in parts prices with the pandemic (an increase in prices)	0.2	0.3	LOW	Before purchasing from any supplier of components, a comparison is made between more than one supplier and the best is chosen	Ensure that you take the time to choose the best supplier
10	Delay in delivering the project on time according to the specified specifications	0.7	0.8	HIGH	Provide all project needs as quickly as possible to avoid any unexpected delays	Taking all possibilities into account and expediting in addressing the delay to reduce the cost
11	The possibility of penetrating the device physical	0.2	0.9	MEDIUM	The device is isolated in a special room that only authorized persons can enter	Immediately contact the authorized person to confirm the problem
12	The possibility of hacking the	0.1	0.8	MEDIUM	It is a low possibility, but if any, the device	Turn off the device and track

	device through the internet				is disconnected to limit the spread of the penetration	the problem to solve it
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Results

Here we are going to calculate the EMV cost for Data diode. All the numbers you are going to see are not exact cost but it was evaluated based on experience.

The total potential impact on the plan is 1700000 SR, while the contingency cost is 337000 SR.

Table 4

No.	List of Risks	Probability	Impact cost SR	Risk contingency
1	Engineers damaged some components at the time of manufacture	0.4	100000	40000
2	Some technical errors from the software side that cause the device to malfunction	0.2	100000	20000
3	Some liquids got inside the device and this caused the device to malfunction	0.1	250000	25000
4	Selection of unknown suppliers for the components of the device	0.2	50000	10000
5	learn new technologies	0.1	10000	1000

6	Inability of the device to send data from the sender to the receiver via TCP	0.1	15000	1500
7	The device's inability to send data from the sender to the receiver via UDP	0.1	15000	1500
8	Loss of some data sent by the device to send data from the sender to the receiver	0.4	30000	12000
9	Difference in parts prices with the pandemic (an increase in prices)	0.2	30000	6000
10	Delay in delivering the project on time according to the specified specifications	0.7	100000	70000
11	The possibility of penetrating the device physical	0.2	500000	100000
12	The possibility of hacking the device through the internet	0.1	500000	50000
	TOTAL		1700000	337000

Discussion

In (Table 3) As is evident in the table, it is important to pay attention to all risks, but we must focus more on the risks that most affect the project, how much is shown in the table. Some risks are green, and others are orange and red from the viewpoint of the researcher. We must focus on the priority red, then orange, then green.

In (Table 4) As shown in the table, we see the cost of the risks to the budget, and the largest number is (The possibility of penetrating the device physically). Therefore, it has a high priority and there are some other high-priority risks. It should be noted that choosing the right supplier and the right workers contributes to mitigating the Budget consumption.

References

