



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 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 \$\$.

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 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..

First, I would like to thanks Dr. Mosaab for support and guidance in Risk managment course. In this research a will staudy risks on Electronic Saudi Drug Registration project while working in identify and describe the purpose, scope, and objectives of the project phase.

Answer

Introduction

Thiqah Business services Co. has a mission in the digital era, as the organization develops and operates information technology projects to their government client's for better support of end-user, risk management plays a critical role in protecting government assets related to information technology , The (Saudi Drug Registration project) is one of that projects handling by Thiqah, during identify and describe the purpose, scope, and objectives of project we identify as well risks related to this phase, as required from Saudi drug and food authority who own project required to submit and process Drug files electronically; the size of the Drug file is very big and in some cases may reach up to 20,000 megabytes and has very sensitive data that need to be protected from any unauthorized access, moreover we have to look at other information technology risk associated with any information technology project as well.

Literature Review

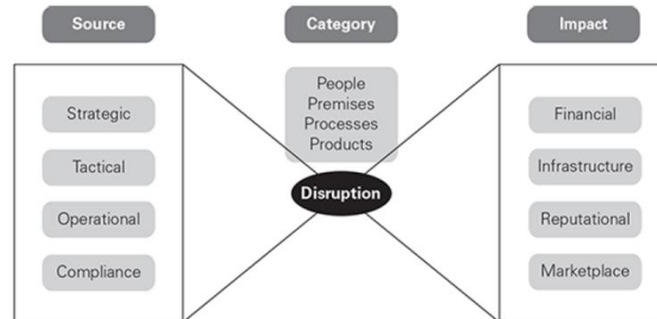
Identifying risk for the scope of any information technology system requires a deep understanding of the system's processing environment. Conducting the risk assessment must collect system-related information that will guide to identify risk conducted by stakeholders with aid of some tools like 8Rs and 4Ts of hazard risk management, the below elements are the most common areas that need to be observed:

- Hardware
- System interfaces
- System and data criticality and sensitivity
- Software
- Data and information
- The functional and nonfunctional requirements

- The functional and nonfunctional requirements
- Users of the system
- System and data security
- storage data

Once all possibility of dangers has been raised will subject to analysis to gain a better understanding by using the bow-tie analysis tool we can to identification of preventive and response controls related to any risk.

Figure 1



Next, the risks flow into another assessment based on probability and impact to demonstrating the level of any risk that a particular event represents; the below matrix shows how to rate in 4 levels of probability and in 3 levels of impact.

Figure 2

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		

To manage project successfully you need to consider risks related to that project carefully by preparing a budget for contingency reserve related to project's risks which considered on project cost, an Expected Monetary Value (EMV) is a great tool to calculate contingency reserve that will used once the risk occur, the below formal show how to calculate EMV:

Figure 3

$$EMV = \sum P * IC$$

EMV: (Expected Monetary Value)
P: (Probability)
IC: (Impact Cost).

Methodology

Based on the above section (Literature Review) will study identified risks on Saudi Drug Registration project including potential impacts, triggers, and response strategies then will calculate a contingency reserve estimation amount to be added to a project cost plan.

- The blow is a list of risks associated with the Saudi Drug Registration project:

Table 1:

#	risk	potential impacts	triggers
1	Stole drug details file	Exposure to heavy fines that will cost a lot money	System Attached
2	Change Drug registration policy and procedures	Rebuild system from scratch, so will cost a lot money and time rebuild system	Business owner request many change request
3	IT infrastructure failures	loss of service continuity, Processing of drug requests will be stopped	Power or cloud service outage

4	Technical failures	Lose data, that will affect company reputation negatively	Software crash or database failure
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Now will assess the probability and impact and set response strategy and mitigation plan for Saudi Drug Registration's risks.

Table2:

#	Risk	Probability	Impact	Response strategies	Mitigation
1	Stole drug details file	Low	High	Quick Response for any cyber security incident and close system till the incident got fixed	Build a Strong Information Security Policy, apply Security Monitoring tools.
2	Change Drug registration policy and procedures	Low	Medium	Accept and change system based on new policy and procedures	Build flexible software that can accept 20% of any upcoming changes.
3	IT infrastructure failures	Low	Medium	Accept, power service provided by Saudi electric co.	Use standby power generator
4	Technical failures	Medium	High	Provide a hotfix release to fix system bugs, Regular database backups	Do performance testing in all software release.

Once all risks defined and response strategy and mitigation set, we can move forward to score risk as below base on probability and Impact matrix in Figure 2

Table3:

#	risk	Probability	Impact	Severity
1	Stole drug details file	0.05	0.90	Medium
2	Change Drug registration policy and procedures	0.2	0.35	Low
3	IT infrastructure failures	0.14	0.2	Low
4	Technical failures	0.55	0.8	High

Finally, will prepare a budget for contingency reserve by using EMV formal

Table4:

#	risk	Probability	Impact Cost	Risk Contingency
1	Stole drug details file	0.05	2 Million SAR	100,000 SAR
2	Change Drug registration policy and procedures	0.2	750,000 SAR	150,000 SAR
3	IT infrastructure failures	0.14	150,000 SAR	21,000 SAR
4	Technical failures	0.55	400,000 SAR	220,000 SAR
Total				491,000 SAR

Results and Discussion

Flow framework of risk management process goes through steps begins with identifying risks (Table1), next deep analyze risks by setting the probability, impact, response strategy and mitigation for all risks (Table2), then the risk will prioritized base on their Severity (Table3), and finally, keep risks under monitoring by looking for identified residual risks, identifying any new risks, doing a corrective and preventive actions as needed to minimize risks occur, and using contingency reserve (Table4) only when a risk occurs as part of the risk response strategy.

Risk management is very important to managing IT software projects. While such a project can never predict the future with certainty, but we can apply a risk management process to predict the uncertainties risks in the projects and mitigate the occurrence or impact of these uncertainties' risks.

References

- Risk Management Guide for Information Technology Systems. Gary Stoneburner, Alice Goguen¹, and Alexis Feringa¹.
- Pmbok 6th edition, PMI institute.
- Maritals of Project Risk Management, Dr.Mosaab