



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 \$\$.

Best of luck...

المشروع:

التعرف على المخاطر وتحليلها (بحث مبنى 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 ردّة الفعل المناسبة عند وقوع الخطر – لمنع أو تقليل الاثار السلبية على المشروع.

قد تحبّذ بداية هذا البحث بعصف ذهني عن ماهية المخاطر التي قد تحيط بتلك المرحلة من مراحل مشروعك, وذلك للحصول على قائمة بتلك المخاطر. ومن ثمّ 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.

سنقوم 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 (Integration System Refreshment Project)

Introduction

In the digital era, SAUDIA airline is updating all its critical systems for better support and to adopt the latest technology. One of the major projects is the refresh of its integration system. The online integration layer is the backbone of the SAUDIA architecture. It links the enterprise applications together for the purpose of online services. The integration layer provides a transparent layer between various Enterprise applications (Service consumers and Providers). It encapsulates the services and business functions provided by the applications domain and other service providers, and expose them as integration services to other domains.

Risk management plays a critical role in the project success. An effective risk management process is an important component of a successful IT project implementation, it reduces the variability of outcomes and enhance the management of control risks. It helps completing the project on time, within the budget and fulfill the agreed scope.

- The requirements of project risk management are to identify the events that could give rise to uncertainty and respond to the event appropriately.
- The style of risk management most relevant to project risk management is control management.

Because of the nature of projects, historical loss data will not usually be available. Accordingly, project risk management needs to be forward-looking in order to anticipate problems before they arise.

Methodology

Following the 8Rs and 4Ts process, the first step in the process starts with listing down of all the risks that the project team members can think of. This is done in brainstorming sessions. To list down all possible risks. The expected outcome of this process is a list of risks with its probabilities and impacts.

Note: the risk register or matrix should be updated on a regular basis throughout the project lifecycle.

No.	List of Risks
1	Many organization systems are being changed/replaced
2	BAU changes due to internal/external mandate
3	CORONA Virus
4	Change in interfaces in SIT/ UAT or even in Production
5	Servers integration with LDAP
6	Infrastructure readiness
7	Disaster recovery site readiness
8	Resources availability
9	Budget shortage
10	Consultant or contractor delays

After listing the possible risks, we will use the risks matrix by determining the probability and the impact of the listed risks, and then we will the risk register. The risks are rated on two parameters (Probability of occurring and impact of occurring).

- Low = 0 to 0.29
- Medium = 0.3 to 0.69
- High = 0.7 to 1

No.	List of Risks	Probability	Impact
1	Many organization systems are being changed/replaced	0.15	0.6
2	BAU changes due to internal/external mandate	0.8	0.5
3	CORONA Virus	0.65	0.9
4	Change in interfaces in SIT/ UAT or even in Production	0.4	0.7
5	Servers integration with LDAP	0.7	0.9
6	Infrastructure readiness	0.7	0.95
7	Disaster recovery site readiness	0.25	0.85
8	Resources availability	0.1	0.8
9	Budget shortage	0.1	0.8
10	Consultant or contractor delays	0.2	0.65

Now the next step is to calculate the severity of the risks in order to decide the proper response plan strategy and identify the mitigation plan of each risk. To calculate the severity, we will use Risks Matrix and Bow-Tie.

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 Strategy	Mitigation plan
1	Many organization systems are being changed/replaced	0.15	0.6	Low	Treat \ Reduce	Ensure prioritizing of projects and control impact on the scope/ timeline

2	BAU changes due to internal/external mandate	0.8	0.5	High	Treat \ Reduce	Align and agree on the requirements in advance and freeze changes
3	CORONA Virus	0.65	0.9	High	Treat \ Reduce	Enable staff to work remotely (Work from home)
4	Change in interfaces in SIT/ UAT or even in Production	0.4	0.7	High	Treat \ Reduce	Ensure sharing the requirements in timely manner. Make sure a defined\approved escalation matrix is in place.
5	Servers integration with LDAP	0.7	0.9	High	Treat \ Reduce	Align and agree to install it urgently and use local authentication methodology on temporarily bases
6	Infrastructure readiness	0.7	0.95	High	Transfer	Include the Infrastructure readiness on the contract under the vendor responsibility
7	Disaster recovery site readiness	0.25	0.85	Medium	Transfer	Include the Infrastructure readiness on the contract under the vendor responsibility
8	Resources availability	0.1	0.8	Medium	Treat \ Reduce	Higher part time staff

9	Budget shortage	0.1	0.8	Medium	Treat \ Reduce	Make sure there is a contingency reserve Budget
10	Consultant or contractor delays	0.2	0.65	Low	Transfer	Add penalty section in the contract in case of any delay caused by the vendor

Results

Using probability and impact matrix we calculated the Expected Monetary Value (EMV) for all risks that have the impact in terms of cost \$\$\$. Please note that the costs are budgetary.

As shown in the below table, the total potential impact on the plan is 316,500 SAR, while the risks contingency cost is 123,350 SAR.

No.	List of Risks	Probability	Impact cost SAR	Risk contingency SAR
1	Many organization systems are being changed/replaced	0.15	80,000	12,000
2	BAU changes due to internal/external mandate	0.8	20,000	16,000
3	CORONA Virus	0.65	34,000	22,100
4	Change in interfaces in SIT/ UAT or even in Production	0.4	45,000	18,000
5	Servers integration with LDAP	0.7	12,500	8,750
6	Infrastructure readiness	0.7	50,000	35,000
7	Disaster recovery site readiness	0.25	10,000	2,500
8	Resources availability	0.1	24,000	2,400
9	Budget shortage	0.1	16,000	1,600
10	Conflict with other projects	0.2	25,000	5,000
	Total		316,500	123,350

Discussion

We followed the 4T's process where we applied one of the following strategies (Terminate, Treat, Transfer or Tolerate) when responding to risk. It was noticed that the majority of risks were managed using the treat strategy to reduce of managing the risk to an acceptable level. Other risks were managed using the transfer strategy where the decision was taken to transfer the risk to the contractor (e.g., including the infrastructure readiness as the contractor's responsibility). Also, as project managers, we should pay more attention to the high and medium severity and not waste much time on those risks with low severity (Low probability, Low impact).

The analysis of risks impact in terms of cost helps the organization avoid being unprepared, not having a clear enough budget or time to respond to the potential risks.

The well-planned risk management will help the team create a good plan, with a budget and seclude to deal with risk in a proactive manner, and justify to the management or project sponsor the requested contingency cost, which will eventually result in a higher chance of project success.

Reference

- Fundamentals of Risk Management: Understanding, Evaluating and Implementing Effective Risk Management by Paul Hopkin
- A Practical Guide to Risk Management by Thomas S. Coleman