



جامعة الجميع الذكية  
EVERYONE'S SMART UNIVERSITY

## Everyone's Smart University

### Project (Spring 2021)

|              |                     |               |
|--------------|---------------------|---------------|
| Student Name | Moataz M. Turkstani | اسم الطالب    |
| Students I.D | 2021201952          | الرقم الجامعي |

Section

Master

Date

Thursday

18 / 03 / 2021.

Course Code

(PMG510)

## Project Risk Management

### Instructions:

- اخر موعد للتسليم هو يوم الخميس 2021-05-20 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 **each 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 project. 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 بكل مرحلة من مراحل المشروع, تحضير مصفوفة احتمالية المخاطر ومن ثم القيام بالتحليل لهذه المخاطر المختارة. مهمتك هي تحضير خطة متكاملة لإدارة المخاطر تشمل التعريف بالمخاطر المحتملة التي تحيط بكل مرحلة من مراحل مشروعك (نفس المشروع الذي اخترته في مادة إدارة المشاريع المتقدمة Advanced project management). ومن ثم القيام بتحديد استراتيجيات إدارة 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 الآثار السلبية على المشروع.

قد تحبذ بداية هذا البحث بعصف ذهني عن ماهية المخاطر التي قد تحيط بكل مرحلة 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 Management in Central Reservation System Project (MAQAM) at Sejeltech**

### **1. Introduction**

Risk management is a proactive approach to manage and control internal and external consequences that may cause disruptions or project failure. The processes of risk management are iterative in that they can take place all over the project lifetime. Organizations are investing in risks nowadays to enhance their project delivery by managing control risks, mitigating hazard risks, minimizing compliance risks and enhancing opportunity risks. In fact, organizations seek to increase the probability of positive risks "Opportunity" and decrease the probability of negative risks "Threats."

According to the previous study in "Advanced Project Management," Sejeltech company has been developing an electronic system, called Central Reservation System CRS, for service providers, which provides an inventory management system for identifying available vacancies, managing private contracts (B2B) including the names of contract holders, service costs and expiration dates. As a training and development specialist reported to PM, my roles and responsibilities started early in the initiating process in which identify the key stakeholders, high-level project description, requirements, and high level risks to develop the project charter and obtain approval from the sponsor. In fact, the communication strategy has been developed recently to be more virtual communication amongst the team and stakeholders due to the pandemic Covid-19. Sejeltech has taken in consideration risk management approach by identifying, evaluating, analyzing, responding and monitoring risks during the utilize of virtual communication strategy to seek opportunities and mitigate any consequences by assessing the likelihood and impact of potential risks in order to benefit and avoid additional expenses in business. Therefore, the objective of this study is to assess risks associated with virtual communication in the training department and performing further analysis to assign proper responses for various types of identified risks.

### **2. Literature Review and Conceptual framework**

Several Institutions around the world have their own definition of risk and risk management, whereas all those different definitions have a common idea that risks can have either negative or positive effects. "Risk can be classified into unsystematic and systematic risk," as Al-Tamimi and Al-Mazrooei said. They have also claimed that

systematic risks are related to the market. Such risks can be called market risks and can't be avoided by diversification, while unsystematic risks are called known or residual risks related to individual assets (Al-Tamimi and Al-Mazrooei, 2007). In addition, in Projects, the term uncertainty is used for the unknown probabilities and is also related to controlling risks. According to "Project Risk Management: Processes, Techniques and insights," "The scope for uncertainty in any project is considerable, and most project management activities are concerned with managing uncertainty from the earliest stages of the Project Life Cycle (PLC), clarifying what can be done, deciding what is to be done, and ensuring that it gets done" (Chapman C. and Ward S., 2003). Indeed, risk identification is not a one-time process, yet it's an iterative process over the lifetime of a project. It assists to define the probability of potential risks whether they are high or low. Tcankova has claimed that "performing the risk identification process correctly lead to an effective risk management" (Tcankova, L., 2002). Moreover, it's significant to evaluate the risk tolerance of the organization whether the risk will be accepted or not by considering its risk appetite and paying attention to the risk capacity to ensure adequate resources and materials thus to come up with the right decision (Vrijling, Hengel and Houben, 1995). Hence, I'd lastly add that communication is a significant factor in risk management that it allows the organization to effectively monitor risks in each phase and ensure also alignment to requirements and expectations. Grabowski and Roberts stated that "Communication plays an important role in risk mitigation. It provides opportunities for clarification, for making sense of the organization's progress, and for members to discuss how to improve the organization and the impact of using different risk mitigation strategies" (Grabowski, M. and Roberts, K., 1999).

### **3. Methodology**

in this study, a descriptive and a cumulative approach will be used to identify risks, evaluate the probability and impact of risks, calculating the earned value. Indeed, a risk management plan will be prepared to define the methodology, guide the processes of risk management and ensure the planning is associated with organization goals and risk strategy. Likewise, the stakeholder register is an important input at this stage to evaluate their attitude towards risks. Referring to our project CRS about virtual communication, a list of all potential risks will be identified by brainstorming and nominal group, interviews

and meetings techniques to come up with the probability and impact of each risk to finally assign a proper response for each risk.

- **List of identified Risk:**

| Risk Description                                   | Probability & Impact |   |       | Response & Mitigation Action                                                                                                                                 |
|----------------------------------------------------|----------------------|---|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                    | P                    | I | P * I |                                                                                                                                                              |
| A. Internet Outage                                 | 5                    | 5 | 25    | Ensure using sustainable connection by regularly testing the speed prior the session. Sejeltech provided an external router for each member for emergencies. |
| B. Insufficient Participants and time in a session | 4                    | 2 | 8     | Well-developed schedule and arrangement is necessary, however, using a valid license is the best action.                                                     |
| C. Developing a private platform for Sejeltech     | 3                    | 4 | 12    | Analyzing the benefit and R.O.I. and enhancing the probability of occurring for good and positive outcomes                                                   |
| D. Sickness of a team member                       | 1                    | 2 | 2     | Using back-up members to manage any disruption or absence and ensuring the capacity of adequate number of trainers                                           |
| E. Lack of Effective Feedback                      | 5                    | 3 | 15    | Paying attention to different background and culture and ensuring strict control skills to effectively manage the members.                                   |

- **Risk Probability & Impact Matrix:**

| Probability & Impact Matrix |               | Impact       |            |               |            |              |
|-----------------------------|---------------|--------------|------------|---------------|------------|--------------|
|                             |               | 1<br>Trivial | 2<br>Minor | 3<br>Moderate | 4<br>Major | 5<br>Extreme |
| Probability                 | Rare 1        |              | D          |               |            |              |
|                             | Unlikely 2    |              |            |               |            |              |
|                             | Moderate 3    |              |            |               | C          |              |
|                             | Likely 4      |              | B          |               |            |              |
|                             | Very Likely 5 |              |            | E             |            | A            |

- Red Zone (high impact/high probability)
- Green Zone (low impact/low probability)

- Yellow Zone (moderate risks)

- **Risks Triggers & indicators:**

| risk | source                               | prevention                                   | response                                                    | impact                                          |
|------|--------------------------------------|----------------------------------------------|-------------------------------------------------------------|-------------------------------------------------|
| A    | Unreliable connection                | Latest internet technology 5G, fiber optical | Use of external internet router                             | Loss of communication process                   |
| B    | Unofficial or trial software         | Purchasing valid license                     | Scheduling and arranging an extra session for another patch | Wasting time and loss of trust                  |
| D    | Neglect of personal health condition | Visiting a doctor constantly                 | Use of a back-up trainer                                    | Disruption to the normal meeting operation      |
| E    | No ground rules pre-defined          | Sending agenda and rules prior the meeting   | Demonstrating cultural awareness and good managing skills   | Loss of information and deviation from the goal |

- **Expected Monetary Value (EMV): In terms of costs**

- **Total EMV = \$ 6200**

| Risk | Risk Probability (P) | Cost Impact (IC) | Risk Contingency (P*IC) |
|------|----------------------|------------------|-------------------------|
| A    | 0.5                  | \$ 5000          | \$ 2500                 |
| B    | 0.4                  | \$ 2000          | \$ 800                  |
| C    | 0.3                  | \$ 4000          | \$ 1200                 |
| D    | 0.1                  | \$ 2000          | \$ 200                  |
| E    | 0.5                  | \$ 3000          | \$ 1500                 |

#### 4. Results and Discussion

According to the figures above, it reveals that organizations should invest and pay attention to risk management to manage, control or mitigate negative risks and exploit positive risks. Actually, low probability/low exposure risks should be accepted and documented in the watch list to be monitored. Likewise, too much focus on risks and risk management will cause deform to the organization operation, so deviating from the organization purpose will occur and loss of better decisions. In addition, high probability/high exposure risks should be carefully handled and avoided. Also, moderate risks could be either adapted by following the procedures and controls or adopted by using the contingency plan. In fact, risk management needs to be only as sophisticated as the organization requires to ensure benefits.

Based on the EMV table, the total potential impact of those 5 risks in terms of cost is \$ 16000 which can't be obtained as a contingency budget because not all of those risks would occur. However, the total contingency requested is \$ 6200 which reasonably can be added to the risk contingency budget which is a reflection of the potential impact of risks and the likelihood of each risk occurring. Therefore, the advantage of EMV technique is to calculate the contingency reserve for all coming risks which may or may not occur.

To conclude, risk management is an important approach for every organization to minimize the impact of risks and improve the strategic decision towards risks. The risk management process is not a one-time process; nevertheless, it's an iterative process happening through the entire project lifecycle to finally ensure project success. Sejeltech is equipped with the knowledge and best practices in risk management to enhance their virtual communication strategy and thus meet customer satisfaction and requirements to finally succeed in their projects.

## **5. References**

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