



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:

- 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 1.5 line spacing
- 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 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..

1. INTRODUCTION

The analysis and management of project risks is the process that enables one to know the risks and analyze those risks using the appropriate method and then develop the appropriate solution that eliminates that risk or reduces its effects. In other words, it is the process that increases the success and completion of the project in terms of cost, time, and specification, with the least possible problems. The risks for which there is sufficient data can be statistically estimated because no two projects can be alike. Often, dealing with risks in projects differs from one situation to another, where there is sufficient data to be taken to progress and actual knowledge of the risks [1].

Project risk analysis and management are processes designed to eliminate or mitigate the impacts of risks that threaten the achievement of project objectives. Analysts, specialists in the field of risks, and managers have developed good and varied visions for this process and to simplify the process, risk management is divided into two basic steps after identifying the risk areas in the project, namely risk analysis (risk measurement) and risk management.

There are many reasons for using risk analysis and management in projects, the main reason being that they reap significant and significant benefits that exceed their cost limits. It is used for a good understanding of the risks in the project enables all parties related to the project to know how to deal with those risks. A good understanding of the risks in the project, which in turn helps to choose the most appropriate type of contract. Knowing the risks in the project allows a rational, deliberate estimate away from the randomness of the contingency reserve that reflects the risks and also directs not to encourage the acceptance of financially ineffective projects. It contributes to building statistical risk information that helps in good design for future projects. It is facilitating the taking of large risks more reasonably than increases the benefit to be gained from taking the risks. It helps distinguish between good luck and good management from bad luck and bad management [2].

2. LITERATURE REVIEW

Project risk analysis and management is an ongoing process that can begin at any stage of the project cycle and can last and continue until the costs of using it becomes more than the potential benefit that can be gained. The project progresses as the risks decrease and thus the effectiveness of using risk analysis and management tends to diminish so it is advisable to use it in the early stages of the project life cycle.

a) Definition of risk

It is an uncertain event that, if it occurs, could have a negative impact on the project's objectives. Risk management includes identifying, analyzing, and responding to risk factors, which are an essential part of the project life cycle. Effective risk management means full control over future outcomes proactively rather than reactively; That is, anticipating the danger before it occurs and taking appropriate measures to avoid and control it. Therefore, effective risk management provides the possibility to reduce the incidence and impact of risk. Risk management is considered an essential work in project management and the risks are classified as follows:

- Operational risk: risk of loss due to improper execution of work, failure of the system used, or external risks. An example of this is failure to address conflicting or conflicting priorities, insufficient resources or inadequate staff training, etc.
- Risk scheduling: The project plan suffers when project tasks are not handled properly. Risks mainly affect the project and ultimately the economy of the project as a whole and may lead to the failure of the project.
- Budgetary risk: Miscalculation of the budget or inadvertently expanding the project lead to budget/cost risk. This risk may lead to delays in the delivery of the project or sometimes even its incomplete closure.
- Business Risks: Unavailability of contracts or purchase orders, or delays in receiving appropriate inputs from a client or business analyst, may lead to business risks [3].

- Technical environment risk: It is the risk related to the environment in which both the service provider and the customer operate. For example, constantly changing the production environment can lead to this risk.
- Information Security Risks: Risks related to information security, such as the confidentiality and integrity of the customer's data.
- Risks in the established programs: They are the external risks that exceed the operational limits. These external events could be out of funding, change in customer product strategy, government changes, etc. [4].

b) Risk analysis and assessment

The risk can be evaluated by describing it according to two factors, namely the likelihood of the risk occurring, and the extent of its impact if it occurs, and each of the workers can add 5 options below them (very high, high, medium, low, very low), and it is possible to reduce the five elements to Only three and they are (High, Medium, and Low).

c) Risk Management Plan Building

The Risk Management Plan means deciding how to prepare for dealing with risk, the approaches to dealing with it, identifying and coordinating activities, and this planning process is very important because it describes the subsequent steps that will be taken to determine the level, type, and extent of clarity of the risk in the project and thus the proper treatment of it.

The first step in preparing the risk management plan is the Planning Meetings, which are held to mature the plan. These meetings are usually attended by the project manager, leaders of project work teams, and anyone in the project with powers to address some of the risk aspects of the project, as well as the main beneficiaries of the project and anyone who is needed. mechanism. The plan that will be prepared will indicate how to diagnose risks, qualitative and quantitative analysis of these risks, as well as ways to respond to each risk, the implementation process, and the type of control that will be exercised throughout the project life cycle.

- **Methodology**

It refers to the entrance, tools, and data sources used in risk management in the project. Here we find different types of them according to the stage of the project, the amount of information available, and the degree of flexibility in dealing with the risk.

- **Roles and Responsibilities**

Diagnose individuals or groups who will lead or support the various risk management activities according to their position in the task force. The offices or groups outside the project may be used to carry out the analysis and evaluation processes, and the advantage achieved here is the impartiality and independence of work.

- **Budgeting**

Determining an estimated budget to meet the risks and deal with them according to their size and the extent of their expected impact.

- **Scheduling and Timing**

This element is defined as determining the frequency of occurrence of hazards and the timing of their potential occurrence during the life of the project. Timings must be reviewed periodically according to the progress of the project in implementation.

- **Scoring evaluation**

Before starting the quantitative or qualitative analysis, standards must be prepared and knowledge of the mechanism of action of these measures and the extent of their stability over time and through various other hazards.

3. Methodology

The two biggest risks involved in this project are exceeding the budget and low response from customers.

a) Exceeding the budget

There is a possibility that the project exceeds the allocated budget. This will give rise to many problems.

b) Strategy to eliminate or minimize this risk

To minimize or eliminate the risk of exceeding the budget, the project manager can try to sign contracts with the contractors, designer, supplier, distributor, etc. Signing contracts with them will let the project manager control the budget to be paid to these parties. The contracts must stipulate the amount of money and time with the contractors and designers. This way cost will be controlled. The project manager can discuss with these parties the investment involved in buying furniture, decorative items, refurbishing costs, etc. This will give an idea to the project manager and then the project manager can control cost by telling the concerned parties regarding the budget limit. This must be done in advance before buying or hiring anyone for this project. The project manager can ask the designer to give an estimate of all the things that will be purchased in the process. Designers can be asked to give a deviation factor of cost as well. This will help the project manager to control costs.

c) Low response from customers

There is a possibility that the café will receive a low response from the target market. This will affect the return on investment and the business might also fail due to it. In the longer run, the Jeddah cafe can go out of business due to insufficient customer base and revenue.

d) Strategy to eliminate or minimize this risk

The project team must do market research for the growth of the business and to eliminate or minimize the risk. Market research will help in deciding different growth strategies for Jeddah cafe. Tahlia street is a high-end area and products which fall in the luxury category do well in this market as there are highly paid professionals working in the offices. The product is targeted at the right type of customers. To eliminate this risk, the company needs to do aggressive marketing to attract potential customers to the Jeddah cafe.

Table 4. Risk identification						
No	Risk Category	Risk event	Impact (description)	Impact on the project schedule	Impact on project cost	Likelihood
1.	Budget	Exceeding the budget	There is a possibility that the project exceeds the allocated budget. This will give rise to many problems such as stopping the project	Medium	High	0.3
2.	Customer response	Low response from customers	There is a possibility that the café will receive a low response from the target market. This will affect the return on investment and the business might also fail due to it. In the longer run, the Jeddah cafe can go out of business due to insufficient customer base and revenue.	Low	Low	0.5

Results & Discussion

There are several proven strategies for responding to the risk, and it must be sure to choose the appropriate ones to face the risk, based on the type of this risk and the circumstances surrounding the project. The most important of these common strategies to avoid the risks.

We adopted in our project is the risk avoidance strategy which is the strategy that is based on changing the project plan to remove the risk or unwanted circumstance or protect the project objectives from its effects. Of course, not all risks can be avoided or eliminated, but some risks have proven experience that they can be avoided. Some risks may arise at the beginning of the implementation of the project.

In our project, we tried to avoid risks include finding more clarification of the requirements and requirements related to the project, obtaining additional information, improving communication, contracting with specialized experts, reducing project scope to avoid high-risk activities, adding resources or time, adopting methods known to be implemented instead of creative methods, and not to deal with suppliers or workers who lack previous experience.

Conclusion

One of the most important issues related to project management and planning is the risk of all kinds, which acquires its importance from the consequences that may result from its occurrence and the negative effects that these consequences may have on the objectives of the project, whether related to cost, completion time, additional effort and the problems that accompany it. Other. The risks are of all kinds, when they are diagnosed, the main purpose behind this is to determine the appropriate strategies to confront them, avoid them, or at least reduce their severity or transfer them entirely to another party.

The need to pay attention to seriously studying the risk in projects, and that the implementing agency or the beneficiaries of the project should not start the implementation until after there is a department or a working group specialized in risk management that has prepared a study of the potential risks. The strategies adopted in facing the risk depend on the type and size of the risk, and the risk management in the project must pay attention to the fact that there is no single strategy that is suitable for facing all risks.

References

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