



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

Everyone's Smart University

Project (Spring 2021)

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Section

Master

Date

Thursday

18 / 03 / 2021.

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..

Project Risk Management

Introduction

A risk is a potential future harm, such as the schedule slip or overrun of costs as a result of a current operation. Sometimes considered as a cash loss, the loss may also be a loss of credibility, a future company or the loss of property or life. There are two other important aspects of risk management: firstly, proactive steps to minimize the probability of an incident; and secondly, a contingency plan or series of actions which may occur before or after an occurrence. Measures to mitigate are often costly. Risk reduction costs may also be greater than the costs of taking the risk. It is essential that the probability and impact of each risk be weighed against the cost of mitigation measures before a contingency plan can be implemented. In order to reduce the impact or completely remove the risk, Contingency plans are preventive steps taken before the risk arises. Contingency action will usually only alleviate the impact after a risk has arisen. Risk management, however, is also a subject every human being on the planet should solve for its own way of life, otherwise human life would be endangered and vulnerable to death, sickness and poverty.

Risk is defined as an event which is likely to occur, and if it does, it may affect a project positively or negatively. One or more of the triggers and one or more of the consequences may be associated with a danger. For example, it could be a catalyst for an environmental permit to operate or for a few people to design this project. The risk event is that licensing will take longer than scheduled, or that the personnel assigned will not be adequate for the service. When one such unexpected event occurs, it may affect the cost, schedule or performance of the project. Risk alone is not bad; it is important to improve and failure is also an essential part of the learning process. We must, however, learn to balance the possible negative consequences of the risk against its potential benefits.

Professional approaches to risks and opportunities rapidly became one of the major aspects of corporate success. Most companies have understood and started to adapt to the demands of turbulent markets. However, the risks and opportunities in turbulent markets are greater and active strategic risk management is essential. Markets become more unpredictable as competition is fiercer and market cycles are more volatile (still

"hyper-competitive"). This turbulence is reflected in shorter product and innovation cycles for individual companies. At the same time, the number of available products is expanding, preparations are shortened and the formulation of strategies is increasingly uncertain. Turbulent markets signal to management that the opportunities and risks of their business change more frequently and thus need to be used or avoided fast. Professional approaches to risks and opportunities rapidly became one of the major aspects of corporate success.

Literature of review

Risk management must be performed iteratively and as part of the team's project management routine during the project. The team routinely enumerates as many project risks as possible in the risk identification process, in order to make them clear before they become issues. There are many approaches to assessing project risks. Understanding the various forms of risk is beneficial in allowing a team to investigate the possibilities of each. Any project faces the possibility of generic risks. Changes in conditions, the loss of key employees, and the company's or customer's bankruptcy are all examples of generic threats. A development company should keep a list of these types of risks on hand. Based on the known collection of programmers, administrators, and customers, teams may then determine the degree to which these uncertainties are a factor for their project.

Product-specific risks can be differentiated from generic risks because they can only be defined by those who have a thorough understanding of the product's technologies, people, and environment. The availability of a complex network required for testing is an example of a product-specific danger. Project, product, and industry risks can be subdivided from generic and product-specific risks. Project risks are those that have an effect on the project schedule or the resources (people or money) allocated to it. Product risks are those that have an effect on the product's quality or results. Finally, market threats are those that jeopardise the product's profitability, such as creating a great product that no one wants or creating a product that no longer fits into the company's overall business plan.

Risk management is a continuous process that lasts the duration of a project. It entails risk management planning, recognition, review, tracking, and control processes. Many of

these procedures are revised as new threats are discovered during the project lifecycle. The aim of risk management is to reduce the likelihood and effect of incidents that are bad for the project. On the other hand, any occurrence that has the potential to be beneficial should be taken advantage of. Risk detection usually begins before the project is started, and the number of risks grows as the project progresses through its lifecycle. When a risk is detected, it is first evaluated to determine its likelihood of occurrence, as well as the degree of effect on the timeline, scope, expense, and quality, before being prioritized. Strategic risk management is a comprehensive approach to corporate social responsibility. Its mission is to strike the best possible balance between security concerns and value creation objectives in order to add long-term value to the company. We develop a strategic risk management framework using quantitative risk management approaches from the financial sector and qualitative risk management methods from industry. This method aids managers in identifying and using important success and risk factors in their companies.

Methodology

The action-analysis strategy involves research and action in two sections to change the way people and working groups learn. This study enables the researcher and other persons involved to gather a deeper understanding of the problem and the strategies for solving the problem and enables actions to change the entity or communities. This approach for study involves those who experience the problems and researchers in the resolution of organizational matters. The PRM plan provides the project team and manager with direction during the PRM. A document is drawn up, which identifies all useful and relevant information, including the goals and tolerances of PRMs, existing methods and procedures to recognize, assess, schedule and track risks, as well as the identified models. A project management plan collects information that can be useful for the project team to handle risks. This document uses the documents such as a risk register, a lesson-learned and best practices report, a risk breakdown structure (RBS), a risk-response plan document and a risk audit report. This document provides a good documentation of all project risks found and provides a company with a history of risk management. During the risk management project, the Risk Record gathers all the

information about known risks. All risk management processes must be accompanied by data collection and updating on all project risks found

Results

This leads to the recognition of the risks and opportunities of a business, as well as to actions aimed at mitigating, carrying out and tracking these risks and opportunities. Two conditions must be fulfilled before a risk management plan can be enforced. In order to combine life-threatening events, first of all, risks must be similar. This is the best way to ensure that a risk management system is not only a list of potential risks and action plans, but a way to recognize potential existential threats within the organization. In order to optimize the use of available business resources, priority areas should secondly be given to the issues. As a result of this, a risk management system consists of both a framework for risk management and a risk management body. Risk management consists of a series of steps to define, fix and remove risk elements before they become an important source of expensive rework or a performance problem for the company. Two interconnected phases of the risk management process include the risk assessment and risk regulation. These are subdivided further. Often part of risk management includes risk detection, risk analysis and risk prioritization. Risk management covers risk evaluation, risk reduction and monitoring. Risk management

Reference

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2. Rabechini Junior, R., & Monteiro de Carvalho, M. (2013). Understanding the impact of project risk management on project performance: An empirical study. *Journal of technology management & innovation*, 8, 6-6.
3. Larman, C. (2004). *Agile and Iterative Development: A Manager's Guide*. Boston, Addison Wesley.