



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. وإن 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 الان 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..

Risk Management in Connecting Facilities to Control Room using BMS

INTRODUCTION

As everything is moving forward to the new technology and the latest modern communication, and as its very important in a very large scale projects with many facilities, its highly recommended that all these facilities must be monitored and checked by the hour and every minute to make sure that everything is working safely according to the procedures and the policies of the local organizations and according the standard of the international organizations.

The goal of the project is to connect many systems and devices related to the maintenance and operation of the buildings within the facilities of the organization of the Hospital of Support Leaf which include three towers for patients and two parking for staff and the visitors and a utilities building to the Control Room of the organization which is the heart of the Facilities department where everything can be monitored by computers and coordinators thru BMS which is Building Management System.

Using BMS will put the Hospital in a very advanced level in using new technologies which makes everything related to maintenance and operation accurate and details where the system gives a very detailed reports about the life cycle of the assets of the facilities, BMS also shorten the distance of the large scale projects where it gives you the readings the status of the device in the Control Room without sending a technician to check that area which save time, also this technology reduce the amount of employees hired to check the devices in the field everyday so its helps the budget of the organization.

So what is Control Room? Control Room is where all the information of the buildings can be monitored and controlled by computers thru coordinators dedicated to receive the alarms thru BMS and priorities and decide which maintenance team is responsible to handle this alarm, also in Control rooms a team of operators are available to receive the messages and the calls of the end users of the Hospital Facilities so their requests can be reviewed and checked. According to an article exploring the types of Control Rooms by Saraval Industries, Control room in general is a central location where technicians and

managers manage the everyday operations as well as maintain and enact crisis operations for a given entity, its where monitoring of various industrial and technical process take place, sometimes this will require storing large pieces of equipment, servers, computers and monitors that graphically represent the various processes taking place in the facility (Maria, Vestal). [1]

What do we mean by BMS exactly? Building Management System is a system where is connect any system or devices or machines regardless its location where its far away or near to the Control Room so it can be monitored to check its status and to receive any alarm so the reaction will be faster in maintenance and operation wise where all this will save the assets of the Hospital facilities and save time and budget where it's also minimize the risk by avoiding any damages in a faster method. According to Wattsense www.Wattsense.com BMS is a computer based system installed in buildings to manage and monitor equipment such as air conditioning, heating ventilation, lighting, power systems where it reduces maintenance and reparation fees by helping facility managers and technicians monitor and controls systems remotely, BMS saves energy where 9% of world energy is controlled by building management systems. <https://Wattsense.com/bms> [2]

My role as a project manager for this project is to plan if the facilities and the control room are ready for this project and to select the appropriate BMS system to connect the facilities to the control room and then to test and commissioning the project and to operate the whole process and see if for a period of time after operation for handover after the success of its time deliverable, budget and scope and specifications where the main goal is to maintain communication with team members since communication will bring the project success to install a system where also assist to communicate better between the end users and the equipment not only humans.

The goal of the research is to check and find out the project risks according to the strategies that are going to be set up to maintain communication with the team members will be successful factor in the accomplishment of the project.

LITERATURE RIVIEW

- **Risk analysis and management a vital key to effective project management**

Risk analysis and management is a key project management practice to ensure that the least number of surprises occur while your project is underway (Lavanya, N (2008). Risk management plan contains of Risk identification, Risk evaluation, Risk handling and risk controlling. Where we make an identification of risks and the sources of risks, and evaluate risks concerning their impact and probability, and we keep on ongoing reporting and monitoring of risks. [3]

- **Applying risk communication**

Risk communication is an integral part of the risk assessment process, which typically includes the processes of communication among the agencies (Maltoni 2010) the risk communication process is designed to be iterative and to inform the risk assessment and risk management decisions. The goal of risk communication is for all stakeholders is to have a common understanding, risk communication issues can only be minimized not avoided. [4]

METHODLOGY

As a project manager I must understand the factor of the communication process and risk identification, where tools like risk resourcing and risk category, probability of risk occurrence and risk impact, risk exposure, risk occurrence timeframe, risk monitoring and control must be taken into considerations.

RESULT AND DISSCUSSIONS

Identifying risks:

Description	P	S	P*S	How to prevent and mitigate the risk
Key staff resigns/Emergency Leave	2	2	4	Always train other staff on the work of another as a team of two at

				least and prepare to have enough staff so you will not hire replacements.
Disagreement with stakeholders, owners and sponsors	2	4	8	Try to negotiate and keep good relationship with them and try to fulfil their goals with the budget and time.
Suppliers not fulfilling their obligations of supplies	2	3	6	Try to divide your requests into two for different suppliers or order the supplies before the needed time to avoid delays and keep good relations with local suppliers.
Fire damages the property and affects life	3	5	15	Always make sure of the operation and maintenance of the fire systems and make sure that the staff are trained for any fire emergencies.
Miscommunication between project teams	2	3	6	Keep on the methods of communication by daily weekly monthly meeting using

				e mails and technologies.
Miscommunication with stakeholders	2	4	8	Keep on the methods of communication by daily weekly monthly meeting using e mails and technologies.

Risk Matrix:

Risk probability	Catastrophic 5	Hazardous 4	Major 3	Minor 2	Negligible 1
Frequent - 5					
Occasional - 4					
Remote - 3	15				
Improbable - 2		8 & 8	6 & 6	4	
Extremely improbable - 1					

EMV:

Risk	P	I	EMV
1	20%	4000	800
2	20%	8000	1600
3	20%	7000	1400
4	30%	9000	2700
5	20%	5000	1000
6	20%	10000	2000

Total EMV= 9500

Risk and triggers:

Risk	Response	Impact
Key staff resigns	Train other staff or hire replacement	Shortage/work load rises
Key staff takes emergency leave	Train other staff or hire replacement	Shortage/work load rises
Disagree with the owners, stakeholders or sponsors	Negotiate	Loss of contract/ end of project
Suppliers issues like not fulfilling their obligations of supplies on time or not at all	Replace it with suitable supplies or find local suppliers	Stoppage of the project/ delay
Fire damages property and affect life	Fire Alarm System/ Maintenance	Injuries/ Death
Miscommunication between project team	Recommunicate and schedule it	Stoppage of the project or delay
Miscommunication with stakeholders	Recommunicate and negotiate	Failure of the project

Risk contingency plan:

Risk Description	Mitigation action
Key staff resigns	Bring replacement with the same skills for the planned period of time.
Key staff takes emergency leave	Bring replacement with the same skills for the planned period of time.
Disagree with the owners, stakeholders or sponsors	Hire lawyer to originate an agreement within the laws and try to reach an agreements.
Suppliers issues like not fulfilling their obligations of supplies on time or not at all	Agreement with the original suppliers on another suitable available supplies or transfer requests to another local suppliers.

Fire damages property and affect life	While waiting for insurance payment the damages must be removed and everything must be restored so the work continues.
Miscommunication between the project team	Recommunicate and make tight schedules to go back on track and avoid delays
Miscommunication with the project team	Make good relationships and negotiate

REFERENCES

1. Maria, Vestal. What is Control Room: Five different types of Control Rooms. Article at Saraval Industries - <https://www.saravalindustries.com/what-is-a-control-room/amp>
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3. Lavanya, N. & Malarvizhi, T, (2008). Risk analysis and management: a vital key to effective project management. Paper presented at PMI Global Congress 2008 – Asia Pacific, Sydney, New South Wales, Australia, Newtown Square, PA: Project Management Institute.
4. Maltoni, (2010) Applying Risk Communication, principle to social media crisis. <https://itrcweb.org>