



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 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 ١٢.
- 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 Title: Design and Execute water and wastewater network systems in Al-Wadi District in Al-Madinah Al-Munawwarh City

Introduction:

Due to rapidly population growth, the need to expand in water and wastewater infrastructures should be adopted and considered as a main daily human being needs to live. Therefore, I'm as project manager with my team are working to design and construct a water and wastewater system around Al-Madinah Al-Munawwarh city to serve more than 1 Million people classified as local and visitors people.

However, Such projects with wide uncertainties will need to have a well-defined risk management plan that need to be plan for risk identification, assessment, prioritization, reposing and monitoring and controlling. The risk malmanagement plan will effectively lead the project successfully to overcome any kind of risk exposures that will safe company reputations, eliminate waste and increase project team and stakeholders readiness to complete and deliver the project as per planned schedule and budget.

Literature Review:

The Project Risk Management is the process of risk planning, identification, analysis, response planning, response implementation, and monitoring risk on a project (ref. 1, 2, 3 & 4).

The objectives of project risk management are to increase the probability and/or impact of positive risks and to decrease the probability and/or impact of negative risks, in order to optimize the chances of project success (ref. 4). Based on that, we highlight that the risk process is performed in sequences and repeatably during project life cycle (see figure no. 1)

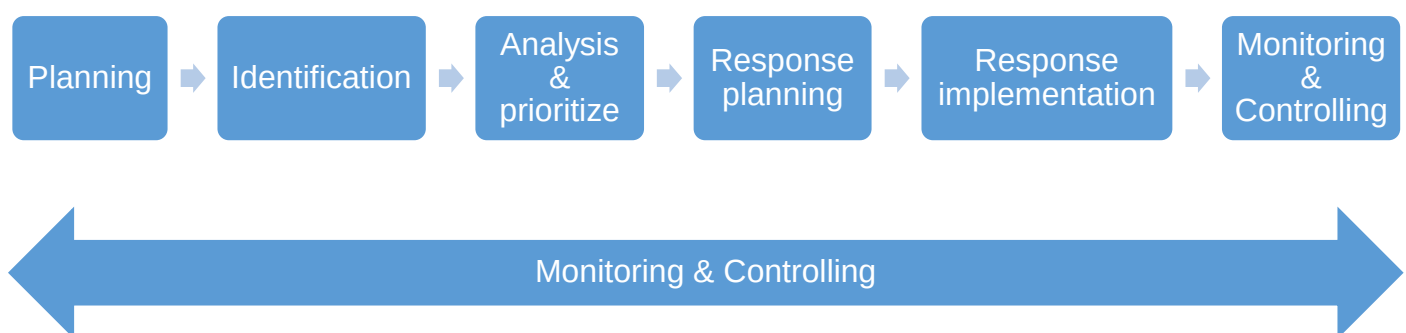
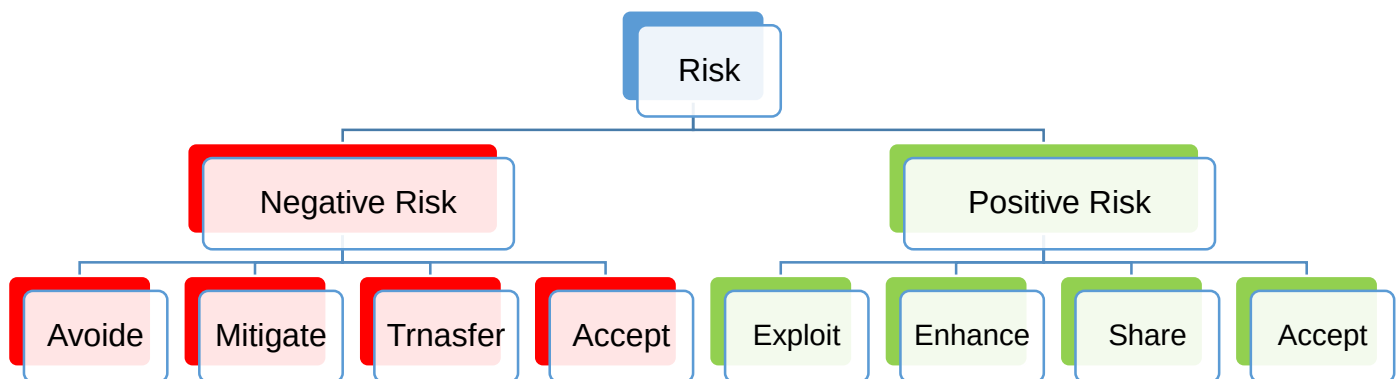


Figure number 1: risk process

Risk analysis might be performed by: (ref. 5 & 6)

- 1- Qualitative analysis: where the risk is ranked and prioritized by using relative weight, it's much simple, cheap and quick analysis tool in contrast to quantitative analysis.
- 2- Quantitatively analysis: it is numerical method mostly use after qualitative analysis using calculation and simulation tools, it's needs time and specialized people to perform it.

The risk response planning starting after identify and prioritize risks that use different risk response strategy as shown in below figure no. 2 (ref. 4)



Methodology:

We start following the process step as follow:

1. Planning: identify how to manage risk, and which tools and process we will work on it to come up with detailed risk management plan. We use company risk impact and probability matrix as shown below.

Impact	7-9	Medium	High	High
	4-6	Low	Medium	High
	1-3	Low	Low	Medium
		1-3	4-6	7-9
		Probability		

2. Identification, Analysis & responses: we hold a nominal group meeting, and brainstorming to identify project risks, analysis it and plan responding in one step we come up with the list of risks listed in below table number 1:

Sr	Risks	Impact	Probability	Severity	Response	Action
1	Manpower injured due to high temperatures	8	7	High	Mitigate	Working during specific time hours
2	Waste time due to waiting for traffic authority Permits	7	7	High	Mitigate	Open direct connection with traffic authority and fulfill required documents immediately
3	Lack of remote communication due to internet services provider quality led to miss stakeholder engagement	6	3	Low	Accept	Use paper work in certain time and change the service provider if the problem reoccurring
4	Lack of equipment due to site condition that impact work progress	8	6	High	Mitigate	Use heavy-duty equipment
5	Damage of materials in raining season	7	3	Medium	Mitigate	Store on site material in shielded warehouse
6	Suspended work due to householders noising complaint	6	4	Medium	Accept	Announce the householders about project benefit and working hours

Table number 1: identified project risks – Risk Matrix – responses

Furthermore, the project team calculate the Expected Monetary Value (EMV) to determine the contingency cost for each risks and to be considered in the project budget (see table no. 2)

Sr	Risks	Cost Impact, SR	Risk Probability, %	Risk Contingency
1	Manpower injured due to high temperatures	15,000	70	10,500
2	Waiting for traffic authority Permits	20,000	70	14,000
3	Lack of remote communication due to internet services provider quality	500	30	150
4	Damage of equipment due to site condition	10,000	60	6,000
5	Damage of materials in raining season	5,000	30	1,500
6	Suspended work due to householders noising complaint	10,000	40	4,000
Total				36,150

Table number 2: Expected Monetary Value Calculation

Results and Discussion:

At the end of planning of risk management plan the project team and stakeholders are become more confident that they can control the risks and to be ready for any risks exposures and they are more confident that such plan will foster the project successful.

Moreover, the risk contingency value is 36,150 SR, which will be a part of the project cost to manage any identified risks exposure.

Some planning of risk process steps could be done in one-step for example during the brainstorming session we might identified risk and analysis its impact and probability in one session.

References:

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2. THE PORTABLE MBA in PROJECT MANAGEMENT, EDITED BY ERIC VERZUH, Published by John Wiley & Sons, Inc., Hoboken, New Jersey; from page number 179
3. Project Management A Systems Approach to Planning, Scheduling, and Controlling, Seventh Edition, Harold Kerzner, Ph.D. Division of Business Administration; Baldwin-Wallace College Berea, Ohio; from page 903
4. A guide to the project management body of knowledge (PMBOK guide) / Project Management Institute. Other titles: PMBOK guide, Project Management Institute, publisher; from page 395
5. The New Project Management, Second Edition,Tools for an Age of Rapid Change, Complexity, and Other Business Realities, by J. Davidson Frame, from page 72
6. PROJECT MANAGEMENT A Managerial Approach, 8th edition, by Jack R. Meredith Broyhill Distinguished Scholar and Chair in Operations Wake Forest University and Samuel J. Mantel, Jr. Joseph S. Stern Professor Emeritus of Operations Management University of Cincinnati, from page 250.