



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 ١٢.
- 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.

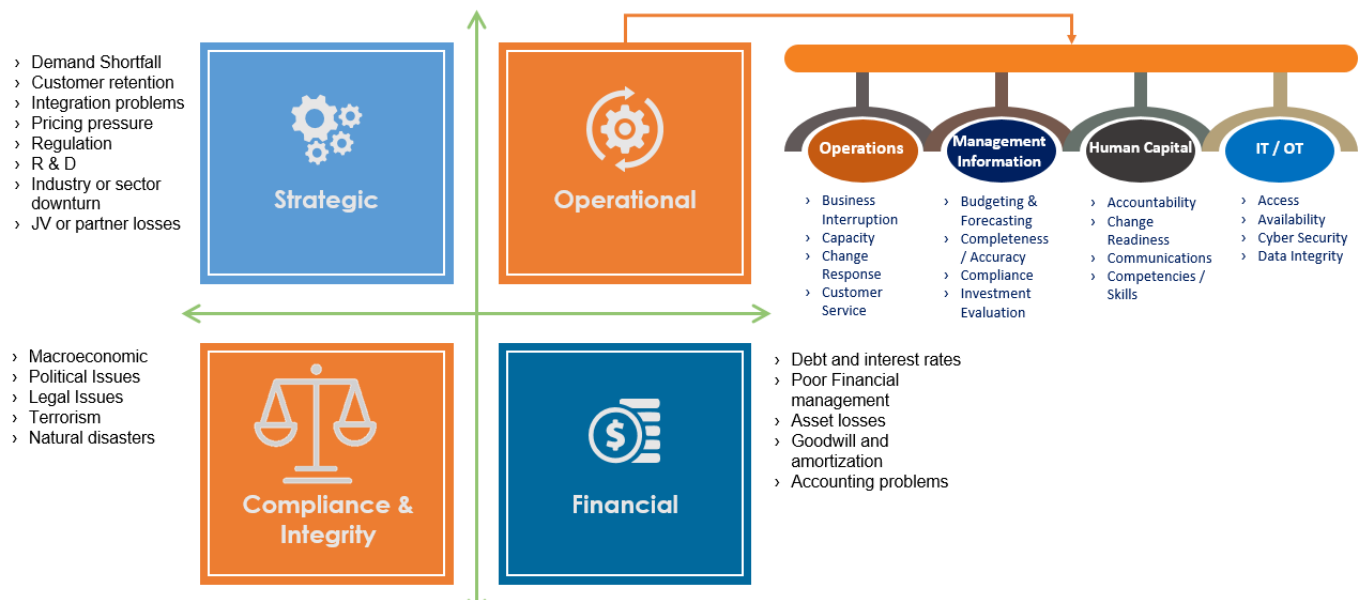
Using probability and impact matrix calculate the **Expected Monetary Value (EMV)** for all risks that have the impact in terms of cost \$\$.

Best of luck...

Upgrade HMI software and server project risk management in Marafiq company

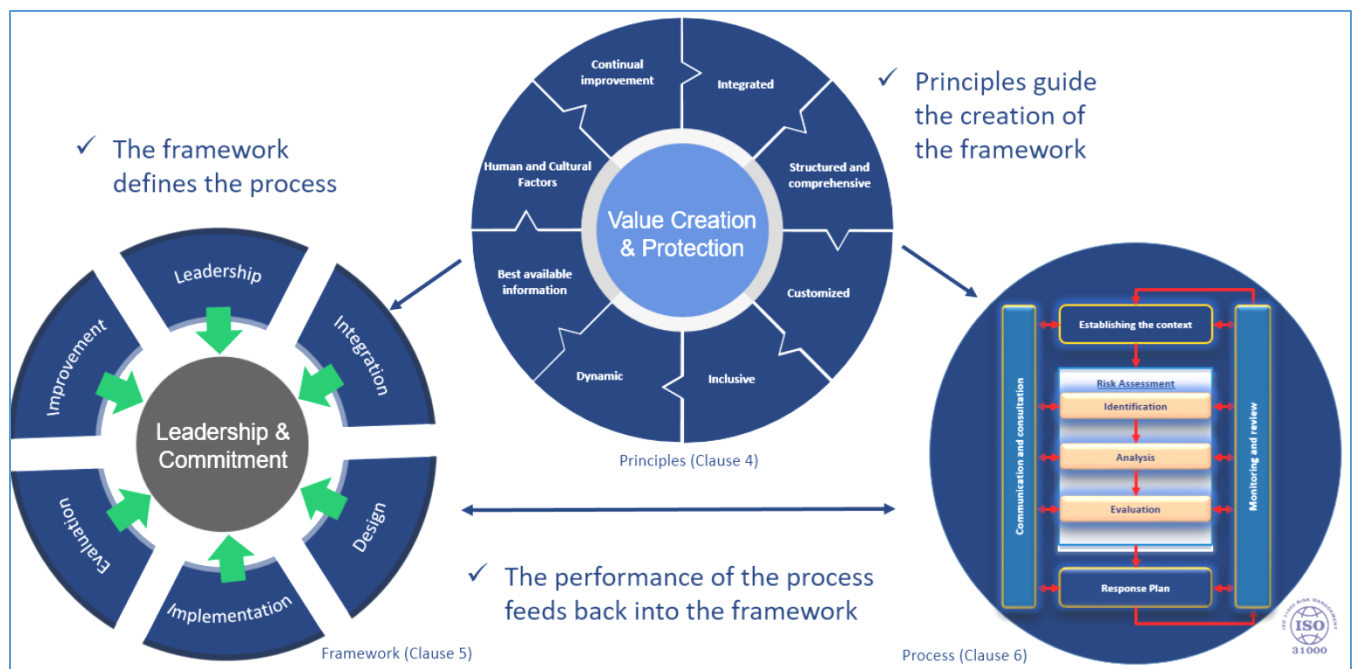
1.Introduction:

Specific risk events and overall risk can be understood and handled proactively by risk identification and risk management, which optimizes performance by mitigating risks and enhancing opportunities and outcomes. Risk management is concerned with predicting what could go wrong and taking steps to reduce ambiguity to a manageable level. Risk can be viewed positively (as opportunities) or negatively (as threats) . The advantages of risk management include increased knowledge of the organization's risks and the ability to adapt effectively. Increased trust in the achievement of strategic goals Compliance with legal, regulatory, and reporting standards has improved. Increased operational performance and effectiveness Creates a risk-aware culture within the business. This study will describe possible risks and risk management strategies used in the AR-11808-Upgrade HMI software and server initiation stage. Risk Categories will be used in project life cycle risk management, as seen in the diagram below (ISO 31000) ii



2- Literature Review :

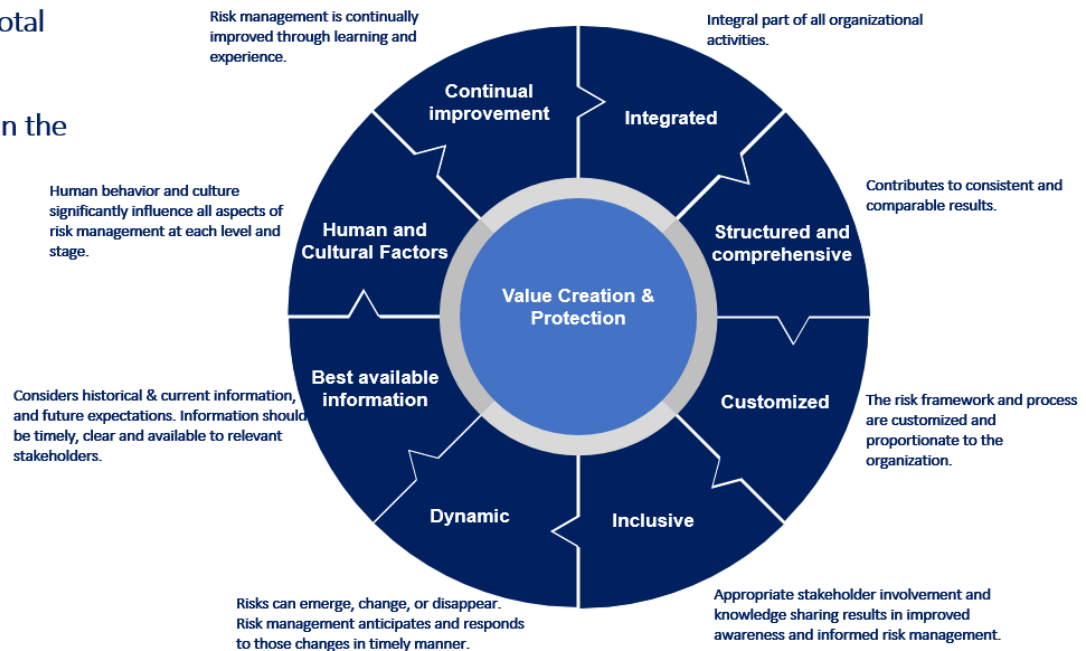
The goal of risk management is to recognize potential issues before they happen, as well as to prepare and carry out risk-handling activities to reduce potential risks. Risk management is a constant, forward-thinking mechanism that must be incorporated into daily business practices and processes. Issues that may endanger the accomplishment of stated goals should be addressed by risk management. The diagram below clearly illustrates a path forward in identifying Principles, Frameworks, and Processes for project management life cycle operation, as used in many case studies and international standards iii.



The risk management method entails the systematic implementation of policies, procedures, and practices to communication and consultation activities that aid relevant stakeholders in recognizing risk, the rationale for decisions, and the reasons for specific actions. This is done inside and across the entire risk management process. Diverse fields of expertise are brought together. For each phase in the risk management process, bring together experts from various fields. When identifying risk criteria and assessing risks, take into account a variety of perspectives.

Risk Management Principles:

- ✓ There are total of eight principles presented in the standard



3- Methodology:

This study takes a descriptive approach. We're looking at risk management through simple risk recognition principles based on internal corporate power plant procedures to identify, recognize, and explain threats that could support or hinder an organization's ability to achieve its goals. During this project, the following strategy is being considered.



3.1 Risk assessment :

Risk Assessments have been carried out by all the assigned team members under the guidance of Project Support Department (PSD). Risk Register finalized by PSD is provided as below.

3.2 Project Priority:

In addition to the risk assessment, Risk based project priority is evaluated based on “Unified Risk Assessment Criteria (UARC) Procedure. This is required as per Portfolio Management Procedure to carry out portfolio management. The project priority based on UARC is given below:

3.3 Risk Based Project Priority:

Based on the Unified Risk Analysis Criteria (URAC), the project was evaluated on Impact and Likelihood and matched with the Heat Map.

Likelihood		Risk Bands				
5	Expected	Medium (5)	High (10)	High (15)	Critical (20)	Critical (25)
4	Highly likely	Low (4)	Medium (8)	High (12)	High (16)	Critical (20)
3	Likely	Low (3)	Medium (6)	Medium (9)	High (12)	High (15)
2	Slight	Low (2)	Low (4)	Medium (6)	Medium (8)	High (10)
1	Not likely	Low (1)	Low (2)	Low (3)	Low (4)	Medium (5)
Impact		Very Low 1	Low 2	Medium 3	High 4	Very High 5

Score Range	Risk Level	
1 – 4	1	Low
5 – 9	2	Medium
10 – 19	3	High
20 – 25	4	Critical

Risk Description	Impact	Likelihood	Risk Score	Risk Level	Risk Drivers / Root Causes	Potential Consequences (Inherent exposure)	Action plan
Possible Detail Design Errors during project execution - Inaccurate design calculations / Rework due to changes.	4	3	12	High	Changes in Standards & Specifications. Changes in Design Requirements midway through the project. Inaccurate/ non availability of as-built data.	Project delay.	Adoption to latest codes and standards for design. Develop emergency response measure in case of changes to design inputs.
Potential Outdated existing As-Built Drawings.	3	3	9	Medium	Available as-built drawings are not accurate - Document library not updated for previous projects.	1. Property damage. 2. Safety Incident. 3. Project Delay 4. incomplete design Cost Impact	Verification of the site conditions thru Site survey. Contractor to prepare updated As-Built drawings
Potential shortage of Skilled Manpower during project lifecycle - execution stage	3	1	3	Low	Non availability of Manpower plan. Not having enough resources to execute the job.	Project delay Work quality may be compromise	Ensure availability of agreed Resources as per contract proposal. Manpower plan to be review/ monitor and update if required.
Potential Delay in supply of hardware / software materials.	5	4	20	critical	Inadequate procurement management . Manufacturing flaws like Overlooking approved specification, datasheet and drawings. Delay in CC, force major	Project delay.	1. Dedicated expediting team needs to be assigned to ensure on time deliver for components/ materials. Ensure early approval/availability of specification, datasheet and drawings for the components

No. Risk	P	I	EMV
	30%	30000	9000
	20%	20000	4000
	10%	10000	1000
	40%	50000	20000
			Total = 34000 SAR

4-Summary:

Risk assessment is used to support decisions by applying the findings of risk analysis to defined risk parameters to see if further intervention is needed. Risk analysis is used to understand the essence of risk and its characteristics, including, where applicable, the risk level. The aim of risk treatment is to select and incorporate options for managing risk, and risk response are strategies to respond to perceived threats and opportunities, and risk is about the future. Risk Management is cautious, but it could happen or not. The advantages of risk management include increased knowledge of the organization's risks and the ability to adapt effectively. Increased trust in the achievement of strategic goals Compliance with legal, regulatory, and reporting standards has improved. Increased operational performance and effectiveness Creates a risk-aware culture within the business.

5- Reference :

- i - Appreciate the value of Risk Management standard ISO 31000
- ii- ISO 31000:2018 – Principles and Guidelines on Implementation
- iii - ISO/IEC 31010:2009 – Risk Management – Risk Assessment Techniques ISO Guide 73:2009 – Risk Management – Vocabulary
- iv- Power plant “Unified Risk Assessment Criteria (UARC) Procedure.
- v- Power plant Portfolio Management Procedure.