



## Everyone's Smart University

### Project (Spring 2021)

|              |                           |               |
|--------------|---------------------------|---------------|
| Student Name | Adnan Metgen Al-Mohammadi | اسم الطالب    |
| Students I.D | 2021200680                | الرقم الجامعي |

Section

Master

Date

Thursday

18 / 03 / 2021.

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 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:

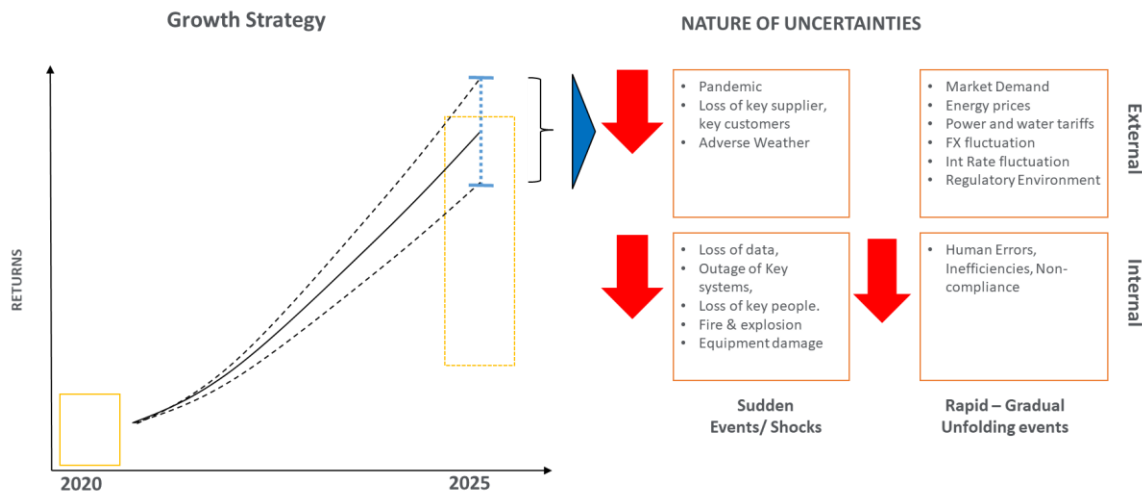
- a description of the risk and potential impacts (schedule, quality of work, cost, etc.) on the project.
- indicators or triggers that would be monitored to help identify the risk as early as possible.
- specific risk response strategies to take.

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

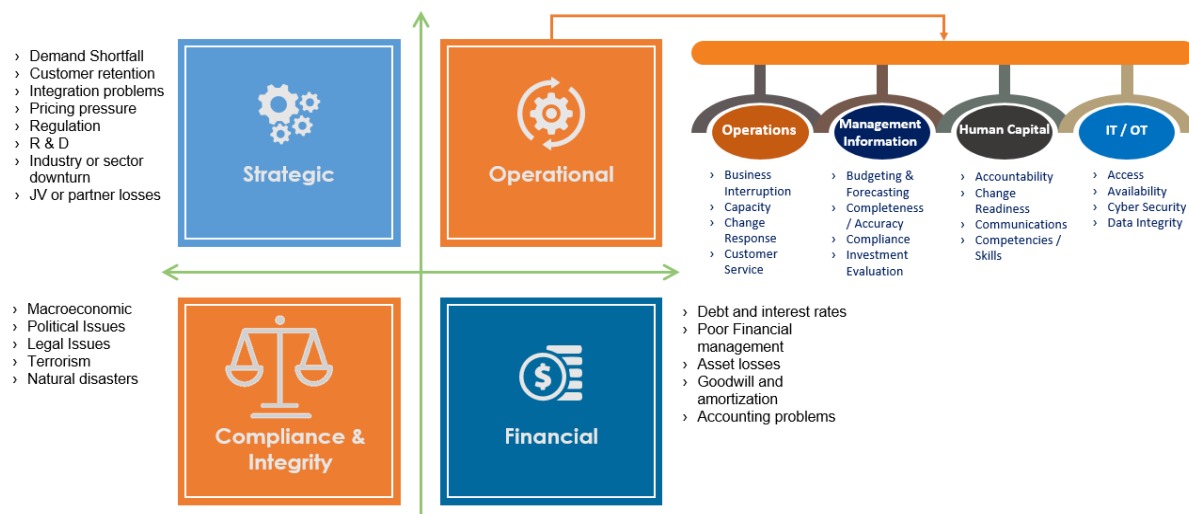
**Best of luck...**

## 1. Introduction:

Risk is uncertainty & can be both positive and negative which involves understanding, analyzing, and addressing risk, RM must be balanced to the complexity and type of organizations. The below figure is showing the need of risk management which will used in power plant<sup>i</sup>

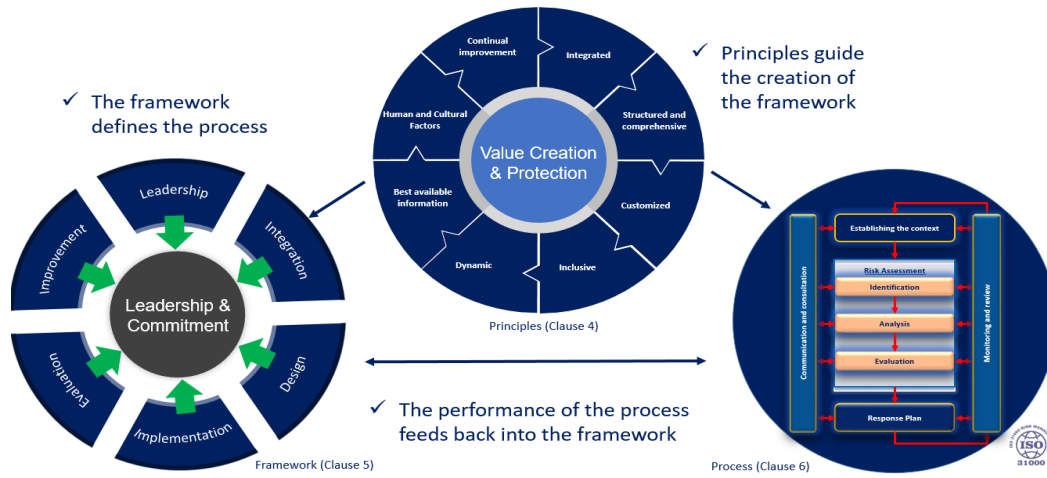


The benefits of Risk Management are greater awareness about the risks facing the organization and the ability to respond effectively, Enhanced confidence about the achievement of strategic objectives, Improved compliance with legal, regulatory and reporting requirements, Increased efficiency and effectiveness of operations and Creates a risk-focused culture in the organization. This research will identify potential risks and risk management strategy used in initiation stage of AR-11808-Upgrade Emerson ovation DCS and MCMS operator stations and server. The below figure is showing Risks Categories will used in project life cycle risk management (ISO 31000)<sup>ii</sup>



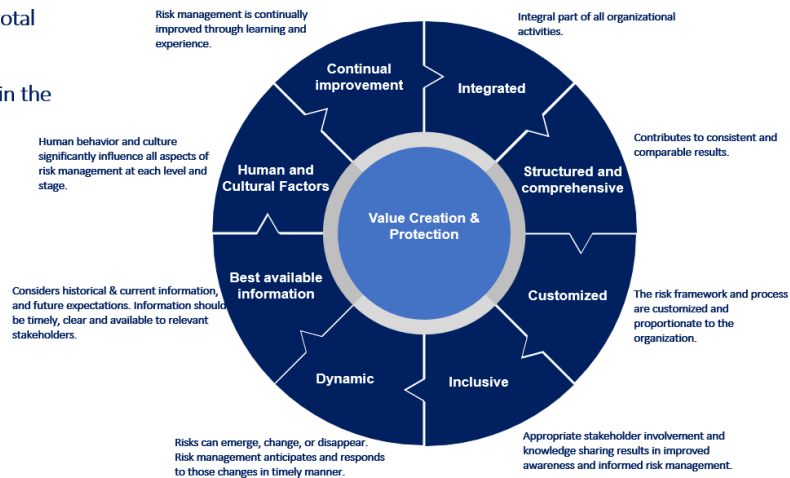
## 2. Literature Review and Conceptual framework

The below is clearly showing way forward to identify Principles, Frameworks and Process project management life cycle process which considered in many case studies and international standard<sup>iii</sup>



### • Risk Management Principles:

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



### • Risk Management Framework:

- ✓ Integrating risk management into significant activities and functions.
- ✓ Integration into the governance of the organization, including decision-making.
- ✓ Requires support from stakeholders, particularly top management.



### 3. Methodology:

```

graph TD
    Techniques((Techniques)) --- Brainstorming((Brainstorming))
    Techniques --- SWOT((SWOT analysis))
    Techniques --- RiskCommittee((Risk committee meetings))
    Techniques --- Interviews((Interviews))
    Techniques --- DocumentAnalysis((Document analysis))
    Techniques --- RiskPromptLists((Risk prompt lists))
    Techniques --- RiskAssessment((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.

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

[illegible]

For more clear risk register, please click on file. [Attach-3 risk register.pdf](#) ( CTRL+click)

### 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.

### Following are the findings:

#### a. Perspective-1 : Impact

- i. Impact criteria : Legal - Regulatory
- ii. Description : Warning to revoke the operating permits or sever penalties
- iii. Score : 4

#### b. Perspective-2 : Likelihood Criteria

- i. Probability of occurrence : Incident has happened in 2years within company or similar industry in region.
- ii. Score: 4

#### c. Risk Band: Impact x Likelihood, $4 \times 4 = 16$

#### d. Risk Level: 16 - High

Hence, as per the analysis this project is having risk level “High” with a priority score of 16. The matrix as per evaluation is shown below:

| 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<br>1 | Low<br>2   | Medium<br>3 | High<br>4     | Very High<br>5 |

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

| No. Risk | P   | I     | EMV   |
|----------|-----|-------|-------|
| 1        | 20% | 20000 | 4000  |
| 2        | 40% | 50000 | 20000 |
| 3        | 30% | 45000 | 13500 |
| 4        | 10% | 15000 | 1500  |

|   |     |       |       |
|---|-----|-------|-------|
| 5 | 25% | 38000 | 9500  |
| 6 | 40% | 70000 | 28000 |
| 7 | 15% | 50000 | 7500  |
| 8 | 15% | 25000 | 3750  |
| 9 | 45% | 40000 | 18000 |

EMV=105,750 SR

#### 4. Summary and recommendations:

Risk evaluation aims to support decisions and involves comparing the results of the risk analysis with the established risk criteria to determine where additional action is required in mean while risk analysis is to comprehend the nature of risk and its characteristics including, where appropriate, the level of risk. The important of risk process is risk response which is the purpose of risk treatment to select and implement options for addressing risk, Risk Response are the strategies to respond to the identified threats and opportunities and risk is about Future. It may happen, it may not happen, Risk Management is proactive. The benefits of Risk Management are greater awareness about the risks facing the organization and the ability to respond effectively, Enhanced confidence about the achievement of strategic objectives, Improved compliance with legal, regulatory and reporting requirements, Increased efficiency and effectiveness of operations and Creates a risk-focused culture in the organization.

#### Reference

<sup>i</sup> Appreciate the value of Risk Management standard ISO 31000

<sup>ii</sup> ISO 31000:2018 – Principles and Guidelines on Implementation

<sup>iii</sup> ISO/IEC 31010:2009 – Risk Management – Risk Assessment Techniques

ISO Guide 73:2009 – Risk Management – Vocabulary

<sup>iv</sup> Power plant “Unified Risk Assessment Criteria (UARC) Procedure.

<sup>v</sup> Power plant Portfolio Management Procedure.

.....End.....