



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

Everyone's Smart University

Project (Spring 2021)

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Section

Master

Date

Thursday

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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

Introduction:

All projects are uncertain. Uncertainty is inevitable since projects are unique and temporary undertakings based on assumptions and constraints, delivering project results to multiple stakeholders with different requirements. Project management can be seen as an attempt to control this uncertain environment, through the use of structured and disciplined techniques such as estimating, planning, cost control, task allocation, earned value analysis, monitoring and review meetings, etc. Each of these elements of project management has a role in defining or controlling the uncertainty which is inherent in all projects. Project Risk Management provides an approach by which uncertainty can be understood, assessed, and managed within projects. As such it forms an integral part of project management, and effective Project Risk Management is a critical success factor for project success. For project management to be fully effective, however, it is important that Project Risk Management is not viewed as an optional process or performed as an additional overhead task. Since many elements of project management address inherent uncertainty, the interface between structured Project Risk Management and the other processes of project management needs to be clear. The outputs of Project Risk Management should be taken into account within many of the project management processes. They can, for example, impact:

- Estimating resource requirements, cost, or duration;
- Assessing the impact of proposed scope changes;
- Planning or re-planning the forward strategy of the project;
- Allocating resources to tasks; and
- Reporting progress to stakeholders.

EXECUTIVE SUMMARY:

This project outlines how the harvesting energy Project will address current business concerns, risk matrix, EVM calculation, cost benefit analysis and SOWT analysis.

Methodology:

This research follows the descriptive approach. We concern study risk management through collecting data from previous studies and literature. We will give further application risk management applied on a project in the discussion.

Now we have a list of risks, we will make a risks matrix (determine the probability and impact of each risk), which will go after that to risk register.

1- REGULATION and Administrative and Legal Aspects	0.1	7- Create a new station	0.2
2-Poor Power quality	0.2	8- Install a new software system.	0.3
3- Equipment failure/ Downtime	0.4	9- Operate equipment more than its capacity	0.3
4- Fire damage to property and life	0.2	10- Add employees in middle of the project	0.2
5- Lack of data and expert	0.1	12- Supply and installation issues	0.3

		Impact					
		Trivial	Minor	Moderate	Major	Extreme	
Probability	Rare	Low	Low	Low	Medium	Medium	0.1
	Unlikely	Low	Low	Medium	Medium	Medium	0.2
	Moderate	Low	Medium	Medium	Medium	High	0.3
	Likely	Medium	Medium	Medium	High	High	0.4
	Very likely	Medium	Medium	High	High	High	0.5
		0.1	0.2	0.3	0.4	0.5	

Results

Here we are going to calculate the EMV cost for our project. All the numbers you are going to see are not exact cost, but it was evaluated based on experience company. The total potential impact on the project is 2m SR, while the contingency cost is 500K SR.

NO.RISK	P	I	EMV	NO.RISK	P	I	EMV
1	30%	100000	30000	7	30%	100000	30000
2	40%	300000	120000	8	20%	20000	40000
3	20%	200000	40000	9	20%	20000	40000
4	10%	90000	9000	10	15%	12000	18000
5	30%	250000	75000	11	10%	90000	9000
6	20%	200000	40000	12	10%	80000	8000

COST BENEFIT ANALYSIS

In this section, the Net Present Value method is used for the economic analysis and the input parameters are given in Table 4:

Table 4: Parameters for the economic analysis

Cost of power per kW	0.27 SR
inflation rate for Turbine	7.5 %
inflation rate of Power	2 %
Life Time (n)	30 Years

Summary of cost-Benefit analysis:

Flow (m3/s)	Power (KW)	OPAX (SR/Year) = 0.27 (IN-Come)	CAPX (SR)	NPV (SR) (30 Years)	Payback Period (years)
Design = 5.3 m3/s	1037	1,684,304.02	3,800,000.00	50,529,120.65	2.2
Average = 4.24 m3/s	893	1,321,814.32	3,800,000.00	39,654,429.51	2.9
Economical = 3.71 m3/s	731	1,140,569.46	3,800,000.00	34,217,083.93	3.3

SWOT ANALYSIS

SWOT Analysis	
Strengths (Internal)	Weaknesses (Internal)
Aline with strategic plan of COMPNY	No internal software for modeling
Provide Cheap energy	Lack of data
Operate systems in high effectiveness	Funding
Environmentally Friendly	
Opportunity (External)	Threats (External)
Lead the market in Hydro-power	Cost of instrumentation
Increases profit income	Cost of operations and maintenance
Self-Power systems	Coordination for Project
Encourage research of hydro-power in Saudi Arabia	Time of procurement

Summary:

Project risk analysis and management is an ongoing process that can begin at any stage of the project cycle and can last and continue until the costs of its use become more than its potential benefit that can be gained. The project progresses, the risks decrease and thus the effectiveness of using risk analysis and management tends to diminish so it is advisable to use it in the early stages of the project life cycle. There is no project that does not have risks, but all projects have risks, and analyzing these risks after identifying them and then managing them is an integral part of project management, and without that the project will be subject to failure.