



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

Everyone's Smart University

Project (Spring 2021)

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Section	Course	Code	Date
Master		Thursday	18 / 03 / 2021.
(PMG506)			

Advanced project Management

Instructions:

- اخر موعد للتسليم هو يوم الخميس 2021-05-20 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 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. Amaal Aburumman~~ Eng. Dr. Akram M. S. Ali

Project:

You are required to document your role in administering a project. The project may be set in a business, social, sporting, or family environment but must be of a significant size and scale. If you do not have an actual project to write about you may complete the project hypothetically.

This report will be between three to six pages in length. This is a significant research project.

Your report must address ~~each~~ **ONE** of the following issues:

1. Identify and describe the purpose, scope, and objectives of the project. **Display this information using an appropriate tool.**
2. Describe how the team is given an outline of the project.
3. Describe the strategies that are going to be set up to maintain communication with the team members.
4. **Describe the tools that are going to be used to monitor the goals, time frames or milestones.**
5. Identify project milestones and activities. **Display this information using an appropriate tool.**
6. Create a budget and link the costs to the key milestones for a project.
7. Describe how you are going to divide tasks and resources amongst a project team. **Display this information using an appropriate tool.**
8. Briefly describe how the progress will be monitored.
9. How are current project records maintained? Who has responsibility for this? provide some recommendations on how this process could be improved.
10. Describe the current procedure for finalizing projects. Create your own procedure and identify how you will evaluate the success of the project.
11. Legislation that may affect the project including health and safety, and anti-discrimination legislation.

Best of luck...

المشروع:

مطلوب منك تو ثيق دورك في إدارة مشروع. قد يتم تعيين المشروع في بيئة تجارية أو اجتماعية أو رياضية أو عائلية ولكن يجب أن يكون بحجم مناسب. إذا لم يكن لديك مشروع فعلي لتكتب عنه ، فيمكنك إكمال المشروع افتراضياً. ستكون هذا التقرير من ثلاث إلى ست صفحات.

يجب أن يعالج تقريرك ~~كل~~ **احد** القضايا التالية:

1. تحديد ووصف الغرض والنطاق والأهداف من المشروع. اعرض هذه المعلومات باستخدام أداة مناسبة.
2. صف كيف يتم إعطاء الفريق مخططاً تفصيلياً للمشروع.
3. وصف الاستراتيجيات التي سيتم وضعها للحفاظ على التواصل مع أعضاء الفريق.
4. صف الأدوات التي سيتم استخدامها لرصد الأهداف أو الأطر الزمنية أو المعالم.
5. تحديد معالم المشروع والأنشطة. اعرض هذه المعلومات باستخدام أداة مناسبة.
6. إنشاء موازنة وربط التكاليف بالمعالم الرئيسية للمشروع.
7. صف كيف ستقوم بتقسيم المهام والموارد بين فريق المشروع. اعرض هذه المعلومات باستخدام أداة مناسبة.
8. صف بإيجاز كيف سيتم رصد التقدم.
9. كيف يتم الاحتفاظ بسجلات المشروع الحالية؟ من المسؤول عن هذا؟ تقديم بعض التوصيات حول كيفية تحسين هذه العملية.
10. وصف الإجراء الحالي لإنهاء المشاريع. قم بإنشاء الإجراء الخاص بك وحدد كيفية تقييم نجاح المشروع.
11. التشريعات التي تترتب على المشروع بما في ذلك الصحة والسلامة ، وتشريعات مكافحة التمييز.

مع تمنياتي بالتوفيق..

Cost Estimation as a Tool for Monitoring the Project budget

1. INTRODUCTION

Buildings consist of several systems, Sub-Structure system, envelop system and other protection systems like firefighting system and Waterproofing system, waterproofing works are one of the most critical scopes of buildings. Water is a very ... material. Yet it can be an extremely dangerous if it started to leak out to a building. There are different types of waterproofing systems in terms of materials and costs. As a project manager, the main goal is to complete all projects successfully in terms of time, cost, and meeting the project specification.

The cost and period of completion any waterproofing project depends on the system that comply with project specifications or customer requirement. there are 5 types of waterproofing systems, PVC , EPDM , Bituminous, cementitious, Spray PU.

In these types of projects, it is usually hard to anticipate what findings will be faced during execution, these findings differ based on the cause of each one of them. Some of the most common findings in the substructure (i.e., High water table) on slab on grade(i.e., type of concrete used) on water tanks (i.e., bad, cracked surfaces). Once These finding is reported by the inspection team, a repair plan should be provided by the project leader , as some of these findings cannot be repaired (i.e., High water table) and the two options available is the dewatering [1], which clearly affect the planed delivery date. or the second option, to use a double line of defense, which can affect one of the project constraints (i.e., cost). And for the findings that can be repaired, (i.e., water tanks surface preparation) which require more manpower than planned, will defiantly affect the project budget.

My organization was assigned as supplier and applicator for the waterproofing systems for a project that exist in Jeddah, Saudi Arabia. Client provided us with a certain budget. My first mission with regards to the waterproofing works is to invite some of the material manufactures for the waterproofing material by sending them the project details so they can propose their offer according to the project requirement and classification, site case (water table level) , the nature of the project's structure, the specific scope. Several offers and quotation were received from manufactures. Second mission was to evaluate the submitted offers by filling out compliance forms to check if their proposal is complied with the project classification. The most complied proposal which covered all the requirement

and got the highest score with the best prices was finally selected. As the next step was to submit a quotation to our client, as a cost analyst, I prepared a cost estimation sheet as cost estimation was an important step to ensure that the application along with the material prices and labors cost is not exceeding the budget provided by client and to calculate our profit from this project. As this research aims to address the cost estimation as an efficient tool that help monitoring the project and find out the weaknesses that might cause it inefficiency.

Cost estimation in project management is the process of anticipating the cost and other resources needed to complete a project within a defined scope and budget. as estimation is to accounts for each element required for the project and calculates a total amount that determines a project's budget. And in order to increase the succuss rate of the project. A contingency budget was included along with the material, labors, supervision costs. It's important to take into consideration all the activities which planned to be executed in this project should be calculated and estimated.

2. LETERATURE REVIEW

2.1. Cost Estimation for Supplying and Applying Waterproofing systems

Researches showing that in these types of project, there is some factors and variables to be taken into account when estimating the project costs, as the scope of work (i.e., roof, basement, wet area), building age, building location, water table level, surfaces condition. Researchers recommended the weight factor method to make an accurate cost estimation. This method can be applied in this project by adding the project size and system used before in case of re-waterproofing so it will add accuracy to the estimated items.

2.2. Cost Estimation for Contingency Budgets

In calculation of the contingency budget, a statistical technique is typically wont to quantify the impact of every significant identified risk. this system called the Expected Value method, it starts with the identification of risks. Once the risks are listed, the probability of occurrence of every risk and therefore the cost impact, if risk happens, is estimated. Then, the expected value of all identified risks is calculated by multiplying each risk's probability of happening by the resulting cost if it happens then adding up the

results. As this project has a nature of uncertainty, several risks can be anticipated, this method is applicable.

3. METHODOLOGY

The method used in estimation the cost for a waterproofing project is a mathematical calculation represented in a table to summarize all the data. The table includes three main parts, Material costs given by manufactures , labor cost, selling price we offered to client.

4. RESULT AND DISCUSSION

							Client Name				Jeddah's Projects				Cost Estimate Summary									
							Project Name				Sala Hotel				Cost Allocation		Base Contract		VO/Add.		Total		%	
							Project #				JE3342				Material Cost		248,117.39		248,117.39		33.10%			
							Contract Type								Labor Cost		87,678.75		87,678.75		11.70%			
							Start & End Date								SubCont. Cost		-		0.00		0.00%			
							Gross Margin				SAR 338,052.91 45.10%				Other Cost		22,486.62		22,486.62		3.00%			
							Net Profit				SAR 203,133.19 27.10%				Supervision Cost		53,218.33		53,218.33		7.10%			
							Total Cost				SAR 546,420.81				G&A Cost		134,919.72		134,919.72		18.00%			
							Total Contract Value				SAR 749,554.00													

BOQ Description				BOQ			Cost Code & Category			Material Requirement				Cost Rate / Unit				Cost Rate Total				Billing Rate																				
Item #	Level	Bill description	Bill Quantity	VO / Adj.	Total	Unit	Cost Code	Description	Material	Unit	Rate	Qty	Material	Labor	Sub contract	Total Net Rate	Material	Labor	Sub Contract	Total Cost	Billing Rate	Billing Amount																				
WATERPROOFING WORKS																							248,117.39	87,678.75	-	335,796.14		749,554.00														
1 Roof																												-														
1.1.0	R	Foam Concrete	5,505.00		5,505.00	m2			drum	850.00	6.48		1.00	5.00	-	6.00	5,505.00	27,525.00	-	33,030.00	10.00	55,050.00																				
1.1.1	R	Primer	5,505.00		5,505.00	m2		Primer	Pal	35.00	91.75		0.58	-	-	0.58	3,211.25	-	-	3,211.25	1.00	5,505.00																				
1.1.2	R	Double layer bituminous membrane	5,505.00		5,505.00	m2		Bituminous Memb.	Roll	69.30	198.02		2.49	6.00	-	8.49	13,722.90	33,030.00	-	46,752.90	32.00	176,160.00																				
1.9	R	Thermal Insulation	5,505.00		5,505.00	m2		100mm	Board	27.80	7,707.00		38.92	3.00		41.92	214,254.60	16,515.00	-	230,769.60	64.00	352,320.00																				
1.1.4	R	Protection Layer	5,505.00		5,505.00	m2		Non woven Geotextile	Geomatt 140 gsm	Roll	330.00	21.10		1.27	0.75	-	2.02	6,963.83	4,128.75	-	11,092.58	5.00	27,525.00																			
1.1.5	R	Canstrip	1,620.00		1,620.00	LM								1.00	-	1.00	-	1,620.00	-	1,620.00	3.75	6,075.00																				
1.1.6	R	Skirting	1,620.00		1,620.00	LM			Roll	78.00	57.18		2.75	3.00	-	5.75	4,459.62	4,060.00	-	9,319.62	10.00	16,200.00																				
2.9	R	Aluminum Flashing	1,620.00		1,620.00	LM		Aluminum	Counter flashing	Pcs	10.89	324.00		2.18	3.00	-	5.18	3,528.36	4,860.00	-	8,388.36	10.00	16,200.00																			
2.10	R	Speed Plug	375.00		375.00	LM		Speed plug	Pcs	0.14	1,125.00		0.42	-	-	0.42	157.50	-	-	157.50	-																					
2.11	R	Pipe Dressing	100.00		100.00	No							-	18.00	-	18.00	-	1,800.00	-	1,800.00	30.00	3,000.00																				
2.00 WET AREAS																																										
3.1	R	Sika top 107 Cementitious	849.00		849.00	m2		Epoxy	Sikatop Seal 107	Set	52.00	107.00		6.55	10	16.55	5,564.00	8,490.00	-	14,054.00	55.00	46,695.00																				
3.2	R	Protection Layer	849.00		849.00	LM		Non woven Geotextile	Geomatt 140 gsm	Roll	300.00	4.00		1.41	1	2.41	1,200.00	849.00	-	2,049.00	4.00	3,396.00																				
3.3	R	Pipe Dressing	9.00		9.00	NO							-	-	10	10.00	-	90.00	-	90.00	32.00	288.00																				
2 Internal Water Tank																																										
2.1	I	Surface Preparation	748.00		748.00	m2			TG	Set	24.00	94.00		3.02	7.00	10.02	2,256.00	5,236.00	-	7,492.00	-	-																				
2.2	I	Repair of Hair Hair cracks	748.00		748.00	m2			TG	Set	24.00	94.00		3.02	7.00	10.02	2,256.00	5,236.00	-	7,492.00	-	-																				
2.3	I	Treatment of Tie RODS	-		-	NO			Rendroct TG	Bag	24.00	-		10.00	-	10.00	-	-	-	-	-	-																				
2.4	I	Double Coats of Cementation	748.00		748.00	m2		Epoxy	polyflex	SET	40.00	94.00		5.03	10.00	15.03	3,760.00	7,480.00	-	11,240.00	55.00	41,140.00																				

References

1. Georgas, P. C. & Vallance, G. V. (1987). Cost Management. *PM Network*, 1(3), 29–32.
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3. Horngren, C.T. Cost Accounting: A Managerial Emphasis. Prentice-Hall, 3rd Ed. 1972.
4. Waterproofing Systems. Sika Group. (n.d.).
<https://www.sika.com/en/construction/waterproofing-systems.html>.

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Directory: C:\Users\nadee\Downloads
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Title:
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Author: Mohammed Binkhamis
Keywords:
Comments:
Creation Date: 3/31/2021 5:31:00 PM
Change Number: 30
Last Saved On: 5/11/2021 8:53:00 AM
Last Saved By: suzan nadeem
Total Editing Time: 3,289 Minutes
Last Printed On: 5/11/2021 8:53:00 AM
As of Last Complete Printing
 Number of Pages: 7
 Number of Words: 1,582 (approx.)
 Number of Characters: 9,021 (approx.)