



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

Everyone's Smart University

Project (Spring 2021)

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Section

Master

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Course Code

(PMG506)

Advanced project Management

Manufacturing and Development of unsaturated Polyester Resin (UPR)

1. Introduction:

Manufacturing and Development of unsaturated Polyester Resin (UPR). First, owning the technology of manufacturing UPR of general purpose. Then develop UPR with different properties such as flame retardancy, thermally stability, and UV stability with high mechanical properties according to the customer requirement.

The importance of the project is to have a self-sufficiency of UPRs with special applications that was imported from outside the Kingdom. The suppliers for the imported UPRs are no more producing the UPRs which meet the requirement. Also, the project will bring a new business for the firm in which new customers will be gained. The project will be completed at two stages. First stage is to own the technology of manufacturing the UPR, train a technical team, and manufacture a general purpose UPR. In the second stage R&D is performed to manufacture different UPRs for special applications according to the customer request. The project is expected to increase company earnings, since it is used in different company products. Also, few industries that produce UPR with special applications and there is demand for this business in KSA.

My role in the project was Project Manager and I must write Project charter which was supposed to be written by sponsor. selecting team members from the different department of the company and divide the tasks between the team using RACI matrix. Training this team on a general manufacturing process to produce general purpose UPR. The team will be able to design and modify the manufacturing process for developing different types of UPR with special properties. The project will also include establishing a laboratory for testing and characterizing the developed products and ensure their reliability and shelf-lifetime.

2. Literature Review:

2.1. International Journal of Scientific & Engineering Research, Volume 6, 2015

A project charter explains what the project is all about and how the project will be approached. It also registers the names of all the shareholders.

Project charter is a crucial part of the project management inception and the phases of the project planning. Additionally, company will refer to the project charter during the whole project life.

2.2. Role & Responsibility Charting RACI By Michael L Smith and James Erwin

Responsibility Charting is a technique for identifying functional areas where there are process ambiguities, bringing the differences out in the open and resolving them through a cross-functional collaborative effort. Responsibility Charting enables managers from the same or different organizational levels or programs to actively participate in a focused and systematic discussion about process related descriptions of the actions that must be accomplished in order to deliver a successful end product or service.

3. Methodology:

3.1. I will use Project charter to identify and describe the purpose, scope, and objectives of the project.

3.1.1 A project charter:

It is a formal, typically short document that describes your project in its entirety including what the objectives are, how it will be carried out, and who the stakeholders are. It is a crucial ingredient in planning out the project because it is used throughout the project lifecycle.

The PMBOK® Guide, defines a project charter as a document issued by the project initiator or sponsor that formally authorizes the existence of a project and provides the project manager with the authority to apply organizational resources to project activities. The key word in this definition is authority” It authorizes both the project and the project manager.[1]

3.1.3 Elements of project charter:

- a. Overview
- b. Objectives or Scope General Approach
- c. Contractual Aspects
- d. Schedules
- e. Resources
- f. Personnel
- g. Risk Management Plans
- h. Evaluation Methods

3.2. I will use RACI matrix to divide tasks amongst a project team.

RACI Matrix is describing the participation by various roles in completing tasks or deliverables for a project or business process. RACI is an acronym derived from the four key responsibilities most typically used: responsible, accountable, consulted, and There is a distinction between a role and individually identified people: a role is a descriptor of an associated set of tasks; may be performed by many people; and one person can perform many roles. [2]

R = Responsible who do the work to complete the task.[3]

A = Accountable is the one ultimately answerable for the correct and thorough completion of the deliverable or task, the one who ensures the prerequisites of the task are met and who delegates the work to those responsible.

C = Consulted those whose opinions are sought, typically subject-matter experts.

I = Informed those who are kept up to date on progress, often only on completion of the task or deliverable.

4. Result and Discussion:

4.1. Project Charter

Project Name and Description	
Manufacturing and Development of unsaturated Polyester Resin (UPR). Owning the technology of manufacturing UPR of general purpose. Then develop UPR with different properties such as flame retardancy,	
Business Owner	Project Manager
ASNA Co.	Eng.Salem alharbi
Project Start Date	Project End Date
4th of Jan, 2020	30th of December, 2020
Budget	Vendor(s)
SAR 1,400,000	Atilim Makine iml. San. Ve Tic. Ltd. Anton Paar ZwickRoell
In Scope	Out of Scope
This project will entail selecting team members from the different department of the company. Training this team on a general manufacturing process for the production of general purpose UPR. The team will be able to design and modify the manufacturing process for developing different types of UPR with special properties. The project will also include establishing a laboratory for testing and characterizing the	This project won't entail finalizing and setting the market requirements or launching the developed products.
Deliverable Description	Expected Delivery Date
The production of the first batch of a general purpose UPR on the pilot reactor plant.	29th of July, 2020
The production of the first special application developed UPR	28th of November, 2020
Personal	Evaluation method
2 Chemical Engineer Mechanical Engineer Electrical Engineer Lab Specialist Operator	payback period Impact evaluation product quality test on lab
Risk	Mitigation Plan
Schedule Delay	Reduce Strategy: Indicate risk by design review and project team discussion. Actions taken: Procure active and clear communication in the team and create a plan for delays avoidance
Budget Overrun	Reduce Strategy: Indicate risk by design review and project team discussion. Actions taken: Procure active and clear communication in the team and create a plan for overrun avoidance
Materials and Equipment delivery time	Mitigate Strategy: Constant communication with the supplier. Understanding the supplier delivery process. Action taken: Keep active and clear communication.
Developed by	
Reviewed by	
Approved by	

4.1.1. Benefits of a project charter:

- It gives an authority to the project manager to complete the project.
- Explains the business importance and existence of project.
- Demonstrates Management support for the project.
- Defines outcome for the project.

- e. Provides a team with a clear concise reporting system.
- f. Protects team members from scope creep.
- g. Helps in avoiding disagreements between stakeholders.
- h. Authorizes the existence of the project or establishes the project.
- i. Provides the high-level requirements for the project.
- j. Links the project to the ongoing operations of the organization.

4.2.

RACI Matrix

R	Responsible
A	Accountable
C	Consulted
I	Informed

code	Project activity and Deliverable	Project manger	Top manager	Lab manager	Technical and R&D team	client
1	Formation: selecting the UPR pilot plant vendor and agreement.	I	R	I	C	I
2	Build-up: Forming technical and R&D	A	R	C	I	C
3	Main Program: pilot plant receives and commissioning in site by the vendor	A	I	I	R	I
4	Production of general purpose UPR in site	A	I	I	R	C
5	Lab Preparation	I	A	R	C	I
6	Special application UPR developing and production	A	C	I	R	C
7	Phase out	A	I	I	R	I

4.2.1 Having a RACI matrix in place provides many advantages to a project manager. Below are a few of them:

- I. Facilitates Communication
- II. Helps to Avoid People Overload
- III. Helps to Avoid Work Overload
- IV. Helps to Eliminate Confusion

4.2.2. The RACI matrix may have some disadvantages. Below are some of them

- I. It is not suitable for all types of projects.
- II. It may add complexity to the process or project.
- III. It is time-consuming to create and use.
- IV. If it is not created properly, there may be uncertainty with the responsibilities.

5. References:

1. Project Management Institute. (2004) A guide to the project management body of knowledge (PMBOK®) (Third ed.). Newtown Square, PA: Project Management Institute.
2. Blokdiijk, Gerard (2008). *The Service Level Agreement SLA Guide - SLA Book, Templates for Service Level Management and Service Level Agreement Forms. Fast and Easy Way to Write Your SLA*. Lulu. p. 81. [ISBN 978-1-921523-62-5](#)
3. Smith Michael, Erwin James: [Role & Responsibility Charting \(RACI\)](#), Project Management Forum, 2005, p. 5^{[[dead link](#)]}