

## Water Desalination Plant

### مشروع مصنع تحلية المياه

رقم المجموعة (4)

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## **1. Company Strategy**

### **1.1 Company Vision**

To be the leading company in providing Purified Drinking Water in Kingdom of Saudi Arabia.

### **1.2 Company Mission**

- To be the buyer choice and the dominant water manufacturer and supplier to the local customers (Al-Baha Area) as well across the Kingdom.
- Target to provide to safe and healthy water by capitalizing state of the art technologies.
- Ensuring that water is supplied to the customers in timely manner at cheaper cost.
- Ensuring full compliance with local and World Health regulations and standards in producing the safe and healthy water in hygienic environment.

### **1.3 Company objectives**

- Maximize the production by using more production units equipped with more advanced technologies.
- Increase the profitability by 3% annually through marketing campaign and by increasing expanding distribution points.
- Ensure the water quality is in compliance with WHO (world health organization) and local regulatory authority by getting regular update and ensure that the plant lab group is fully compliant to the requirements.
- Maintain the reliability of plant operation by having a reliable system in place and continuous improvement in the system as well by employees training.
- Keep work environment healthy by maintaining a frequent team building and providing a good development plan for work force.
- To ensure that the supplied drinking water will satisfy the customers and ensure a good relation with them.

**1.4 Performance Measurement Indicators :** Project team has focused on the following strategic objectives and utilized lead and lag measures indicators to assess the project health and performance.

| Strategic objectives                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Lead measure                               | Lag measure                                            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|--------------------------------------------------------|
| <b>Financial Improvement.</b><br>Commonly this sector is concerned with basic financial data sources such as revenues, cost of sales, net gross margins, company expenses and net profit.                                                                                                                                                                                                                                                                                            |                                            |                                                        |
| Improve return on investment                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Add three more products to the portfolio   | Revenue growth by 3% annually                          |
| Reduce overall costs                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                            | Overall cost reduced by 1% annually                    |
| <b>Customer's Satisfaction.</b><br>It's obvious that unsatisfied customers will look for alternatives (approaching other suppliers) to meet their expectation.                                                                                                                                                                                                                                                                                                                       |                                            |                                                        |
| Maximize customer satisfaction                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Effective account management               | Focused on customer expectation and satisfaction score |
| Decrease Customer Attrition                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Improved customer service                  | Monitor the customers service team performance         |
| <b>Learning and development dimension.</b><br>The main resources in most companies today are its people, is essential, especially in a climate where technology is changing rapidly, that they grow and learn continuously.                                                                                                                                                                                                                                                          |                                            |                                                        |
| Development of the Strategic skills                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Service/product cover ratio                | Employee Performance & Satisfaction                    |
| Better strategic communication                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Information availability                   |                                                        |
| <b>Water Product Quality</b><br>Multiple Water Desalination Plant designs available in the market with different processes and technologies. Proposed reverse osmosis system works on principle of difference in pressure created both sides is what allows the water to circulate through the membranes, as a result impurities including salt particles are recovered. During this process, water quality is continuously measured to ensure product specification are maintained. |                                            |                                                        |
| Maintain the Total Dissolved Salt in (TDS) in the product.                                                                                                                                                                                                                                                                                                                                                                                                                           | TDS instrument is installed in the process | TDS results between 110 – 150 ppm                      |
| Measure of how acidic/basic water is (PH)                                                                                                                                                                                                                                                                                                                                                                                                                                            | PH instrument is installed in the process  | PH measurement is neutral (PH=7)                       |

**Table 1 Performance Measurement Indicators**

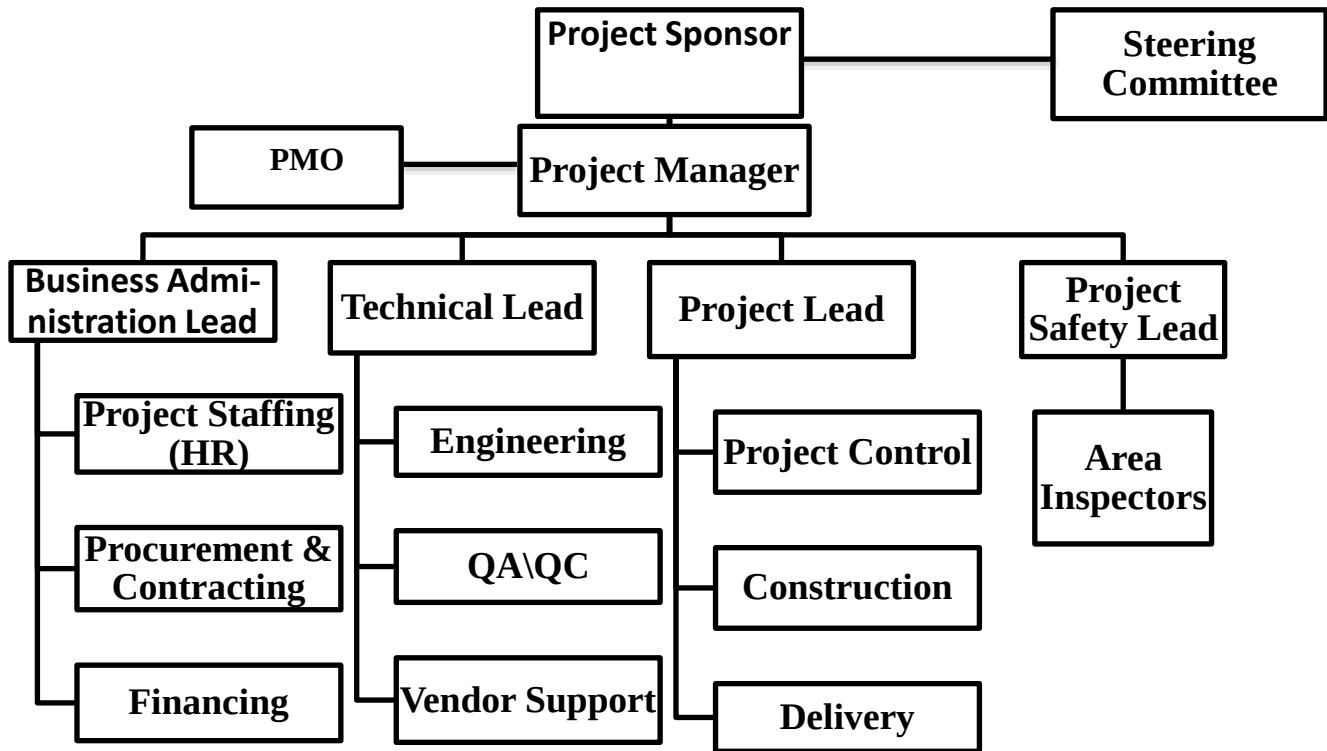
## 1.5 Project Charter

|                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Project Name</b>                          | <b>Water Desalination Project</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Project description</b>                   | To open new production line within the current company plot to increase the production as the demand is increased. The new line will use the latest RO (Reverse Osmosis) technology. The new line will capitalize in using the current infrastructure such as Power\Electricity, Chemical, common header for plant intake and distributions.                                                                                                                                                                                            |
| <b>Project objectives</b>                    | <ul style="list-style-type: none"> <li>• Maximize the production and increase the Company Profit by 3%.</li> <li>• Ensure the water quality is in compliance with all water regulation requirements.</li> <li>• Keep work environment healthy by maintaining a frequent team building and providing a good development plan for all the level of workers.</li> <li>• To ensure that the supplied drinking water got the customer satisfaction and maintain a good relation with them through campaigns and customer surveys.</li> </ul> |
| <b>Project is considered Successful when</b> | <ul style="list-style-type: none"> <li>• Meeting the project targeted Capital Cost and Schedule.</li> <li>• Project Quality and Safety indices have been met.</li> <li>• Final Product is easily accepted by customers.</li> </ul>                                                                                                                                                                                                                                                                                                      |
| <b>Project participants</b>                  | Project sponsor, Manager , Team Members\ Procurement \ Operation\Inspection \ and HSE.                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Available resources</b>                   | <ul style="list-style-type: none"> <li>• Project Personnel are formed from functional department.</li> <li>• Available budget is: SR 100,000.</li> <li>• Availability of local vendors for suppling the plant Membranes, sand filter sand the high-pressure pumps.</li> </ul>                                                                                                                                                                                                                                                           |
| <b>Constraints</b>                           | <ul style="list-style-type: none"> <li>• Project Financing to accommodate project CAPEX.</li> <li>• Securing permanent Feed\Raw Water to the plant.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Potential risks:</b>                      | <ul style="list-style-type: none"> <li>• Water Quality out of specification.</li> <li>• Exceeding the Targeted project duration and cost.</li> <li>• Scope Creep (uncontrolled scope).</li> </ul>                                                                                                                                                                                                                                                                                                                                       |
| <b>Due \ Deadline</b>                        | 12-12-2023                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

**Table 2 Project Charter**

## **2. Governance, Structure and process**

### **2.1 Project Organization**



**Figure 1 Organization Chart**

### **2.2 Identify practical and scientific bases, which adopted in developing the structure.**

Figure-02 shows the project organization structure that includes illustrates the and defines the organizational project framework where all works shall be coordinated in an effective manner. It defines the hierarchy of reporting in organization and it shows the number of levels in the chain of importance.

In setting up the project governance, the Project Sponsor (PS) is collaborating with project Steering Committee (SC) to the get required guidance on critical project decision making. Project Manager (PM), is responsible to manage project execution team , project delivery targets and maintain the project performance on track. Business Administration , technical

services, quality, procurement and safety units support PM during project development and execution. Each of these units has specific functions to support the project and it can be summarized on the following:

- Business team to support the project staffing, procurement and any matter related to finance.
- Engineering Team to support the project from all engineering disciplines (e.g. civil, electro-mechanical & QA\QC), Project standardizing format and getting vendor support.
- Project Team to support the project construction, managing the delivery with the stakeholders, and controlling the project schedule and cost.
- Project Safety team who has responsibility to ensure a safe work environment is practiced and any observations are reported by area inspectors.

### **2.3 Project Management Office (PMO) Model**

As discussed from the previous section, the engineering team will support the project by sharing the standard project format and they will do this with collaboration with the company PMO. Company PMO normally supporting project managers in many areas such as :

- Managing shared resources across all projects;
- Identifying and developing project management methodology, best practices, and standards ;
- Coaching, mentoring, training, and oversight;
- Monitoring compliance with project management standards, policies, procedures, and templates by means of project audits.

In conclusion, project has been using the company PMO to support the project rather than monitoring and controlling by using standard project format such as project charter, risk register and stakeholders register.

### **3. Compliance, Standard and Regulations**

#### **3.1 Compliance Model For Project Delivery.**

| <b>Description</b>                                                      | <b>Accepted</b> | <b>Rejected</b> | <b>Completeness</b> | <b>Remarks</b>          |
|-------------------------------------------------------------------------|-----------------|-----------------|---------------------|-------------------------|
| Check water meter readings and record water production.                 | ✓               | -               | Done                |                         |
| Check chemical solution tanks and record amounts used.                  | ✓               | -               | Done                |                         |
| Check and record water levels in storage tanks.                         | ✓               | -               | Done                |                         |
| Inspect chemical feed pumps.                                            | ✓               | -               | Done                |                         |
| Check and record chlorine residual at the point of application.         | ✓               | -               | Done                |                         |
| Check and record chlorine residual in the distribution system.          | ✓               | -               | Done                |                         |
| Inspect booster pump stations.                                          | ✓               | -               | In process          | Need further work       |
| Check and record fluoride concentration in the distribution system.     | ✓               | -               | Done                |                         |
| Record well pump running times and pump cycle starts.                   | ✓               | -               | Done                |                         |
| Check instrumentation for proper signal input/output.                   | ✓               | -               | In process          | Need further work       |
| Investigate customer complaints. Record threats or suspicious activity. | ✓               | -               | Done                |                         |
| Complete a daily security check.                                        | ✓               | -               | In Process          | Need to provide reports |
| Inspect heater operation during winter months.                          | ✓               | -               | Done                |                         |
| Inspect well pumps, motors, and controls                                | ✓               | -               | Done                |                         |

**Table 3 Compliance Model**

### 3.2 Check List Model for the Three Project Stages (Start- Plan- Achieve- Close)

Developing the Check List model for the three stages of the project (Start- Plan- Achieve- Close) as below:

Defining the checklists: it is a structured tool used to verify that a set of required steps or requirements are performed. Also, it become a part of a project record to verify the due compliance steps are taken during project lifecycle. The Checklist is not considered a formal type of schedule, it sometimes called a “to do list”. It used for very short-term planning, rarely more than a few days. Its main purpose is to ensure that nothing is omitted. It has its own advantages and disadvantages: like advantages is that it doesn’t require special skills, Tool, or training to use and maintain. On the other hand, it doesn’t show interdependence of activities.

#### Check List of Project:

To be completed by: Deadline: 1 Dec.2021

#### PHASE 1: STARTING

| Starting stages:             | Timeline    | Status     | Remarks |
|------------------------------|-------------|------------|---------|
| Forming                      | 5-9-2021    | Done       |         |
| Construction Tools           | 7-9-2021    | Done       |         |
| Water Desalination Equipment | 7-9-2021    | Done       |         |
| Workforce                    | Operational | In process |         |
| Stakeholders                 | 10-9-2021   | Done       |         |
| Water Desalination System    | 7-9-2021    | Done       |         |
| Polices and procedure        | 5-9-2021    | Done       |         |

**Table 4 Phase 1: Starting**

## PHASE 2: PLANNING

| Planning stages:      | Timeline    | Status     | Remarks |
|-----------------------|-------------|------------|---------|
| Siting                | 11-9-2021   | Done       |         |
| Desk work             | Operational | In process |         |
| Scope & budget        | 11-9-2021   | Done       |         |
| Safety + Crisis Plan  | 5-9-2021    | Done       |         |
| Purchases             | 11-9-2021   | Done       |         |
| Membrane Desalination | 15-9-2021   | Done       |         |

**Table 5 Phase 2: Planning**

## PHASE 3: ACHIEVING

| Achieving stages:            | Timeline    | Status     | Remarks |
|------------------------------|-------------|------------|---------|
| Revenue Analysis             | 11-11-2021  | Done       |         |
| Zero problems List           | 10-11-2021  | Done       |         |
| Percentage of sales          | 30-11-2021  | Done       |         |
| Desaturation score           | Operational | In process |         |
| Primary water treatment list | Operational | In process |         |
| Water desalting list         | Operational | In process |         |
| Final water treatment list   | Operational | In process |         |

**Table 6 Phase 3: Achieving**

## PHASE 4: CLOSING

| Closing stages:         | Timeline    | Status     | Remarks |
|-------------------------|-------------|------------|---------|
| Committing to deadlines | 30-11-2021  | In process |         |
| Accepted deliverables   | 20-11-2021  | In process |         |
| Final report            | 30-11-2021  | In process |         |
| Data analysis           | Operational | In process |         |
| Archive documents       | 15-11-2021  | In process |         |
| handover                | 28-11-2021  | In process |         |
| Operational status      | 30-11-2021  | In process |         |

**Table 7 Phase 4: Closing**

## 4. Power and Interest

### 4.1 Stakeholder Register

| No | Name                   | Title                                     | Role                         | Power (H/L) | Interest (H/L) | Influence (H/L) | Category | Contact information |                       |
|----|------------------------|-------------------------------------------|------------------------------|-------------|----------------|-----------------|----------|---------------------|-----------------------|
| 1  | Mohammed               | owner                                     | Sponsor                      | H           | H              | H               | Internal | Phone No: 055       | Email: @gmail.com.com |
| 2  | Osama                  | Project Manager                           | Supervising                  | H           | H              | H               | Internal | Phone No: 056       | Email: @gmail.com     |
| 3  | Rasha                  | Sales Manager                             | Sales Expert                 | L           | H              | H               | Internal | Phone No: 055       | Email: @gmail.com.com |
| 4  | Ahemd                  | Quality Assurance(From Minstry of Health) | Inspection                   | L           | H              | H               | External | Phone No: 050       | Email: @gmail.com     |
| 5  | Abeer                  | Director of Accounting                    | Team Member                  | H           | H              | H               | Internal | Phone No: 056       | Email: @gmail.com     |
| 6  | (SR Equipment) Company | Vendor                                    | Machine and equipment vendor | L           | H              | H               | External | Phone No: 050       | Email: @gmail.com     |
| 7  | Customer               | Customer                                  | End user                     | L           | L              | L               | External | Phone No: 055       | Email: @gmail.com     |
| 8  | Saad                   | Program Analysis                          | Team Member                  | L           | L              | L               | Internal | Phone No: 050       | Email: @gmail.com     |
| 9  | Operators              | Operators                                 | Team Member                  | L           | H              | L               | Internal | Phone No: 051       | Email: @gmail.com     |

**Table 8 Stakeholder Register**

## Stakeholder Management Plan

| No | Name                   | Title                                      | Stakeholder Expectations                                                                                    | Communication Rules              |
|----|------------------------|--------------------------------------------|-------------------------------------------------------------------------------------------------------------|----------------------------------|
| 1  | Mohammed               | owner                                      | Cover the costs of the project and achieve the required profit                                              | by meeting every week            |
| 2  | Osama                  | Project Manager                            | Completion and delivery of the project on time at the specified cost without any accidents                  | by meeting every day             |
| 3  | Rasha                  | Sales Manager                              | Ensure sales growth by expanding customer base                                                              | by emails every week             |
| 4  | Ahemd                  | Quality Assurance(From Ministry of Health) | Checking product quality by comparing ( water safety plan )                                                 | by meeting and emails every week |
| 5  | Customer               | Customer                                   | Ger a good product with lowest cost                                                                         | by emails any time               |
| 6  | (SR Equipment) Company | Vendor                                     | Coordinating with vendors and completing purchase of equipment and machinery on time and at specified price | by meeting every week            |
| 7  | Abeer                  | Director of Accounting                     | Weekly expense report                                                                                       | by emails every 2 week           |
| 8  | Saad                   | Program Analysis                           | Monitoring the operating systems of equipment and machinery                                                 | by emails every week             |
| 9  | Operators              | Operators                                  | Do the routine work                                                                                         | by weekly reports                |

**Table 9 Stakeholder Management Plan**

## 4.2 Stakeholder Power Matrix (Two Networks)

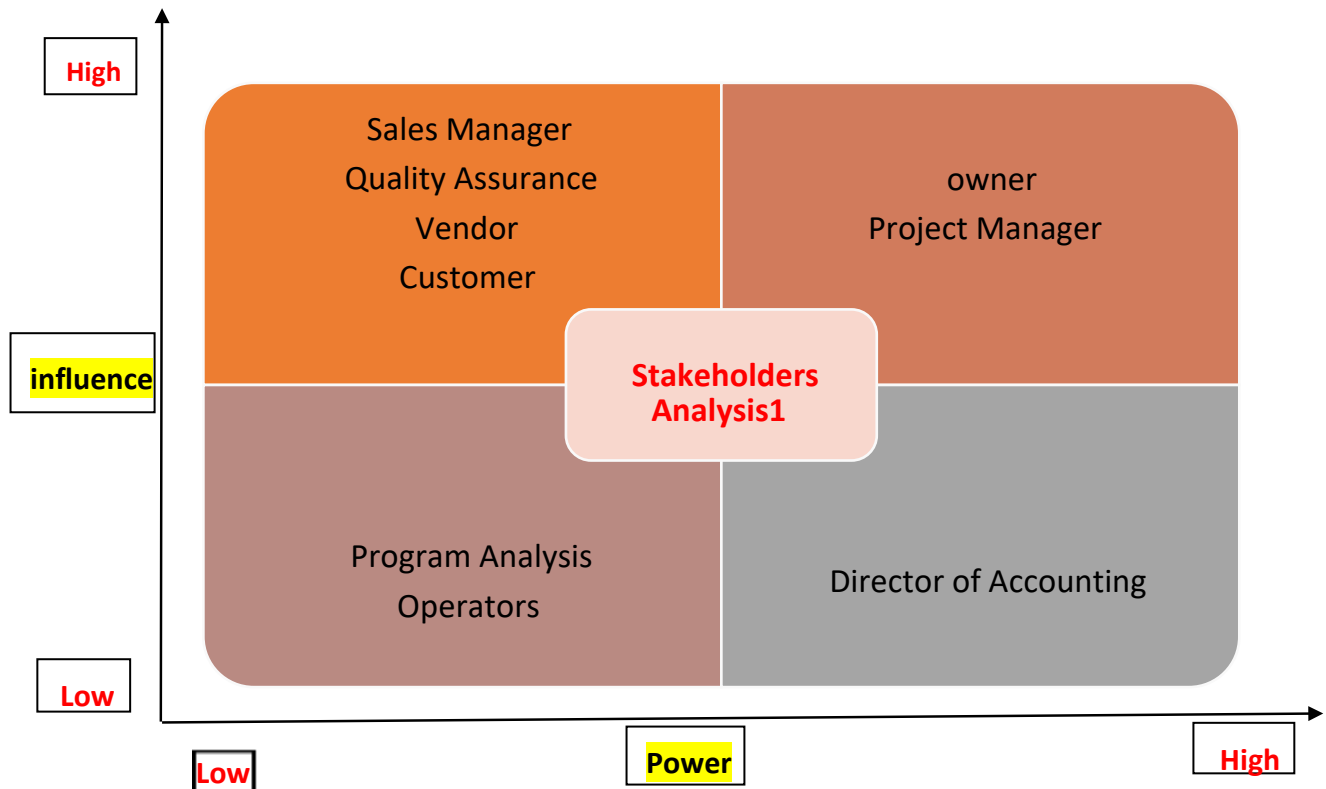


Figure 2 Stakeholder Analysis 1

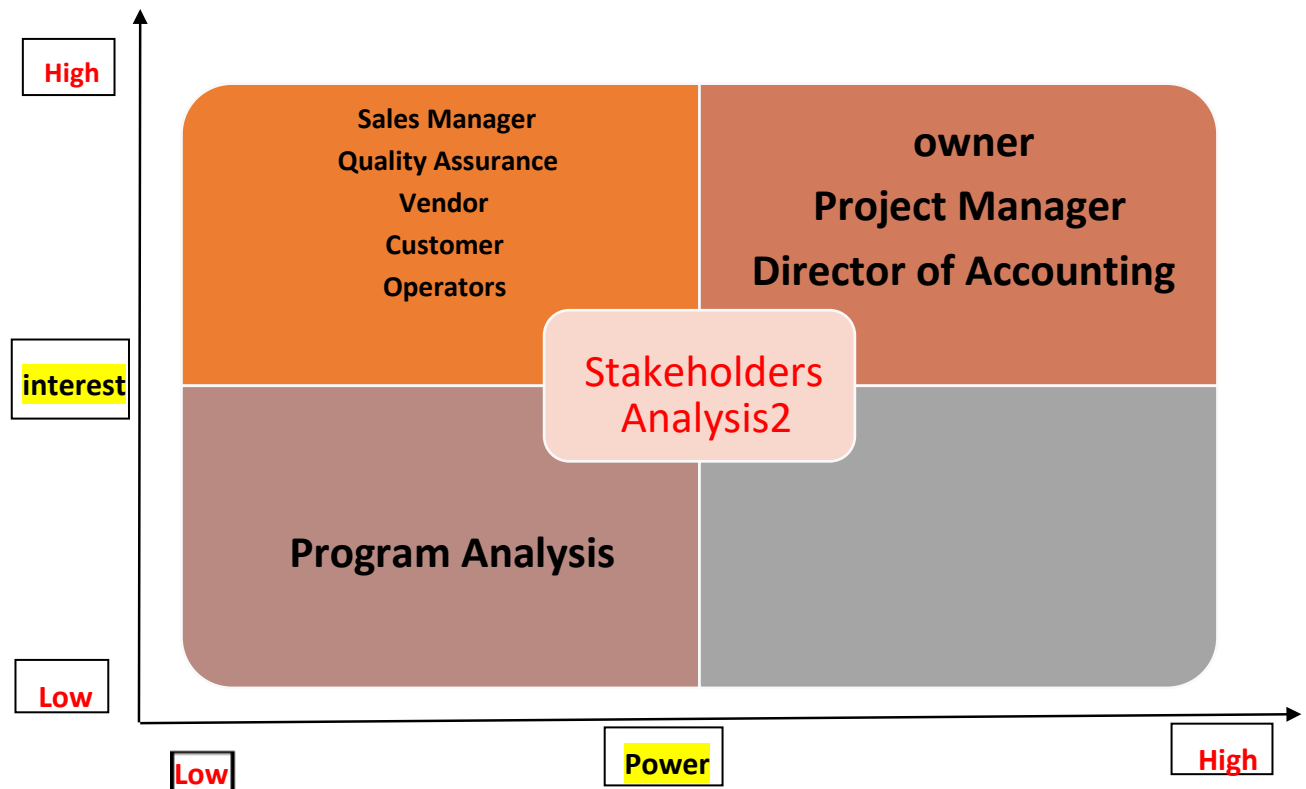


Figure 3 Stakeholder Analysis 2

4.3 To use the logical diagrams for the register of the stakeholder.

| No | Name                   | Title                                     | Aware?  | Power | Supportive? | Interest |
|----|------------------------|-------------------------------------------|---------|-------|-------------|----------|
| 1  | Mohammed               | Owner                                     | Aware   | H     | Supportive  | H        |
| 2  | Osama                  | Project Manager                           | Aware   | H     | Supportive  | H        |
| 3  | Rasha                  | Sales Manager                             | Aware   | L     | Supportive  | H        |
| 4  | Ahemd                  | Quality Assurance(From Minstry of Health) | Aware   | L     | Neutral     | H        |
| 5  | Customer               | Customer                                  | Somehow | H     | Neutral     | H        |
| 6  | (SR Equipment) Company | Vendor                                    | Aware   | L     | Supportive  | H        |
| 7  | Abeer                  | Director of Accounting                    | No      | L     | Neutral     | H        |
| 8  | Saad                   | Program Analysis                          | Somehow | L     | Neutral     | L        |
| 9  | Operators              | Operators                                 | Aware   | L     | Supportive  | H        |

Table 10 logical diagrams for the register of the stakeholder

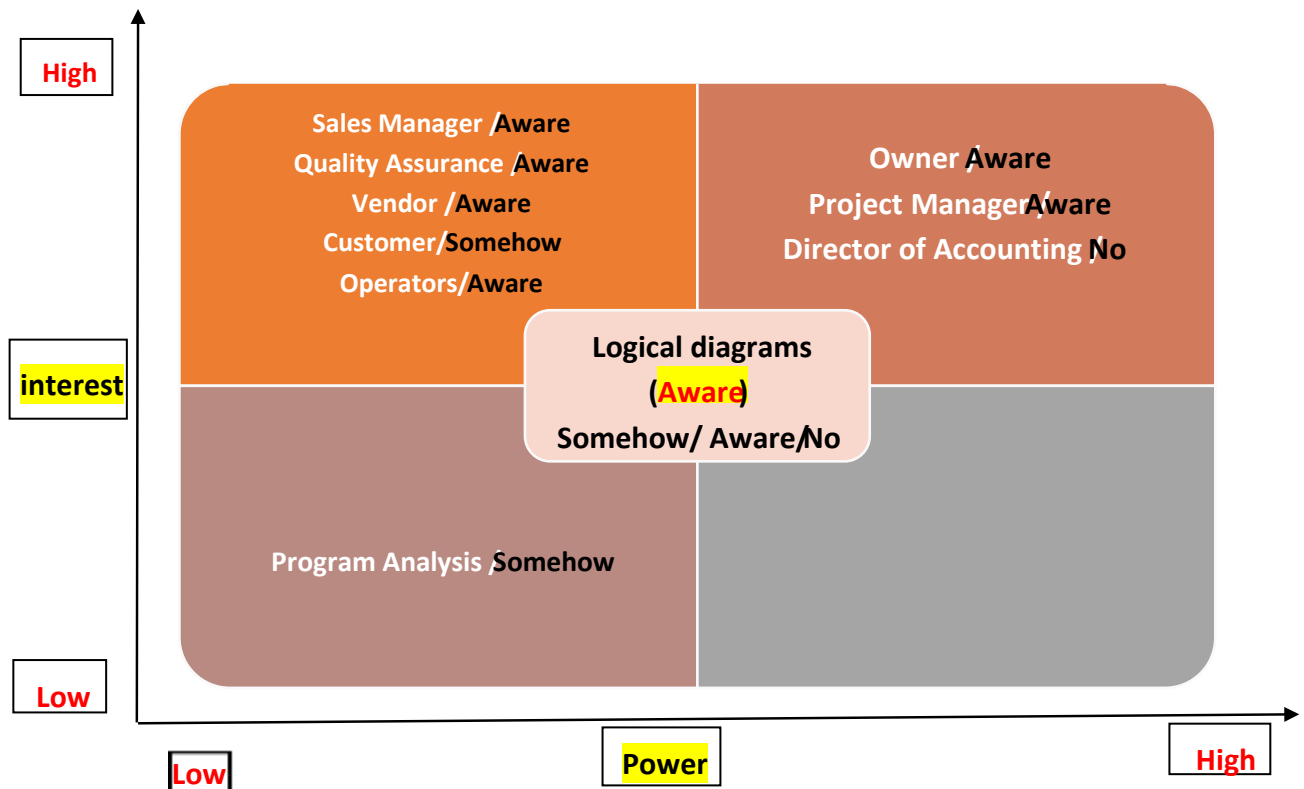


Figure 4 Logical diagrams (Aware)

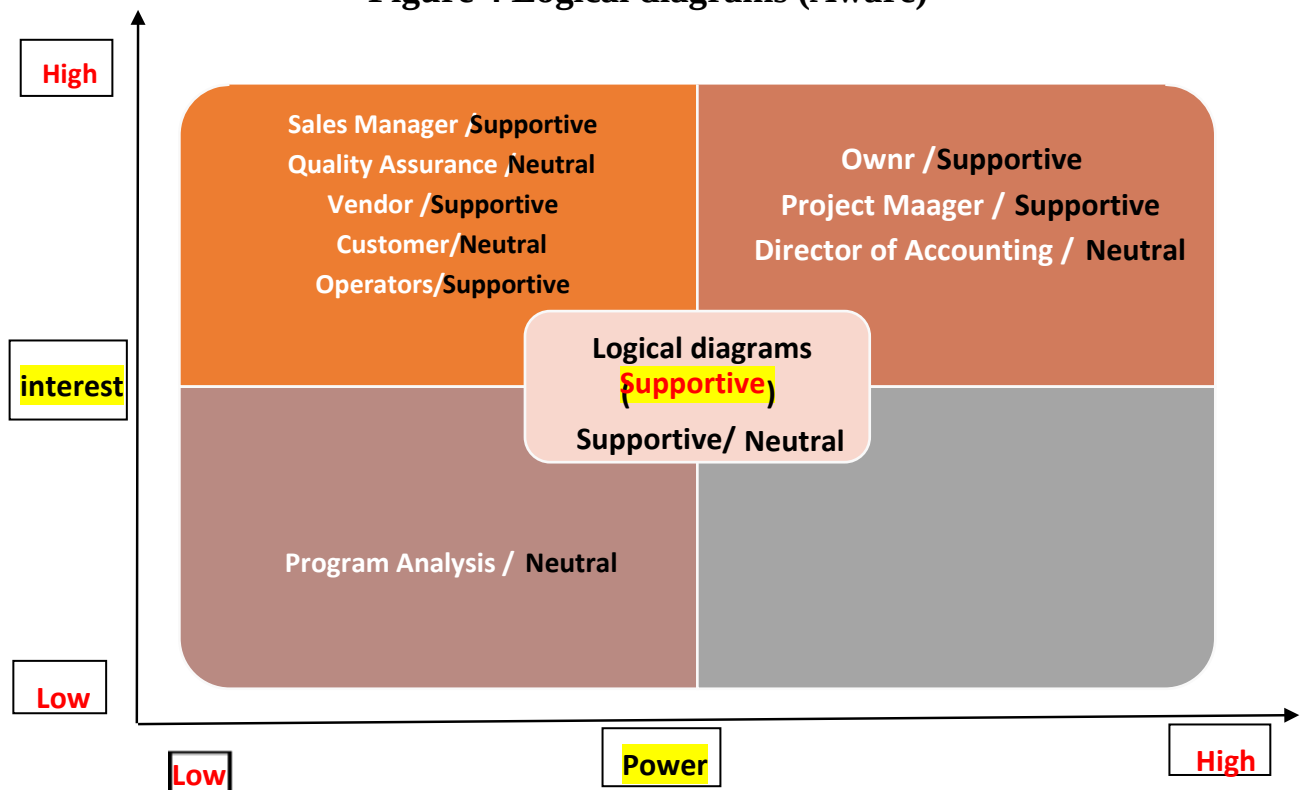


Figure 5 Logical diagrams (Supportive)

## **5.Culture and Values**

### **5.1 Identify the Culture of the organization.**

Culture is the behaviors or beliefs that determine how an organization or team interacts or carries out work. Core values serve to constantly guide both the employee and the company in achieving their mutual goals, in a manner that is based on an ethical and ideological framework. Every business is different, and so are their core values. there are some principles that are alike for all.

### **5.2 Provide the Proposals of the organizations values that can be adopted**

Here are three such core values every organization should have:

#### **1. Integrity and Ethics:**

the two principles of integrity and ethics translate into doing the right thing, in an honest, fair and responsible way. Building your entire business on the foundation of honesty and integrity goes a long way into building a strong, trusting relationship with its employees, stakeholders, and customers.

#### **2. Respect:**

Respecting all employees means respecting their individual human rights and privacy, eliminating all kinds and forms of discrimination, whether based on religion, belief, race, ethnicity, nationality, gender or physical disability. Moreover, ensuring a safe and healthy work environment for all employees is an important part of giving respect to them. This inspires feelings of commitment and a drive to do even better.

#### **3. Innovation:**

Employees are encouraged to be dynamic and come up with innovative ideas that can translate into successful products for the company. Constantly imitating others won't take the business far (Project Team Leadership and Communication by Samuel Malachowsky, 2018).

## **6. Self-reflection and self-management**

### **6.1 To specify “3” personal behaviors of the stakeholders that can influence on the project.**

It's very essential to monitor and manage the stakeholder behaviors and their engagement in a project as this may positively or negatively impact the project (Project Management Institute, PMBOK® Guide, Sixth Edition, 2017).

#### **Functional Manager**

As one of the stakeholders , functional manager who is keeping some of the project team members to follow his priority and ignore project need , as they are originally from his function department, He kept them busy on some of the department matter and mostly show resistance to allow these members focused on the project deliverables.

#### **Project Team Member**

The second stakeholder, is one of the project team member who is very rude with his colleagues. He does not behave well and and criticize rather support the management.

#### **Supplier of the Membrane**

The third stakeholder is the supplier of the membrane column who is consistently late in responding to our project team inquiries. He always find excuse on commitment sometime to quality assurance issue ,late raw material deliveries and always try to hide his own shortcomings.

### **6.2 To study such behaviors, identify their reasons, and how they can be eliminated.**

The three behaviors aforementioned in section 6.1 have been analyzed on their root causes and ways for eliminating them and results are summarized as follow:

| Stakeholder's behavior                  | Root cause                                     | Resolution                                                        |
|-----------------------------------------|------------------------------------------------|-------------------------------------------------------------------|
| Resistance of the functional manager in | Plant engineering support demand is increased. | Make a contract with supplemental manpower company to provide the |

|                                                                  |                                                                                                                                                                             |                                                                                                                                                                                                                 |
|------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| freeing his team members focused in the project.                 |                                                                                                                                                                             | project with necessary resources                                                                                                                                                                                |
| Communication Rudeness of one of the project team members        | Stress due to the rumor of company intention to lay off some of the employee due to the ongoing economic crisis                                                             | Issue an official announcement by company to all employee that such rumor is not true and reiterating on the fact that their employees are the considered asset\valuables resources for the project and company |
| Lateness of the supplier in responding to project team inquirers | Supplier is not focused on the inquiries priorities as he is receiving multiples requests from multiples team members from the same project and some of them is repetitive. | Assign one single point of contact from project team to communicate any project matter with the supplier.                                                                                                       |

**Table 11 Stakeholder's Behavior**

### **6.3 To conduct a self-professional assessment by using SWOT model**

The SWOT analysis examines the project from each of the strengths, weaknesses, opportunities, and threats (SWOT) perspectives. A comprehensive study and analysis have been gone through in this project to assess the internal strength and weakness for the company as well as the other opportunities and threats that come from external factors such

as market conduction, risks and any government regulation. Below showing the summary of the analysis:

| strengths                                                                                                                                                                                                                                                                    | weaknesses                                                                                                                                                                                                                  | opportunities                                                                                                                                                                                                                       | threats                                                                                                                                                                                                                                                                                         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>•Superior in water manufacturing in southern region.</li> <li>•Has good trasnporation system for delivering the product.</li> <li>• Plane equipied with advanced system that help meeting the water qulaity specification.</li> </ul> | <ul style="list-style-type: none"> <li>•The Plant not designed for redundant operation</li> <li>•Most of the employees age are above 45 and they are expat</li> <li>• Rewarding system is not updated since 2000</li> </ul> | <ul style="list-style-type: none"> <li>•Demand is increased due to increase in population</li> <li>•Current market study showed positive trend</li> <li>•Use new approved technology to recycle some of the wasted water</li> </ul> | <ul style="list-style-type: none"> <li>•New government regulation dictate new increase in employing local people</li> <li>• Lack of local vendre services in supporting the plant operation</li> <li>• Loss of market share due to ξnexpected presence of a competitor in the market</li> </ul> |

**Table 12 SWOT Model**

## **7. Personal Integrity and Reliability**

### **7.1 To provide “3” behaviors contradict the moral integrity.**

#### **Acceptance of gifts, benefits and hospitality**

Must not accept gifts or hospitality or receive other benefits from anyone who might reasonably be seen to compromise their personal judgement or integrity.

#### **Exploiting the influence of the job**

Using his job authority to achieve a material benefit for himself and his family at the expense of the Project’s interest, such as bribery, obtaining subsequent rewards for performing job duties, embezzlement, and the employee’s harm to public interests in the field of deals, contracting, supplies, public works, and others, in return for the employee’s obtaining certain material or financial gains, Or the employee withholding all or some of the salaries or wages that the employees or workers are entitled to or delaying payment to them with the intention of benefiting from them personally.

### **Disclosing secrets that he learns by virtue of his position, even after leaving the service**

Disclosing any information that he becomes acquainted with by virtue of his position if it is confidential in nature or pursuant to instructions requiring that without written permission from the PMO, and this obligation shall remain in place after leaving the service.

### **7.2 To analyze the financial, social, and technical influence, if any, of such behaviors on the works of the project and the relationships.**

**Financial impact:** the project incurred financial losses because the employee did not override the project's interest in choosing the right contracts for work, but rather his personal interest in choosing contracts accordingly.

**Social impact:** The project bears bad moral effects on the employees and workers due to the delay, disruption or failure to complete the work properly, in order to choose contracts that are not technically good, but for personal interest, not for the benefit of the project.

**Technical Impact:** Incompletion or failure of the project or even completed in a way that does not conform to the technical, time and budget specifications.

## **8- Personal communication & 9.Relationships and Engagement**

### **SUMMARY**

This is the communication plan for the Water Desalination Plant team. It covers our schedule of meetings, how we communicate at other times.

### **COMMUNICATION GOALS**

- Keep each other informed about the status of tasks (i.e., green, yellow, or red).
- Ask for and offer help where needed.
- Track schedule and budget to actual.
- Define information so you can share it with product owners and other stakeholders.

## 1. To prepare the register of the stakeholder.

| No | Name                   | Title                                       | Role                         | Power (H/L) | Interest (H/L) | Influence (H/L) | Category | Contact information |                       |
|----|------------------------|---------------------------------------------|------------------------------|-------------|----------------|-----------------|----------|---------------------|-----------------------|
| 1  | Mohammed               | Project Owner                               | Sponsor                      | H           | H              | H               | Internal | Phone No: 055       | Email: @gmail.com.com |
| 2  | Osama                  | Project Manager                             | Supervising                  | H           | H              | H               | Internal | Phone No: 056       | Email: @gmail.com     |
| 3  | Rasha                  | Sales Manager                               | Sales Expert                 | L           | H              | H               | Internal | Phone No: 055       | Email: @gmail.com.com |
| 4  | Ahemd                  | Quality Assurance (From Ministry of Health) | Inspection                   | L           | H              | H               | External | Phone No: 050       | Email: @gmail.com     |
| 5  | Abeer                  | Director of Accounting                      | Team Member                  | H           | H              | L               | Internal | Phone No: 056       | Email: @gmail.com     |
| 6  | (SR Equipment) Company | Vendor                                      | Machine and equipment vendor | L           | H              | H               | External | Phone No: 050       | Email: @gmail.com     |
| 7  | Customer               | Customer                                    | End user                     | L           | H              | H               | External | Phone No: 055       | Email: @gmail.com     |
| 8  | Saad                   | Program Analysis                            | Team Member                  | L           | L              | L               | Internal | Phone No: 050       | Email: @gmail.com     |
| 9  | Operators              | Operators                                   | Team Member                  | L           | H              | L               | Internal | Phone No: 051       | Email: @gmail.com     |

**Table13 Stakeholder Register**

## 2. To identify the personal communication and the effective communication.

Communication is directly proportional to the choice of words or its content. The more precise and crisp the content is the more effective the communication would be. It is

essential for the sender to use the correct words, phrases so that the information reaches the recipient bang on (Anuja Shekhawat, 2019).

Effective communication goes a long way in passing the correct and the desired information to the recipient and the work is accomplished without errors in a short span of time. Effective communication also nullifies the chances of misunderstandings, conflicts and errors which might crop in cases where the message is not clear (Anuja Shekhawat, 2019).

We prefer and encourage the employees in this project to communicate, speak sensibly, clearly, convey the message in clear words, not to complicate things and most importantly not to forget to crosscheck with the recipient. Effective communication will definitely help the individual to make a mark of his own and stand apart from the crowd (Anuja Shekhawat, 2019).

### 3. To identify the shapes, models, and channels of the personal communication.

|         |                                                                                                             |                                                                                                 |
|---------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Written | <ul style="list-style-type: none"> <li>• Company official letters</li> <li>• Minuets of meetings</li> </ul> | <ul style="list-style-type: none"> <li>• Emails</li> <li>• Instant messaging/texting</li> </ul> |
| Verbal  | <ul style="list-style-type: none"> <li>• Presentations</li> </ul>                                           | <ul style="list-style-type: none"> <li>• Conversations</li> <li>• Phone Call</li> </ul>         |
|         | Formal                                                                                                      | Informal                                                                                        |

#### 4. To establish the communication matrix.

| COMMUNICATION                         | PURPOSE                                                                    | MEDIUM                          | FREQUENCY | AUDIENCE                                                        | OWNER           | DELIVERABLE                           |
|---------------------------------------|----------------------------------------------------------------------------|---------------------------------|-----------|-----------------------------------------------------------------|-----------------|---------------------------------------|
| <b>Kickoff Meeting</b>                | Introduce project. Review objectives and goals.                            | In person / Face-to-face        | Once      | Project team<br>Project owner<br>Stakeholders                   | Project manager | Agenda                                |
| <b>Project Team Meetings</b>          | Review status of project                                                   | Face-to-face or Conference call | Daily     | Project team                                                    | Project manager | Agenda<br>Project plan                |
| <b>Weekly Project Status Meetings</b> | Update leadership on project status.                                       | Face-to-face or Conference call | Weekly    | Project manager<br>Stakeholders                                 | Project manager | Slide presentation<br>Project plan    |
| <b>Project Status Reports</b>         | Detailed report on project status including progress, costs, and problems. | Email                           | Weekly    | Project manager<br>Stakeholders<br>(except vendor and customer) | Project manager | Project status report<br>Project plan |

**Table 14 Communication Matrix**

#### 5. To provide 3 wrong scenarios of communication.

##### 1- Scenario 1 (Using the Wrong Communication Tool):

Set the vision and scope of team assignments through email instead of the kick off meeting.

##### 2- Scenario 2 (Saying Too Much);

Forward an email which contains sensitive information or details like the details of the budget with the vendor or customers.

##### 3- Scenario 3 (Failure to Communicate Fully):

The project manager asks the director of accounting to review the budget and the director of accounting respond by “OK”.

## 6. To develop and prepare stakeholder assessment matrix.

| Stakeholder Name       | Contact Person                         | Impact | Influence | How could the stakeholder contribute to the project?                         | Strategy for engaging the stakeholder                                         |
|------------------------|----------------------------------------|--------|-----------|------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| Mohammed               | Mobile no: 050<br>Email:<br>@gmail.com | H      | H         | Providing support whenever needed                                            | Weekly Meetings and emails that include detailed report on the project status |
| Osama                  | Mobile no: 050<br>Email:<br>@gmail.com | H      | H         | Completion and deliver the project                                           | Daily Meetings                                                                |
| Rasha                  | Mobile no: 050<br>Email:<br>@gmail.com | M      | H         | Ensure sales growth                                                          | Weekly Meetings and emails that include detailed report on the project status |
| Ahemd                  | Mobile no: 050<br>Email:<br>@gmail.com | M      | H         | Checking product quality                                                     | Weekly meetings and emails                                                    |
| Abeer                  | Mobile no: 050<br>Email:<br>@gmail.com | H      | H         | Person in charge for the financial part of the project                       | Every 2 weeks emails                                                          |
| (SR Equipment) Company | Mobile no: 050<br>Email:<br>@gmail.com | L      | H         | Coordinating with vendors and completing purchase of equipment and machinery | Weekly Meetings                                                               |
| Customer               | Mobile no: 050<br>Email:<br>@gmail.com | L      | L         | Providing feedback for the final product if any.                             | By emails whenever needed                                                     |

**Table 15 Stakeholder Assessment Matrix.**

### ➤ Stakeholders Engagement Assessment Matrix

| Stakeholder            | Unaware | Resistant | Neutral | Supportive | Leading |
|------------------------|---------|-----------|---------|------------|---------|
| Mohammed               |         |           |         | C          |         |
| Osama                  |         |           |         | C          | D       |
| Rasha                  |         |           |         | C          |         |
| Ahemd                  |         |           | C       |            |         |
| Customer               | D       |           | C       |            |         |
| (SR Equipment) Company |         |           | D       | C          |         |
| Abeer                  |         |           | C       | D          |         |
| Saad                   |         |           | C       |            |         |
| Operators              |         |           |         | C          |         |

**Table 16 Stakeholder Engagement Assessment Matrix**

## **10. Leadership**

### **10.1. To describe and identify the leadership model, which is preferred to the project leadership.**

Affiliative Leadership Style - Emotional Leadership is the leadership model that used in our project “Water Desalination Plant” is a very preferred among the project leadership models. The most important thing in affiliative leadership style that it focuses on creating personal connections between employees and their managers to build a sense of community and trust. We choose affiliative leadership style for Plant Project because the project manager like to affiliate directly with all team members as most of the team members came from functional groups to support the projects.

### **10.2 To specify the reasons for which such model is preferred.**

The first reason for choosing Affiliative Leadership Style is this type of leadership style makes the loyalty increased 70% for employees at any project. The leader in Affiliative Leadership Style pours his heart and soul to the employees. His support is a gift that employees will always treasure. The second reason is this type of leadership style makes the employees turnover decreased 54% for employees. Working with this leadership style is like a desire for everyone. Water Desalination Plant Project Manager is truly become one of the few great leaders by using Affiliative Leadership Style. The Project Manager gives the best of himself to others to support, advance and give a better prospective.

“Affiliative Leadership Style” makes employees more shine, confident and positive impact on daily work tasks”.

### **10.3. To provide “5” proposals for the motivation methods that are compatible with the nature of the project.**

The first proposal for the motivation methods that are compatible with the nature of the project is creating effective teams along with caring about the team on a personal level such

as birthday celebration, new baby born and farewell parties. The second proposal is training from Water Desalination Plant Project Manager`s side as senior level management. The training builds a high level of trust on employees even if they did something not 100% correct. The third proposal is to help the team to provide the good service and thinking together on new ideas to develop the project better in the future to maintain best quality for our customer. The fourth proposal is guiding people during 24 hours with a high level of communication. Water Desalination Plant Project Manager`s work attitude makes the team know how great leaders deal with people. The way of teaching how the team must “love and appreciate people” by allowing them to work on something they love. The fifth proposal is creating “the Star of The Month” activity. Most important is that impact of encouragement words is inspiration to the team. Water Desalination Plant Project Manager dedicated himself to provide a source of direction and light to others and do monthly assessment to pick the most effective employee which will motivate and inspired other employees to be competitive. Also, investing time and energy in our team that makes each member of our team feel respected.

## 11.Teamwork

The following RACI model, as shown in figure 6, illustrates three administrative measures for this project:

### RACI Matrix

[Water Desalination Project]

### Roles and Responsibilities

Responsible, Accountable, Consulted, Informed

|                     |                                     | ROLES                |                    |               |  |              |  |                     |                     |                           |                 |        |          |  |  |
|---------------------|-------------------------------------|----------------------|--------------------|---------------|--|--------------|--|---------------------|---------------------|---------------------------|-----------------|--------|----------|--|--|
|                     |                                     | Sponsor/<br>Owner    | Project<br>Manager | Sales Manager |  |              |  | Program<br>Analysis | Program<br>Analysis | Director of<br>Accounting |                 | Vendor | Customer |  |  |
| Deliverable or Task | Status                              | Sponsor / Leadership |                    |               |  | Project Team |  |                     |                     |                           | Other Resources |        |          |  |  |
| Phase 1             |                                     |                      |                    |               |  |              |  |                     |                     |                           |                 |        |          |  |  |
|                     | Coordination for Water Desalination | A                    | R                  | C             |  |              |  | I                   | I                   | I                         |                 |        | C        |  |  |
| Phase 2             |                                     |                      |                    |               |  |              |  |                     |                     |                           |                 |        |          |  |  |
|                     | Project Delivery Schedule           | A                    | R                  | I             |  |              |  | C                   | I                   | C                         |                 |        | I        |  |  |
| Phase 3             |                                     |                      |                    |               |  |              |  |                     |                     |                           |                 |        |          |  |  |
|                     | Project Periodic Reports            | I                    | A                  | I             |  |              |  | R                   | R                   | C                         |                 |        | I        |  |  |

|   |             |
|---|-------------|
| R | Responsible |
| A | Accountable |
| C | Consulted   |
| I | Informed    |

Assigned to complete the task or deliverable.

Has final decision-making authority and accountability for completion. Only 1 per task.

An adviser, stakeholder, or subject matter expert who is consulted before a decision or action.

Must be informed after a decision or action.

**Figure 6 RACI MODEL**

## **12. Conflict and Crises**

**Conflict** is when personalities, values, or opinions conflict with each other. In some cases, this is a natural contradiction. Crisis management is the process through which the organization deals with a major event that threatens to cause harm. Therefore, there must be logical solutions that help us advance the organizations and thus bring a clear benefit to the stakeholders or the general public. It must be recognized that conflicts are natural to human nature and can be constructive and promote better performance between individuals and do not pose difficulties in the future.

Deliberation in the role of the crisis, in general, leads us to touch a thread that leads us to the fact that the societies in which the leadership hierarchy depends on special and efficient teams in dealing with crises were more resilient and more compliant than their peers who adopted a different method represented by the improvised response and dealing in unthoughtful ways. In advance with the hotbeds of conflict and tension, which consequently led to their weakness and disintegration, and between each stage and a new stage, there is a crisis that stirs the minds, ignites the conflict, stimulates creativity, and touches on early spaces that pave the way to a new stage, often underlining the signs of another crisis and another future change. Therefore, the crisis must be studied and analyzed and try to get out. Including the least losses and delaying the subsequent crisis, if it is not possible to disrupt the project, and it must be recognized that there is a real crisis that must be resolved and confronted by forming a committee in which the project manager will study and research the crisis, or underestimate the crisis, or provide an opportunity to emerge for the necessary internal pressures, or empty the active forces of the crisis, Or emptying the crisis and finding alternative paths to it, or isolating the active forces of the crisis, or quelling the crisis and the violent and public conflict with it. Therefore, these crises are more profound on the project, and have a stronger impact, because of the clear interaction between not following the scientific methods, dealing with crises and conflicts due to ignorance of those methods,

and adhering to random and improvisational methods; Which reflects the organization's potential and capacity. Accordingly, the problem of the current study revolves around the following main question: “What is the level of application of crisis management (crisis management planning; availability of an information system; the existence of a communication system; availability of leadership skills; formation of work teams)

Therefore, solutions must be developed and activated as follows:

- Revealing the level of availability of leadership skills for team members from the project manager's point of view
- Is the level of communication in the project management appropriate so that it is easy for the project manager to communicate effectively with team members and speed up the completion with efficiency and high quality? (The impact of crises on projects by Sheikh, Saleh , October 11, 2020).

### **13.Resourcefulness**

#### **13.1 To distribute the human resources on the functions.**

| No | Name     | Title                           | Role                                                       | Contact information |                       |
|----|----------|---------------------------------|------------------------------------------------------------|---------------------|-----------------------|
| 1. | Mohammed | CEO                             | Supervising on department managers                         | Phone No: 055       | Email: @gmail.com     |
| 2. | Osama    | Purchasing manager              | Budget follow-up - contracts                               | Phone No: 056       | Email: @gmail.com     |
| 3. | Rasha    | Purchasing employee             | Prepare Pamphlet - checking factory needs                  | Phone No: 055       | Email: @gmail.com.com |
| 4. | Ahemd    | Logistics and warehouse manager | Overseeing all logistical support and inventory management | Phone No: 050       | Email: @gmail.com     |
| 5. | Abeer    | warehouse employee              | Inventory follow-up - order shortcomings in stock          | Phone No: 056       | Email: @gmail.com     |
| 6. | Hamad    | Logistics Support employee      | Support departments as needed - follow up on transfers     | Phone No: 050       | Email: @gmail.com     |

|     |          |                                 |                                                                                                      |               |                   |
|-----|----------|---------------------------------|------------------------------------------------------------------------------------------------------|---------------|-------------------|
| 7.  | Hassan   | Customer Service Manager        | Supervising customer satisfaction performance indicators - finding improvement and development plans | Phone No: 055 | Email: @gmail.com |
| 8.  | Saad     | Customer Service employee       | Follow up on customer complaints and suggestions - provide comfort to the customer                   | Phone No: 050 | Email: @gmail.com |
| 9.  | Abdullah | Director of Human Resources     | Oversight of recruitment processes - oversight of salaries and regulations                           | Phone No: 051 | Email: @gmail.com |
| 10. | Manal    | HR Officer                      | Monitor the day-to-day operations of human resources                                                 | Phone No: 055 | Email: @gmail.com |
| 11. | Mohammed | Production Manager              | Supervising production processes, monitoring and analyzing errors                                    | Phone No: 055 | Email: @gmail.com |
| 12. | Faisal   | production employee             | Work on daily production lines                                                                       | Phone No: 056 | Email: @gmail.com |
| 13. | Amjad    | Quality and performance manager | Supervising KPLs and finding improvement solutions                                                   | Phone No: 055 | Email: @gmail.com |
| 14. | Waleed   | Quality control officer         | Monitor and analyze product quality                                                                  | Phone No: 050 | Email: @gmail.com |
| 15. | Reema    | performance management officer  | Establishment of development and monitoring of KPLs                                                  | Phone No: 056 | Email: @gmail.com |

**Table 17 Human Resources on the Functions**

### **The Influences of crashing project:**

New resources may not be familiar with the tasks to be performed, so they will probably be less productive than current team members. New members will most likely have to be teamed up and led by the most productive members of the team, who could instead dedicate their time completely to the task and get it done more quickly. Being available does not mean being qualified. Sometimes the extra resources are qualified yes, but tangentially with respect to the activity, and even if the new resources have the right skills, they may not be of the same quality as the current team members. On the contrary, if new resources are over-qualified, conflicts may occur within the team.

The influences of fast-tracking a project:

Fast-tracking a project sounds great, you can perform multiple tasks together and potentially deliver before the deadline. But fast-tracking a project that's already in motion is risky. It means you'll have to rework the current schedule and communicate those changes to your team.

Running too many projects at the same time is also one of the biggest project management challenges that organizations face:

Running too many tasks at once comes with the same pitfalls. Consider the impact that multitasking has on productivity. Studies have shown that people who multitask make more mistakes and are less efficient. Slamming your team with more work than they can handle can affect their output quality. And fast-tracking only works for activities that can be overlapped. You can't fast track a new paint job until the rest of the car is built.

There's also the risk that fast-tracking a project won't affect the end date.

The critical path is the longest series of tasks through your project — It's the path that determines your final delivery date. Which means the only way fast-tracking will change your end date is if it's done to tasks on this path (aka the critical activities).

| Task                         | Timeline   |
|------------------------------|------------|
| Revenue Analysis             | 11-11-2021 |
| Zero problems List           | 11-11-2021 |
| Percentage of sales          | 30-11-2021 |
| Desaturation score           | 30-11-2021 |
| Primary water treatment list | 30-12-2021 |
| Water desalting list         | 30-12-2021 |
| Final water treatment list   | 30-01-2022 |
| Committing to deadlines      | 01-02-2022 |
| Accepted deliverables        | 01-02-2022 |
| Final report                 | 20-02-2022 |
| Data analysis                | 20-02-2022 |
| Archive documents            | 15-03-2022 |
| Handover                     | 15-03-2022 |
| Operational status           | 01-04-2022 |

**Table 18 Fast Tracking**

| Task                         | Timeline   | Resources                       |
|------------------------------|------------|---------------------------------|
| Revenue Analysis             | 11-11-2021 | Revenue analyst / budget        |
| Zero problems List           | 11-11-2021 | Expert / budget                 |
| Percentage of sales          | 30-11-2021 | Sales Expert / budget           |
| Desaturation score           | 30-11-2021 |                                 |
| Primary water treatment list | 30-12-2021 |                                 |
| Water desalting list         | 30-12-2021 |                                 |
| Final water treatment list   | 30-01-2022 | Water treatment Expert / budget |
| Committing to deadlines      | 01-02-2022 |                                 |
| Accepted deliverables        | 01-02-2022 | Quality Expert / budget         |
| Final report                 | 20-02-2022 |                                 |
| Data analysis                | 20-02-2022 | Data analyst / Budget           |
| Archive documents            | 15-03-2022 |                                 |
| Handover                     | 15-03-2022 |                                 |
| Operational status           | 01-04-2022 |                                 |

**Table 19 Crashing**

## **14.Negotiation**

### **14.1 General Rules of Negotiation**

**Negotiation** is resorting to compromise solutions that satisfy the two parties in a specific place and date, and the parties' opinion is neutral so that one of the parties does not take sides with the other and thus takes the main issue for which we came to another topic, while it is almost impossible to avoid conflict, the ability to negotiate how to solve it. It is a useful skill that must be trained to achieve the desired goals, which we sought for. Therefore, it is necessary to enable negotiation skills to achieve stronger relationships with stakeholders and better relations with customers and in general a stimulating work environment, so the

negotiator had to make some efforts in preparing for negotiation and to be prepared. The reaction from the other sides may be a bit difficult and embarrassing because it is unlikely that everything will be discussed and resolved in one meeting. The negotiations must take a long time. (Tuccinardi, R. (1999). Athena).

The 10 Rules of Negotiation are: 1. Don't (unless you need to), 2. Never negotiate with yourself, 3. Never accept their first offer, 4. Never make the first offer (if you can avoid it), 5. Listen more and talk less, 6. Never give free gifts, 7. Always watch for the salami, 8. Don't fall for the rookies regret, 9. Always avoid the quick deal, 10. Never reveal what your bottom line is (or was).

#### **14.2 Negotiation Plan:**

Draft a negotiation plan. Contents may vary based on activity requirements, but the plan should include information such as the following:

- Background (e.g., contract, contractor, and negotiation situation);
- Major and minor negotiation issues and objectives (Both price and non-price);
- Negotiation priorities and positions on key issues (Including minimum, objective, and maximum positions on price); and
- Negotiation approach.

Review the Plan. Review the negotiation plan with key negotiation team members.

Plan1: Maximizing mutual benefit

Seeks to find acceptable alternatives and solutions for all parties to the negotiating process, develop cooperation, deepen the existing relationship, expand the scope of negotiations and extend them to new areas.

Plan 2: Procrastinate

These work to procrastinate and gain time and miss the opportunity in order to disrupt the negotiations or prolong them considering that time will be the most influential factor in the issue or problem under negotiation as well as during the negotiating process and its administrations.

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