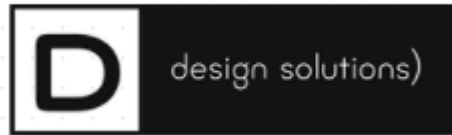


## Interior design company project (Design Solutions)



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### **Abstract:**

This project aims to develop a decoration office, where the project will work on the design and implementation of many various works for interior design, by delivering the most recent worldwide decoration designs. This is accomplished by relying on highly trained and experienced engineers for all design, finishing, and decorative work, as well as the highest levels of professionalism in interacting with consumers. The idea is also centered on the incorporation of new concepts into the interior designs of all villas, flats, enterprises, exhibits, as well as stores, restaurants, pharmacies, and others, via the use of creative designs. The most important finding of this study the availability of many different services and the diversity and distinction of services within the project. Providing clients with high-quality technical advice. Follow the best way to deal with customers. Rely on experts, technicians, and engineers who have the highest ability, experience, and professional level. We found that one of the most important proposals that benefit the project :.Activating the role of economic feasibility studies as a scientific method in investment decision-making, through the establishment of consulting companies under the supervision of specialists and experts in this field. It is necessary to work to raise awareness among investors and businessmen through courses and scientific symposia to show the importance of economic feasibility studies as a means to the success of their projects, and to reduce the risks in the completion of the project. We suggest that the concerned authorities provide researchers and specialists in the field of feasibility studies with data and accurate and modern statistics that help to reach conclusions and rational decisions to reduce risk. Paying attention to the marketing aspect by developing an integrated and detailed promotion plan through agreements in cooperation with research centers.

## 1. Introduction

The vision of the Kingdom of Saudi Arabia for the year 2030 reinforced the focus on paying attention to various different and diverse fields. The vision also focused on paying attention to the field of oil only, through the Kingdom of Saudi Arabia undertaking the planning process and providing financial spending in order to establish residential and commercial projects, which these projects need in the field of interior design. The Kingdom of Saudi Arabia is considered the center of the largest market for construction operations in all the countries of the Middle East, which represents the largest market based on the field of interior design, which represents a market share of about (3.5) billion dollars.

Many specialists in the field of decoration and interior design confirmed that this field achieves high profitability in the local Saudi market. This results from the large financial capabilities of all institutions that make them able to spend significantly on improving and renewing their facilities and features, as well as opening many other branches, which makes this a great and important opportunity to enter the field of interior and exterior design and others.

### **Project idea**

The idea of the project depends on preparing and equipping an office for decoration, as the project works on designing and implementing many diverse works for interior design, by providing the latest international designs for decorations. This is done by relying on highly experienced and skilled engineers in all designs, finishing and decoration works, as well as the highest degree of professionalism in the process of dealing with customers. Also, the project is based on implementing new concepts in the interior designs of all villas, apartments, companies, exhibitions, as well as shops, restaurants, pharmacies, and others, through the application of designs on a technical basis.

### **Project Services**

The project is based on providing many distinguished services to clients, which are as follows:

#### **First: Basic Services:**

- World-class interior and exterior design.
- Modern finishes and the latest decorations.
- Technical and design consulting.

#### **Second: Technical Services:**

In light of the interest in social networking sites and internet networks in the current era, the project provides technological services in order to facilitate services for customers, which are as follows:

- Creating an official website for the project, which is one of the important means in order to increase the interests of customers.
- Providing the possibility of communicating with the company through an electronic application for the project.

#### **Third: Financial Services:**

“Mashrooat Project” offers many facilities for the payment process for the company's clients, which are as follows:

- (1) The possibility of paying in the form of (cash): through the following means:

- Immediate payment in cash.
  - Electronic payment through the use of (Visa).
  - Electronic payment via (Apple Pay).
- (2) The possibility of paying in installments (instalments): by the following means:
- Installment through banks.
  - Installment through financing checks.

#### **Fourth: Supplies:**

The procurement process is divided into two parts:

- (1) Internal supply.
- (2) External supply, which is represented in:
  - Construction tools.
  - Furniture.
  - Kitchens
  - Electrical Tools.
  - Plumbing Tools.

### **1.1 Strategy**

#### **1.1.1 Company vision:**

We look forward to creating a globally recognized, sustainable and attractive interior design company that provides the latest innovative designs and high-quality finishes.

#### **1.1.2 Company Mission:**

We aim to continue utilizing our many years of professional experience to consistently provide exclusive design services that achieve the complete satisfaction of our partners and clients' requirements.

This vision has been the core of our history and the cultural value of design and it remains the key to our horizons.

#### **1.1.3 Company objectives**

- 15% growth in sales during the first fiscal year
- 200 new customers during 2022
- Create a rewarding and valuable experience that combines functionality, high quality and innovation for our customers. We want the experience of every partner and customer to be modern for life, by applying the following points:
  - Introducing a sophisticated and durable design.
  - Exclusive design and feel for our signature classic interiors.
  - Create well-designed exteriors and interiors built with the highest quality materials to last.
  - Create and integrate designs with unique features that the customer cannot get from the competition.
  - Our creativity and smooth driving service, that's why we don't compete in the market in price.

#### 1.1.4 Performance measurement indicators:

Performance indicators are a set of qualitative and numerical indicators and values that we may use to evaluate the performance of everything that happens in the organization, evaluate the performance of people in the firm, departments, plan, or review objectives and tasks, and so on.

Performance indicators, also known as key performance indicators (KPIs), are one of the most important pillars of management and planning, as well as the most essential means of ensuring the achievement of our goals in our company, Design Solutions and assisting with focus, not distraction, and constant attention.

These indicators are critical in assessing the performance of employees, the performance of the firm, the performance of plans, the performance of programmers and technologies, and everything else that requires review and follow-up at the company in general. As a result, performance assessment indicators are one of the most essential pillars in the company's administrative, planning, and executive operations.

Determining Performance Measurement Indicators in Design Solutions Company:

Performance measurement indicators can be divided into several types, according to the indicator:

**Numeric:** Related to a number, for example, Getting 50 new customers during the current year.

**Qualitative:** related to things that cannot be measured in number, such as the improvement of the performance of employees in the company.

It can be divided according to Company Divisions:

Such as indicators of human resources management, indicators of management and indicators of marketing department.

It can be divided according to the Balanced Scorecard:

Indicators related to clients, indicators of internal operations, indicators of the financial dimension.

It can be divided according to denomination:

Performance measurement indicators, key performance measurement indicators, results measurement indicators.

For this, we must determine the appropriate division with the objectives of our plan and the vision and type of our organization, as all types lead to one result, which is the ability to monitor, evaluate and follow up on the course of operations and the plan of the company.

### **1.1.5 Project charter model:**

We can define a project charter as the process of creating a document that gives official permission to launch the project and also gives the project manager or company the authority to start using project resources.

As the project charter template is the special document and the approved reference for project managers and professional companies who do not accept and cannot do their role and powers without it, as it is the ambiguous document that many wondered why we need it in our company, what is its nature and how we write it, and even they differed in the way it is translated, some of them Some said it is the charter, some said it is the basic document, and some said otherwise.

The project charter template in our company, Design Solutions, consists of the inputs, which are the things that must be taken into account, that is, the things that must be available to our company to be able to start this process.

The project charter of our company, Art Décor, especially if the project is a direct contract, you and the client may agree to create a special decoration for his villa, or to install a network for him, often when he asked you for this, he gave you a description, gives you the work items and sometimes we call it the agenda items or a work description, etc.

### **Selection and appointment of the project manager**

#### **Project manager skills and characteristics:**

The project manager is one of the most important elements that influence the success of projects. Therefore, we aim to attract and hire a project manager with a set of skills to be met. These skills are represented in cultural and social skills through the availability of the following points <sup>(1)</sup>:

- Leadership skill: where the project manager is able to manage and lead the employees in order to manage the work in an accurate and correct manner.
- Negotiation skill: through the ability to deal with customers and to have the language of bargaining and tact in speaking.
- The skill of inclusion in teamwork: to be characterized by the ability to provide an appropriate work environment that promotes and encourages teamwork, which helps to save time and effort in accomplishing various and diverse tasks at work.

#### **Main tasks of the project manager**

The main tasks of the project manager:

There are some basic tasks and responsibilities that are assigned to the project manager, which are represented in the following points:

- Preparing the estimated budget for the initial project costs.
- Preparing a preliminary schedule for all the tasks and activities that the project will implement.

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<sup>1</sup> Muhammad Al-Amri, Choosing a Project Manager, Project Management, Encyclopedia of Success Skills Articles, (2012). <https://sst5.com/Article/1681/56/-The-Project-Manager>

- Attracting and assigning employees to the project.
- Preparing a list of all the resources and materials needed for the implementation of the project.

### **Project Budget**

The establishment of the interior design project depends on a source of financing (personal financing), as the project budget is estimated at about (300,000) Saudi riyals. The ownership of the company is divided equally between two partners in an interior design company project, meaning that each partner has a share equal to (50%) of the profits and losses.

### **Expected timetable for project implementation:**

Work to implement the project within a month (30) days, and the tasks and work to be implemented during this month are clarified through the following table <sup>(2)</sup>:

## **1.2 Governance, Structure, and process**

### **1.2.1 Organizational structure for the teams and units of the project vision:**

The development of the Organizational Chart in our company contributes to the achievement of many goals that in total contribute to achieve the company's vision and goals as The effective organizational Chart contributes to identify the important functions for the implementation of goals by unifying and coordinating the efforts of employees and directing them to move in one direction toward achieving these goals in Design Solutions Company.

The organizational guide is a working document through which defining the frameworks that the administrative levels in our company operate through, with a clear identification of responsibilities, tasks and limits of powers for the different jobs at each administrative level, where our company must work to update its organizational guide continuously, especially in the following cases:

- Changing strategic directions in Design Solutions or its operating business template.
- Creating new positions due to the change of the company's business.
- The occurrence of major changes in our company, for example, such as adding new activities and removing or redistributing some tasks and duties.
- Rebuilding the internal organizational Chart of the various departments.

The Form of the Organizational Structure in Our Company Design Solutions:

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<sup>2</sup> Sameh Muhammad, Timetables, Administration and Industrial Engineering website, (2008).  
<https://samehar.files.wordpress.com/2008/11/gantt.pdf>

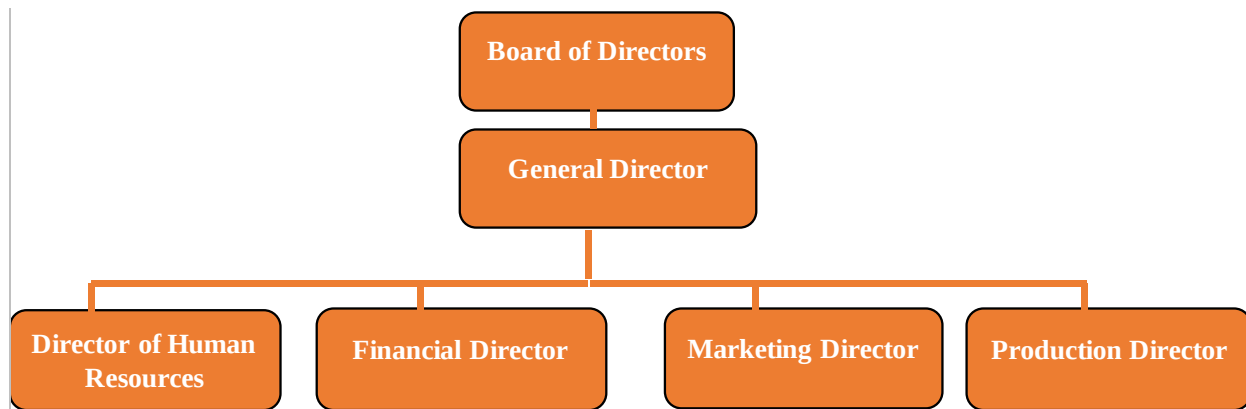


Figure #1

### 1.2.2 Practical and scientific bases, adopted in developing the structure:

- **Determine the Main Objectives of Our Company:**

The first step in the process of organizing and determining the foundations in developing the organizational structure is to know the main and subsidiary objectives of our company, as the process of setting objectives greatly helps in determining organizational needs and in preparing the appropriate organizational structure for the company.

- **Determine What to Do:**

The second step in the process of organizing and determining the foundations in the development of the organizational structure is to study the mission of our company, Design Solutions, as these tasks are the means that lead to achieving the objectives.

- **Business Allocation and Distribution:**

The third step is to determine how to divide the work to be done in the company, and to group the various activities into organizational units appropriate to the company's resources, potential, and conditions.

- **Determine the Competence of Each Organizational Unit:**

The competence of each organizational unit must be determined, and the job description must be assigned to each job in the organizational unit in the company, as this requires determining the tasks, duties, and responsibilities of each job, as well as the scope of control for each administrative center separately, i.e. the number of individuals who are directly related to the director.

- **Determine the Necessary Authority:**

In this step, the extent of authority to be delegated to the directors in the company is determined. For example, the marketing director may decide to give the sales officer the authority to sell on the account, not exceeding \$500, and anything more than that must be contacted and consulted with the director in this regard. We must also determine appropriately the relationships of authority and responsibility between the various organizational units,

and achieve coordination between the various departments and administrations, to focus efforts and eliminate overlap and duplication of work.

### 1.2.3 Project's office model:

It is one paper or more or an electronic page that includes fixed information that needs to be completed through spaces that are next to it or below it to be filled in so that the fixed information has a specific meaning.

An Example of an Employee Information Form in Our Company:

|                                      |                                       |                    |
|--------------------------------------|---------------------------------------|--------------------|
| Model No. 5                          | Personal Information                  | Personal Data Form |
| Photo                                |                                       |                    |
| Name: .....                          |                                       |                    |
| Nationality: .....                   |                                       |                    |
| Date of Birth: .....                 | Place of Birth: .....                 |                    |
| National ID No.: .....               | Place and Date of its Issuance: ..... |                    |
| Profession: .....                    | Education: .....                      |                    |
| Passport No.: .....                  | Place and Date of its Issuance: ..... |                    |
| Job Title: .....                     | Job Number: .....                     |                    |
| Marital status: .....                |                                       |                    |
| Department of Administrative Affairs |                                       |                    |

Figure #2

## 2.1 Governance, Structure, and process:

### 2.1.1 Check compliance model:

**Compliance form to verify receipt of project outputs:**

A mini-model has been adopted by UAT "test acceptance user" and this model is used in the closing stages and to ensure compliance with the requirements in electronic applications or operating systems

Table#1

| To measure compliance is to assess compliance | Compliance assessment |   |   |
|-----------------------------------------------|-----------------------|---|---|
|                                               | 1                     | 2 | 3 |
| File download speed                           |                       |   |   |
| speed of arithmetic operations                |                       |   |   |
| Colors of the main page of the program        |                       |   |   |

|                                                               |  |  |  |
|---------------------------------------------------------------|--|--|--|
| The program supports the Arabic and English languages clearly |  |  |  |
|---------------------------------------------------------------|--|--|--|

Excellent 1, acceptable 2, needs improvement 3.

### 2.1.2 Check List model (Start- Plan- Achieve- Close):

The checklists were divided according to the project life stages into four sections:

- Checklists in the "Getting Started" phase

**Table#2**

| To be verified |                                                                                            | yes | no |
|----------------|--------------------------------------------------------------------------------------------|-----|----|
| 1              | Alignment of the objectives of the program with the vision and mission of the organization |     |    |
| 2              | Is the budget clearly defined                                                              |     |    |
| 3              | Is the feasibility study realistic for the program                                         |     |    |
| 4              | Have all team members agreed to the project charter                                        |     |    |
| 5              | Have all legal limits for work been clarified                                              |     |    |

- Checklists in the "planning" stage

**Table#3**

| To be verified |                                                                                                    | yes | no |
|----------------|----------------------------------------------------------------------------------------------------|-----|----|
| 1              | Was WBS done for the project                                                                       |     |    |
| 2              | Is the completion time of the activities consistent with the date specified in the project charter |     |    |
| 3              | Is the allocated project budget the same as the considered budget                                  |     |    |
| 4              | Are the human resources in the organization sufficient for the project                             |     |    |
| 5              | Has the project scope been approved by the senior management                                       |     |    |
| 6              | Has the team charter been established and approved                                                 |     |    |
| 7              | Have the previous lessons been used in other projects                                              |     |    |

- Checklists in the "achieve" phase

**Table#4**

| To be verified |                                                                                                        | yes | no |
|----------------|--------------------------------------------------------------------------------------------------------|-----|----|
| 1              | Have the necessary permits been obtained from the Ministry of Commerce                                 |     |    |
| 2              | Have the necessary permits been obtained from the Communications and Information Technology Commission |     |    |

|   |                                                                                                |  |  |
|---|------------------------------------------------------------------------------------------------|--|--|
| 3 | Have the necessary approvals been obtained from the ios & android operating systems            |  |  |
| 4 | Is the risk response plan effective                                                            |  |  |
| 5 | The number of risks encountered in implementation is close to the number monitored in planning |  |  |
| 6 | The amount of change between planning and execution                                            |  |  |
| 7 | Quality compatibility with international standards in quality                                  |  |  |

- Checklists in the 'Close' stage

**Table#5**

| To be verified |                                                                       | yes | no |
|----------------|-----------------------------------------------------------------------|-----|----|
| 1              | Have all required outputs been delivered                              |     |    |
| 2              | Has the risk register been updated to include all risks               |     |    |
| 3              | Were lessons learned recorded                                         |     |    |
| 4              | Have the needs of the program been reviewed by the product management |     |    |

## 2.2 Power & Interest:

### 2.2.1 Stakeholder register groups:

Those involved in the project were divided into two main lists:

#### **Inner group:**

- 1- IT manger
- 2- Risk manger
- 3- Quality manager
- 4- Project manager
- 5- Executive manger
- 6- Financial management of the organization
- 7- Design experts

#### **External group:**

- 1- Communications Commission
- 2- Ministry of Commerce
- 3- Application development company
- 4- Customers
- 5- Operating systems hosting the application

### 2.2.2 Two networks: (Strength/Interest) and (Influence/ Strength):

|                                                          |                                   |                 |
|----------------------------------------------------------|-----------------------------------|-----------------|
| B<br>Shareholders<br>Designers & engineers               | A<br>Employees<br>Clients<br><br> | High importance |
| C<br>Business Owners in<br>governmental<br>organizations | D<br>government Authorities       | Low importance  |
| Low influence                                            | High influence                    |                 |

Figure #3

### 2.2.3 Stakeholder register:

| Position                | Contact information                        | Communicator   | Internal<br>/<br>external | The<br>influence | Interest | Communication<br>Method                            |
|-------------------------|--------------------------------------------|----------------|---------------------------|------------------|----------|----------------------------------------------------|
| IT MANGER               | IT MANGER@DESIJNSOLUTION.COM               | Project manger | Internal                  | Normal           | high     | direct - Email<br>- connection<br>official contact |
| RISK<br>MANGER          | RISK MANGER@DESIJNSOLUTION.COM             | Project manger | Internal                  | Normal           | high     | direct - Email<br>- connection<br>official contact |
| QUALITY<br>MANAGER      | QUALITYMANAGER@DESIJNSOLUTION.COM          | Project manger | Internal                  | Normal           | high     | direct - Email<br>- connection<br>official contact |
| PROJECT<br>MANAGER      | PROJECT<br>MAANAGER@DESIJNSOLUTION.COM     | Project manger | Internal                  | Normal           | high     | direct - Email<br>- connection<br>official contact |
| EXCUTIVE<br>MANGER      | EXCUTIVE MANGER@DESIJNSOLUTION.COM         | Project manger | Internal                  | Normal           | high     | direct - Email<br>- connection<br>official contact |
| Financial<br>management | Financial<br>management@DESIJNSOLUTION.COM | Project manger | Internal                  | Normal           | high     | direct - Email<br>- connection<br>official contact |

| of the organization |                           |                |          |        |      |                                                    |
|---------------------|---------------------------|----------------|----------|--------|------|----------------------------------------------------|
| Design experts      | Design@ DESIJSOLUTION.COM | Project manger | Internal | Normal | high | direct - Email<br>- connection<br>official contact |

Table#6

## 2.3 Culture and Values

### 2.3.1 Culture of the organization:

The company benefits from having a professional and creative team with expertise and knowledge of various cultures, which provides a more comprehensive and creative view of the designs that the company is implementing, in order to ensure the application of the company's basic principle based on providing many distinctive designs that are characterized by sophistication in their style, which will contribute to this in achieving its competitive advantage among all subsidiaries of this field.

### 2.3.2 Organization's values:

There are some of the most advanced and superior quality principles and standards in every exterior and interior design of the project by applying the following:

- Act with integrity, by providing honest and transparent processes from start to finish.
- Commitment to providing the latest and best designs.
- It is seen as a reputable, high-profile company.
- Keeping our promise.

## 3.1 Self-reflection and self-management

### 3.1.1 "3" personal behaviors of the student:

The largest challenge that faces project managers is falling in mental/physiological issues that encounter more problems while executing projects.

Most important issue is personal behaviors that he practices in the early stages that impact all parts of project phases as well as results.

These behaviors are as follow:

1. Personal bias to decisions in any project phases.

2. Negligence in looking to aspects from previous projects that could affect the execution of current project.
3. Improper selection of project team member.

### **3.1.2 Study of behavior and reasoning:**

Project managers might take personal bias without taking in consideration other opinions which lead to deficiencies dealing with problems generated either in planning, estimation or execution the projects which could result in failing the project.

**Main reasons behind these behaviors might be because:**

- a. Over self-confidence
- b. Lack of trust in others/team members.
- c. Afraid of failure.
- d. Character/personal issues.

**To avoid such behaviors, there must be the following:**

- a. Proper selection of project manager.
- b. Considering potential results for such behaviors from previous experience.
- c. Activate the monitoring on the decisions making process to ensure better results and alignments.

Appropriate planning is one of the phases to protect from failing in executing the project. Neglecting this part will lead to undesirable results and eventually to project failure.

**Main reasons behind this behavior might be because:**

- a. Lack of information due to unenthusiastic efforts.
- b. Unclear vision because of absence of proper search of risks & costs.
- c. Lack of experience and missing lesson learnt from previous projects.
- d. Lack of understanding of projects scope and deliverables.

**To avoid such behaviors, there must be the following:**

- a. Design proper template for all project's processes & procedures and to be audited frequently.

- b. Review and audit the planning activity be expert if needed.
- c. Review of previous projects and their final reports if applicable.

One of critical decisions the PM must make is selection of project team members. If the selection was not appropriately taken place, this will lead to unpleasant results.

**Such selections will lead to the following:**

- a. Conflicts between project team members.
- b. Lack of cooperation, support and transparency.
- c. Overwhelm specific member with activities as a result of his good performance.
- d. Lack of experience leading to difficulties completing the tasks.

**To overcome such behaviors, the following should be considered:**

- a. Proper selection based on the knowledge, experience and commitment.
- b. Communication mechanism to be identified for following up activities progress.
- c. Set SMART KPI's to evaluate performance.

### **3.1.3 Self-professional assessment:**

It is a strategic analysis plan in several areas such as business management and human development, and we divide this analysis as I wrote the four letters in English into S-W-O-T, and it can be defined as follows:

- Strength: the strength elements in the project that distinguish it from other projects.
- Weaknesses: Weaknesses in the project.
- Opportunities: which can come from outside the project and may lead, for example, to increased sales and also can lead to increased profits.
- Threats: They can come from outside the project and cause disturbances to the project.

Figure #4



| SWOT                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Opportunities:</b> <ul style="list-style-type: none"> <li>• Empowering and increasing the number of working engineers which is related with Vision 2030.</li> <li>• Technical excellence with modern service in the field of design and engineering.</li> </ul>                          | <b>Strength</b> <ul style="list-style-type: none"> <li>• Providing consulting services to various geographical regions through a unified platform.</li> <li>• Multiple designers participating to present different works.</li> <li>• The advantage of quick communication with the customer due to the presence of an effective communication system with customers.</li> </ul> |
| <b>Threats</b> <ul style="list-style-type: none"> <li>• Unwillingness of customers to deal with the platform and loss of confidence due to the newness of the platform.</li> <li>• The possibility of electronic loopholes in the system, which leads to slow service provision.</li> </ul> | <b>Weaknesses</b> <ul style="list-style-type: none"> <li>• Not having sufficient experience in launching consulting services through an existing platform, and this may lead to poor quality.</li> <li>• The inability to provide services to all customers, especially to remote areas and villages, due to the geographical dimension.</li> </ul>                              |

Figure #5

### 3.2 Personal integrity and reliability

#### 3.2.1 “3” behaviors that contradict moral integrity:

Embezzlement, forgery, and altering data.

#### 3.2.2 Analysis of financial, social, and technical influence:

##### **Financial Behaviors:**

- a. Excessive cost due to delay of timely delivery.
- b. Financial responsibilities/commitment to overcome problems during execution.

##### **Technical Behaviors:**

- a. Impact on efficiency of all project activities due to lack of moral contradictions.

##### **Social Behaviors:**

- a. Loss of trust from customer.
- b. Loss of reputation.

### 3.3 Personal communication

#### 3.3.1 Register of the stakeholder:

The stakeholder register is used to identify those individuals and organizations that will be impacted by the project and to record pertinent information about each stakeholder. Name, position in the company, role in the project, contact information, list of important stakeholders' requirements, list of stakeholders' expectations, possible influence on the project, and categorization or rating of each stakeholder are all examples of related information. A registry of stakeholders is a living project document.

Throughout the project, stakeholders' levels of effect, requirements, and classification are likely to vary. You will not have enough information to finish the registration at first. As the project progresses, you will obtain more information and a better knowledge of each stakeholder's needs, expectations, and effects, as well as a stronger stakeholder record. The information in the stakeholder registry must be tailored to the project's requirements. Some initiatives, for example, may have both internal and external stakeholders, whilst others may only have internal stakeholders. The sample below is only one method for finding and recording stakeholder information. The stakeholder register receives information from the following sources: the Project Charter, and Procurement Documents, which are linked to the stakeholder

analysis matrix, and provides information to the following sources: requirement documentation, Quality Management Plan, Communications Management Plan, Risk Management Plan, and stakeholders Register.

Identifying project stakeholders is critical in project planning and management because it is linked to several project inputs and outputs. The key benefit of this process is that it allows the project manager to determine the appropriate focus for every project stakeholder or group of stakeholders.

It is critical for a project's success to identify those engaged early in the project or phase and examine their degrees of interest, individual expectations, and relevance and influence. This initial evaluation must be evaluated and updated on a frequent basis with a wide range of stakeholders depending on size, kind, and complexity. Although the project manager's time is limited and should be used as efficiently as possible, stakeholders must be classified based on their interests, influence, and participation in the project, keeping in mind that the impact or influence of the project in question may occur or become apparent only at the end of the project or phase. This allows the project manager to focus on the relationships needed to ensure success, this is through project-specific inputs:

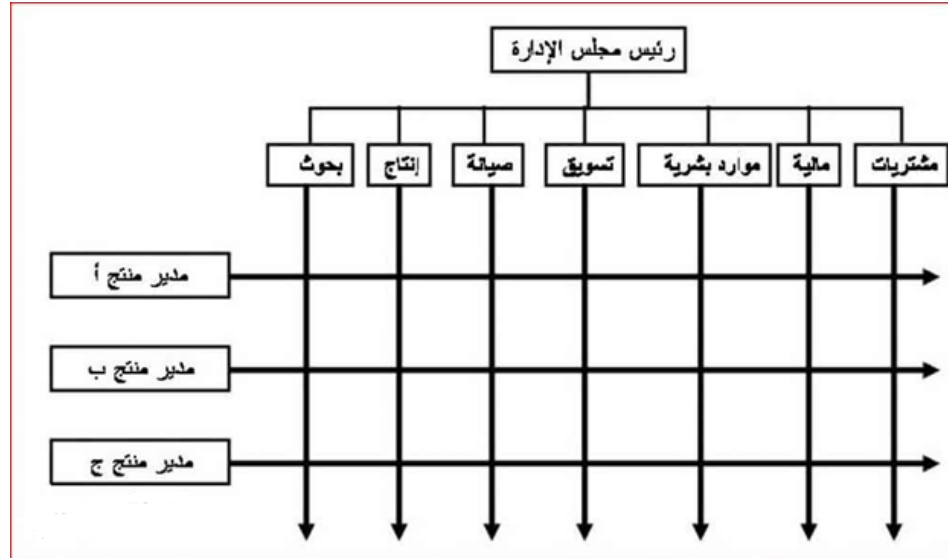
1. **Project charter:** Provides the necessary information about internal and external parties associated with the project that are affected by the project result or implementation such as the project manager, workers, department managers, groups involved in the project, and other individuals or organizations affected by the project.
2. **Procurement documentation:** The project (application of furniture) is the result of procurement activity and the parties in the contract are the primary stakeholders in the project. Other connected parties such as suppliers should be considered part of the project list.
3. **Factors surrounding a project that may affect the process of identifying those involved in a project include, but are not limited to, the following:** (Regulatory structure, culture, regulations, building standards and specifications, government, or industry standards)
4. **Sources of the organizational process:** The sources of the organizational process influence the process of identifying those involved in the project, and the previous stages of implementation and the records of those involved can be used from previous projects.

**Steps for analyzing the concerned:**

- Identify who is involved in the project and what information is relevant to them (their roles, departments, interests, knowledge, expectations and influence or decision-making capacity). It is usually easier to identify the key project stakeholders. Most affected by the project's consequences are the managers and main client, and the other stakeholders can be identified from a managerial position during the interview of the concerned and the list expanded until all potential stakeholders are included

- Analyze and classify the potential impact or support provided by project professionals so that the appropriate strategy is identified and in the larger context for the project concerned and prioritize to ensure that the effort is effectively utilized to manage and communicate their expectations.

- Assess how key stakeholders respond or react in a variety of situations to plan how they can influence them to improve their support and mitigate potential negative effects.



**Figure #6**

The identification of project stakeholders results in some outputs (the stakeholders' registry) and includes all details related to the specific stakeholders including, but not limited to, the following:

- **Identification information** (name, job position, location, project role, contact information, Assessment Information most important requirements, Key expectations, expected degree of impact, Phase in the most important lifecycle.)
- **Project classification internal and external, supporting/neutral exhibits etc.** consult and update the stakeholders' record regularly as stakeholders may change – or identify new stakeholders. Throughout the life cycle of the project

The concerned management plan is therefore a component of the project management plan and identifies the management strategies required for effective participation by stakeholders, which may be formal, informal, or concise in broad headings or detailed project needs as well as data collected in the respective registry.

### 3.3.2 Personal communication:

The information must be shared among the project stakeholders through several communication methods, categorized as follows:

**Push calls:** They are delivered to selected people who require the information. This strategy assures that information is transmitted, but it does not guarantee that it is received or comprehended by the target audience. Letters, memoranda, reports, emails, faxes, voice mail, BLOGS, press releases, and so on are examples of this sort. Customer reports are delivered to keep the project owner up to date on the project's development.

**Attract communications:** Used with large amounts of information or with very large audiences and requires recipients to access communications content at their own discretion. These methods include websites, e-learning, lessons learned bases, knowledge stores, and others. An example of such contacts was a request from the consultant or designer for technical aspects of the project.

**Interactive communication:** Two or more parties that conduct multi-directional information exchange. This is the most effective method of ensuring a common understanding by all participants on specific topics and includes meetings, phone calls, instant messaging, video conferences, etc. such as contact by implementation team members or senior management.

Project stakeholders may need to discuss, agree, and approve the choices of communications methods used with any project based on communications requirements, cost, time and knowledge limitations, and the availability of the required tools and resources that may be used in the communications process.

Meetings are a mechanism of communicating with the project team through chat and dialogue to establish the best approach to update and disseminate project information and to answer to requests for such information from various stakeholders. Face-to-face, online, and in other venues, such as discussion and dialogue sites, these are typically handled through meetings, and most project meetings entail meeting stakeholders with the aim of solving problems or making decisions. Although informal discussions are considered meetings, most project meetings are more formally organized with a pre-planned time, space, and agenda, meeting minutes, and other standard documented information, and a specific list of issues to be discussed and distributed in advance specifically for the meeting. This information is subsequently sent as needed to other suitable stakeholders, and the Communications Management Plan is a component of the project management plan that specifies how project communications are planned, coordinated, followed up on, and altered. The following information is included in the plan:

#### **Contact requirements for stakeholders**

- Information to communicate, including language, format, content, and level of detail
- Why this information was distributed

- The time frame and frequency with which information is distributed and an acknowledgment of receipt or response is received by the person responsible for delivering and communicating the information
- The person responsible for authorizing the publication of confidential information
- The person or groups receiving the information
- Methods or techniques used to communicate information such as memos, email and/or data
- Active assigned resources Communications including time and budget
- The escalation process that defines the time frames and the name series (administrators who are involved in the escalation of problems that cannot be resolved at the lower level of the job.
- How to update and revise the communications management plan as the project develops and progresses
- Glossary of common terms
- Project flow maps and workflows with a potential hierarchy of delegation, report list, meeting plans, and other communication restrictions usually derived from specific regulations or legislation, technology policies, regulatory policies, etc.

#### **Effective personal communication of projects:**

It is a complex creation of furniture application and the reliability of software development, there must be healthy and effective relationships between people working together because communication is not enough, so many decisions are shared and a lot of work is done collaboratively, and if good relationships are not available, any available amount of communication will not be important.

Project managers are obviously more accountable for good communication than other members of the team since they spend so much time speaking with people and groups. A good project manager provides continuing resources of excellent communication and health relationships, considerably boosting the effectiveness of everyone with whom they interact.

This does not necessitate a person who only works in contact with people, the gamer's character, amazing wit, or magical skills that may be useful.) It begins with acknowledging that communication and relationships are crucial to success and that you will want to understand where most communication difficulties arise and how to deal with them. this following list covers several communication difficulties, briefly analyses why they arise, and gives some basic strategies to avoid or address them.

"We are not in a position to do so," he said, according to the Washington Post

**Hypothetical:** For example, when a businessperson asked why he did not send e-mail, it assumed that he knew what he was supposed to do, that he knew when he was supposed to send it, and that he knew what it was inside. They should also somehow notify you that they have done so. Good communication before reproaches that person involves making these assumptions clear that good communication usually clarifies assumptions during discussion of key points, e.g., when contacts are made, and confirms them back before the deadline.

In addition to the fact that it is not possible to use the new technology, it is not possible to use the new technology to create a new system of technology that will enable it to be used to create a new system of technology. Look for a story or analogue to give a rough framework that people can follow. Add detail to a stage where you don't need to be like it

In the first place, it is the first time that we have been in the United States that we are in the process of being a member of the United States. You must accept the possibility that they know something important that you don't. Your goal is not to force them into a site, but to achieve the best possible project result

**Dictation:** People who give orders to others are simply. They do not explain information or questions about the matter or respond to it with cynicism, and the reasons for those decisions are clear and have not been unexplained that the issuing of orders is timely but should be an exception. Instead, he struggled to make decisions in an environment where people had the right to ask good questions, suggesting challenges for what you considered logical

**Conflict of problems:** Communication can convince many other problems and is the only case where others can show their feelings about other things. What comes in response to a request can be an expression of feelings that are not related to the request

**Attacks Personal considerations:** When a party moves the debate away from the subject and toward an individual, situations turn into personal matters. This is called personal attacks. This is not fair to the other because it requires him to defend his opinion as well as his personal behavior. Personal attacks are cheap methods, with many different forms. The person who launched her often feels hurt and sees an attack as the only way to win controversy. It is then up to a more mature person to intervene and resolve the dispute.

### 3.3.3 Shapes, models, and channels of personal communication:

Good communication with stakeholders ensures a successful project, and the communication plan is often completed before the start of the project and communication methods include the following

- Oral communication
- The language of the body that expresses messages
- E-communication and written communication like using e-mail. Etc.

The content and views of the message are more important than the communication method itself and formal meetings may be an important part of the communication process, but they must be managed correctly and practically on a project, and it can only be time consuming, such as meeting.

### 3.3.4 Communication matrix:

Effective communication is one of the most important elements and requirements for the success of the project, regardless of its objectives or the field in which it operates, because effective communication methods and tools would improve cooperation among team members, facilitating information delivery and saving time and effort in correcting errors caused by misunderstanding or lack of access. Stakeholders will receive information in the proper and appropriate format.

First, we have to identify the stakeholders and the available methods of communication before developing a communication plan:

**Table#7**

| Stakeholder          | Contact purpose                                            | Contact Tools                  | Time                              | Concerned person                       |
|----------------------|------------------------------------------------------------|--------------------------------|-----------------------------------|----------------------------------------|
| CEO                  | Project Presentation                                       | Live meeting                   | 8 AM – 5 PM<br>Monthly            | Project manager                        |
| Project sponsor      | Project                                                    | Live meeting<br>Online meeting | 8 AM – 5 PM<br>Weekly             | Project manager                        |
| Steering committee   | Project Presentation                                       | Live meeting<br>Online meeting | 8 AM – 5 PM<br>Monthly            | Project manager                        |
| Technical team       | provide update and notes regarding the application version | Live meeting<br>Email          | 8 AM – 5 PM<br>Biweekly If needed | Project manager<br>Project coordinator |
| Quality team         | check and review the output                                | Live meeting<br>Email          | 8 AM – 5 PM<br>Weekly             | Project team                           |
| Ministry of commerce | Obtaining the necessary permits and requirements           | Online meeting<br>Email        | 8 AM – 5 PM<br>If needed          | Project manager                        |

because the communication matrix is a living component of the project's continuity on the right track, this matrix must be updated throughout the life of the project to ensure that information is communicated to the concerned parties.

### 3.3.5 “3” wrong scenarios of communication:

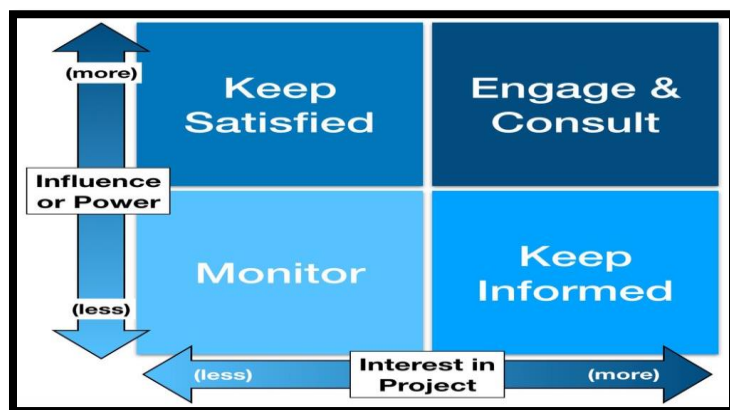
1. Sharing project reports with stakeholders with out-of-date or accurate information.
2. Holding a meeting with the stakeholders and the project team without preparing a specific meeting agenda, which causes time loss and deviation from the meeting's goal
3. Delay or failure to update project information such as the communication matrix and stakeholders at the correct time, which would affect the timely delivery of information to the concerned parties

### 3.3.6 stakeholder assessment matrix:

Stakeholder Matrix analysis identifies and describes stakeholders. This analysis is used during the planning, development, implementation, evaluation and analysis stages.

The table below shows the most important common matrix for analyzing and updating project stakeholders:

Figure #7



Table#8

| Stakeholder          | Leading | Supportive | Neutral | Resistant | Unaware |
|----------------------|---------|------------|---------|-----------|---------|
| CEO                  |         | D          | C       |           |         |
| Project sponsor      | D       |            |         | C         |         |
| Steering committee   |         | D          |         |           | C       |
| Technical team       |         | D          | C       |           |         |
| Quality team         | D       | C          |         |           |         |
| Ministry of commerce |         |            | D       |           | C       |

Current Stakeholder Status "C"

Desired status stakeholders to reach "D"

## 4.1 Leadership

### 4.1.1 Leadership model description:

#### Transformational / Visionary Leadership Style

- The transformational leadership style is **one of the most implemented styles**. It has integrity, defines clear goals, encourages clear steps to communication and expressive.
- This type of leader inspires their team to work together towards a common target.
- **Transformational leaders combine the best practices and are leaders who are trusted and can motivate others.**
- The transformational style requires a number of different skills. And its primary focus is to **make change happen in our self, others, groups, and organizations.**



#### Pros:

- This style of leadership **encourages, motivates and supports** employees, often involves **recognizing and rewarding** people for their good work.
- Enhance innovation.
- Good for teams that have recently experienced failure

#### Cons:

- Can become **unrealistic and overly optimistic**.
- Conflicts if other strong individual in the organization with competing vision

Emphasis is either on harmony or productivity, focus is on the leader, team, or individual.

The Transformational / Visionary Leadership Style emphasizes harmony and focuses on the leader.

### 4.1.2 Reasons for preferred model:

- The leader focuses on setting **a positive vision for the future**.
- Team members **are infused with a sense of purpose and excitement**.
- leaders who stimulate and inspire (transform) followers to achieve **extraordinary outcomes**.



### 4.1.3 "5" proposals for the motivation methods:

1. Encourage, motivate, and supports employers; often involves recognizing and rewarding people for their good work.
2. Enhance innovation.
3. Use Emotional Intelligence.
4. Establish good communication among team members, internally and externally.
5. Consider additional training for team members who need to improve their performance.
6. Team-building activities

## 4.2 Teamwork

### 4.2.1 RACI model for 3 administrative measures of the project:

Table#9

| RACI Chart                                             | Person             |                 |                 |              |            |
|--------------------------------------------------------|--------------------|-----------------|-----------------|--------------|------------|
|                                                        | Executive Director | Project Manager | Quality Manager | Risk Manager | IT Manager |
| Create charter                                         | C                  | R               | I               | I            | I          |
| Collect requirement                                    | I                  | R               | A               | C            | R          |
| Submit change request                                  | I                  | A               | R               | R            | I          |
| Develop test plan                                      | I                  | R               | A               | I            | R          |
| R = Responsible A = Accountable C = Consult I = Inform |                    |                 |                 |              |            |

## 4.3 Conflict and crisis

### 4.3.1 Conflict and crisis identification:

#### Conflict:

- It is a misunderstanding that occurs between project team members or members and internal stakeholders. It is caused by miscommunication, doubt or uncertainty.
- Working as a team and with a variety of stakeholders, there are bound to be conflict.
- Conflict in projects is inevitable.
- Conflict is natural.
- Conflict can be a positive benefit to the project and outcomes, if managed properly.
- can be seen as a gift of energy, in which neither side loses and a new dance is created. *Thomas Crum*
- It is a natural ingredient in every organization.

- The ability to manage conflict is considered to be a core leadership competence and can help project teams to grow and advance. However, conflict management is one of the most difficult soft skills that someone can master and develop.

**Table#10**

| GOOD conflict                                                                                                                                                                                                                             | BAD conflict                                                                                                                                                                                                                                 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Produces new ideas.</li> <li>• Solves continuous problems.</li> <li>• Gives opportunity for people to expand skills</li> <li>• Allows creativity, and</li> <li>• Improves performance</li> </ul> | <ul style="list-style-type: none"> <li>• Lowers team energy or morale.</li> <li>• Reduces productivity.</li> <li>• Prevents job accomplishment.</li> <li>• Creates destructive behavior, and</li> <li>• Fosters poor performance.</li> </ul> |

**Crises:**

- It is the effect of a situation or event that challenges the strength of the individual and makes him compelled to change. A point of view or readjustment to oneself or the outside world.
- can also be defined as an advanced and detailed stage of conflicts that represent a breaking point. The conflict turns for the better, or the conflict increases and turns for the worse.

**4.3.2 “3” expected scenarios of the conflict’s events in the project:**

**1<sup>st</sup> scenario in conflicting resources:** Conflict between two team members because of accessing resources, such as technology, office supplies and meeting rooms.

**2<sup>ed</sup> scenario in conflicting goals:** A team member has conflict with the quality manager because the member has some individual goals out the scope.

**3<sup>ed</sup> scenario:** Conflict between two team because of the crashing and Equipment’s need

**4.3.3 Optimal strategies to deal with each conflict:**

**1<sup>st</sup> scenario** the project manager decided to use Smooth/Accommodate which emphasizing areas of agreement rather than areas of difference.

**2<sup>ed</sup> scenario** the project manager decided to use Force/Direct which is Pushing one’s viewpoint at the expense of others; usually enforced through a power potion to resolve an emergency. Often results to a win-lose situation.

**3<sup>ed</sup> scenario** the project manager decided to use Collaborate/Problem Solve which Incorporating multiple viewpoints and insights from differing perspectives; requires a cooperative attitude and open dialogue that typically leads to consensus. Result in a win-win situation.

**4.3.4 Root Cause Analysis:**

Analysis of conflicts has more than a method such as Fishbone Diagram, Why-Why Diagram, and Ishikawa Diagram which helps to identify the main or Root Cause of problem. In this case we decide to use the 5-Why Diagram

**Problem Statement (1<sup>st</sup> scenario in conflicting resources):** Conflict between two team members because of accessing resources, such as technology, office supplies and meeting rooms.

1. Why did the conflict happen?

Because there was different roles and responsibilities between the two team members.

2. Why did it different roles and responsibilities?

Because of the knowledge and experience of each team members and

3. Why didn't we hire a same level of knowledge and experience of the team members?

To achieve the project goals in better quality

4. Why we need to achieve the project goals in better quality?

Because of the vision, strategy, and goals of the company.

**In short**, after answering the questions; the project manager decided to use **Smooth/Accommodate** approach to avoid the conflict

**2<sup>ed</sup> scenario in conflicting goals:** A team member has conflict with the quality manager because the member has some individual goals out the scope.

1. Why did conflicting goals happen?

Because each individual has his/her own idea of development.

2. Why everyone has his/her own idea of development.

Because the quality manager following the requirements and/or standers for the project and its deliverables. On the other hand, the team member did not have enough knowledge of it.

3. Why did the quality manager follow the requirements and/or standers for the project?

Because he/she is accountable for it.

4. Why did the quality manager accountable?

because of verifying the project deliverables and work meet the requirement specified by key stakeholders for final acceptance.

5. Why he/she needed to verify the project deliverables and work meet the requirement?

Because of controlling quality and outputs of the project.

**In short**, after answering the questions; root cause of the problem is the team member, so the project manager decided to use **Force/Direct** approach to avoid the conflict

**3<sup>ed</sup> scenario:** Conflict between two team because of the crashing and Equipment's need

1. Why did the conflict of equipment's needed happen / Why did it arise?

Because of time-to-market pressures in another project.

2. Why did unforeseen delays time-to-market pressures happen?

Because a new technology was appeared, and we need to use the equipment's as Fast-tracking in another project.

3. Why did we need to use Fast-tracking in another project?

Because the project was Constrained.

4. Why did the other project NOT Constrained?

Because of the sponsors' requirements.

5. Why did we needed to understand the requirements?

Because its part of the Project Charter which we follow for the deliverables.

**In short**, after answering the questions; the project manager decided to use **Collaborate/Problem** approach internally to avoid the conflict.

## 5.1 Resourcefulness

### 5.1.1 Human resources distribution:

**Table#11**

| Role              | Discretion                                                    |
|-------------------|---------------------------------------------------------------|
| CEO               | Responsible of managing the company overall operations        |
| CFO               | Responsible of managing the company overall financial actions |
| IT manager        | Responsible of managing the company IT actions                |
| Risk manager      | Responsible of managing the company risk analysis             |
| Quality manager   | Responsible of managing the company quality checks            |
| Operation manager | Responsible of managing the company daily operations          |

|                 |                                                                   |
|-----------------|-------------------------------------------------------------------|
| Project manager | Responsible of managing the company projects                      |
| Admin           | Assisting the project manager                                     |
| Designer        | Responsible of visualization of the required work                 |
| Engineer        | Responsible of designing and directing all engineering activities |

### 5.1.2 Analysis of the influence of conducting Crashing

#### and Fast-tracking process:

all projects have 3 main constraints that needs to be frequently monitored to ensure the success of the project. Those main constraints are as follow:

#### **1. Time constraints:**

Time constraints refers to the timeline for project completion, such as the deadline for each phase of the project and the implementation date of the final deliverable

In order for project to be successful proper time management techniques needs to be implemented effectively.

#### **2. Scope constraints:**

Scope constraints refers to the project specific goals, deliverables, characteristics, and capabilities, as well as the tasks required to complete the project exactly without additions and projects success require a proper monitor for and detailed requirements to avoid any creeping of scope.

#### **3. Budget constraints:**

Budget constraints refer to the maximum amount allowed to be spent on a particular project and successful projects are properly monitored to ensure tasks and activities are within the approved budget.

This is the important triangle in project management that every project manager is dealing with.

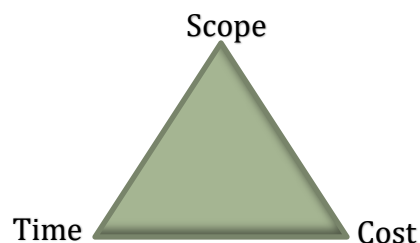


Figure #8

The deference's between using Crashing or Fast tracking depend on the activity and priority of important activity.

#### **Crashing:**

This technique is used when You want to reduce the duration of your project activities by spending less time on one or more tasks. Crashing is executed by increasing the resources of the project. This will take less time than planned for the task but it will increase the cost.

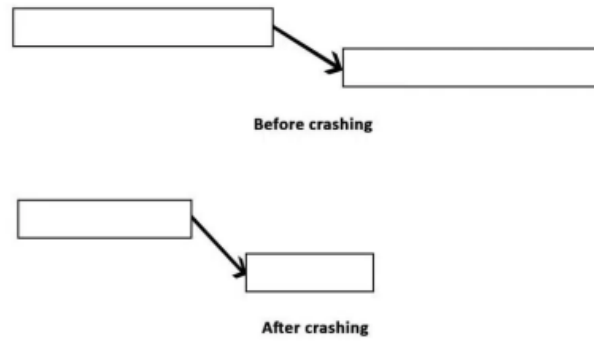


Figure #9

#### Fast tracking:

This technique is used when you want to reduce the duration of activities that normally run sequentially to run in parallel. This will take less time than planned for the tasks but it will increase the risk.

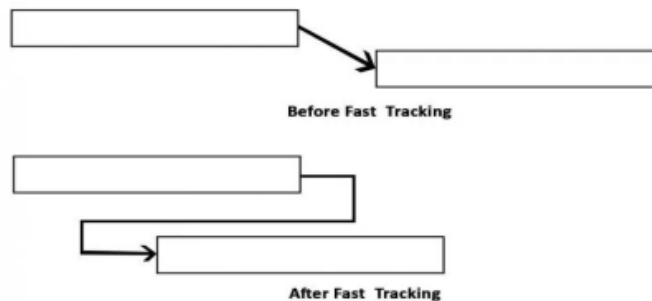


Figure #10

It is necessary sometimes to use one technique or the other to reduce the duration of tasks to meet the deadline and expedite the process but this shouldn't be the normal attitude of project managers due to the cost and risk increase associated with using these techniques.

The project manager needs to monitor the progress of the project and the approaching deadlines and apply the needed technique to the critical path of the project when necessary.

## 5.2 Negotiations

### 5.2.1 General rules for the negotiation process:

It is important to assume that everything about the project is negotiable and the project manager must be an experienced negotiator. And to be a good negotiator is to be prepared and have done your homework before engaging in the negotiation process.

It is important to strengthen the skill of negotiation for any project manager because there are many aspects in project management that require the use of negotiation skills with the project's clients, management, or stakeholders at some point during the project.

Moreover, the negotiation lifecycle can be defined into 5 main categories:

- Deciding to negotiate
- Preparing to negotiate
- Negotiating
- Exciting
- Following up after the negotiation

#### **5.2.2 "2" negotiation plans:**

Negotiation can be difficult sometime but with practice and determination the project manager can become a great negotiator.

There are many negotiation techniques that can be used to gain the needed results.

An example for such is a Win-Win negotiation when both sides gain benefits.

Another technique is Win-Lose negotiation or distributive negotiation where each side are trying to maximize their profit in the cost of the other side.

Another popular example of negotiation is Co-worker negotiation which we are doing daily to resolve disagreement at work.

In our project we are going to use the Win-Win and Co-worker negotiation techniques.

#### **1<sup>st</sup> plan Win-Win technique:**

We are going to focus on providing our customer with the best benefits that they can get in the market with the best pricing to satisfy them with getting appropriate deals while making some profit that cover the cost of doing the business.

#### **2<sup>nd</sup> plan Co-worker negotiation technique:**

Depending of the project we will focus on providing our staff and team with appropriate compensations when doing the work on time or earlier with off days or some valuable benefits to them rather than monetary compensations.

## 6.1 Project design

### 6.1.1 Identify the Triple constraint of the project:



According to the triple constraints model, "cost is a function of time and scope, and these three parameters are coupled in a specified and predictable manner."

- The Triple Constraint is defined as "a framework for analyzing competing requests" in the Project Management Body of Knowledge (PMBOK® Guide).
- A single project's success, as judged by the three limitations, does not constitute success.
- These constraints are areas where Changes are introduced.
- The Key is to balance these constraints throughout the project.

### 6.1.2 Set up a list of the project success factors.

- **Project mission:** Initial clarity of goals and general directions
- **Top management support** Top management's willingness to offer the resources and authority/power required for project success.
- **Project schedule/plans:** A thorough description of the various stages necessary for project implementation.
- **Client consultation:** Communication, consultation, and active listening to all parties that are affected
- **Personnel:** Personnel for the project team must be recruited, selected, and trained.
- **Technical tasks** The availability of the necessary technology and competence to carry out the precise technical action steps.
- **Client acceptance:** The act of "selling" the final project to its ultimate intended users
- **Monitoring and feedback:** Timely provision of comprehensive control information at each phase in the implementation process
- **Communication:** The provision of an appropriate network and necessary data to all key factors in the project implementation
- **Trouble-shooting:** Ability to handle unexpected crises and deviations from plan

### 6.1.3 Develop and identify work breakdown structure:

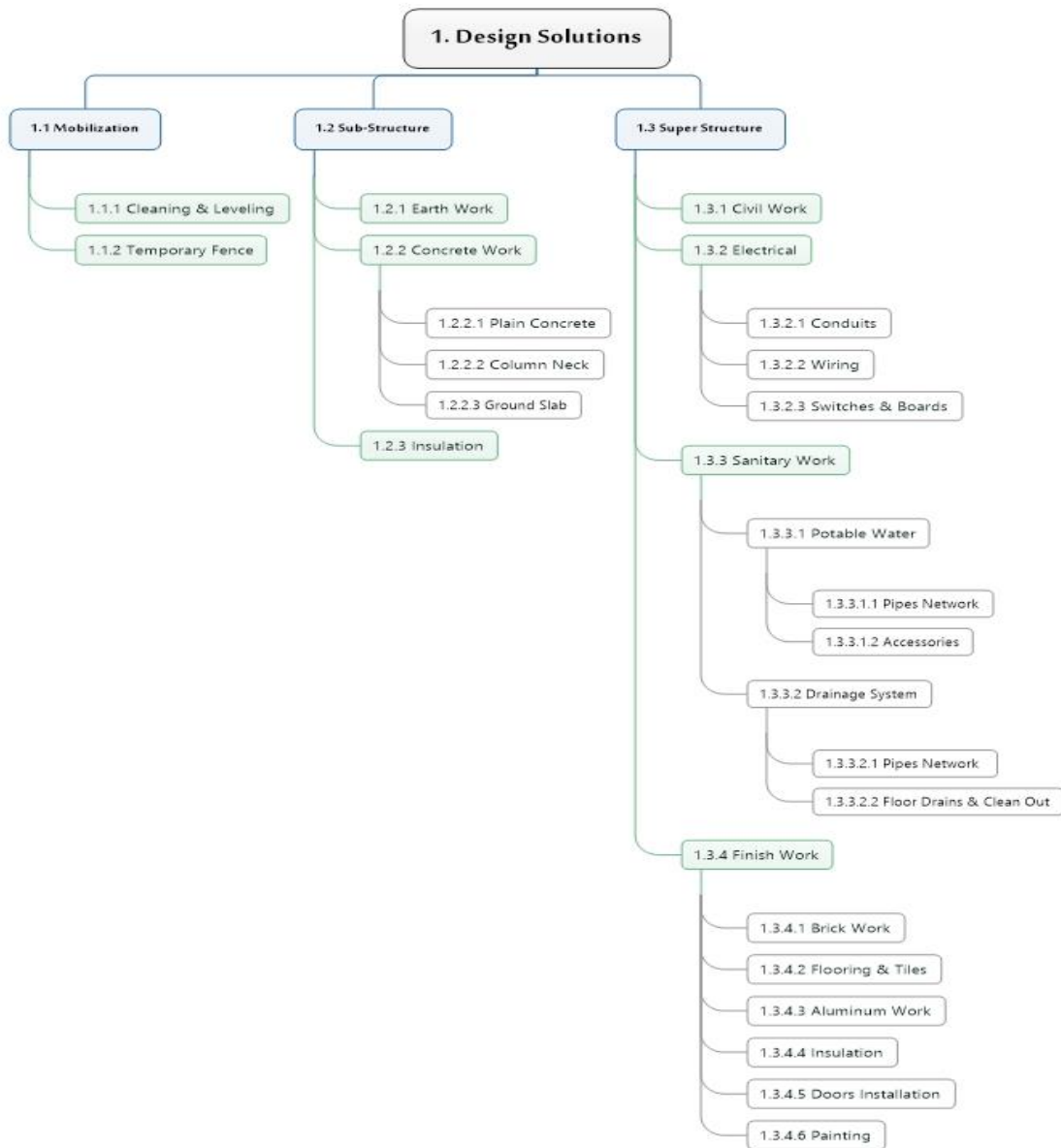


Figure #11

## 6.2 Requirements and objectives

### 6.2.1 Identify Requirement traceability matrix:

Table#12

| Requirements Traceability Matrix |                                |                          |                 |                 |           |                |
|----------------------------------|--------------------------------|--------------------------|-----------------|-----------------|-----------|----------------|
| Project Name                     |                                | Design Solutions         |                 |                 |           |                |
| Req Unique # ID                  | Requirement Name / Description | Requested / Approved By: | Cost Estimation | Assigned To     | Test Case | Current Status |
| 1.1                              | Mobilization                   | Project Manager          | 19000           | Project Manager | 100%      | Completed      |
| 1.1.1                            | Cleaning & Leveling            | Project Manager          | -               | Eng. A          | 100%      | Completed      |
| 1.1.2                            | Temporary Fence                | Project Manager          | -               | Eng. X          | 100%      | Completed      |
| 1.2                              | Sub-Structure                  | Project Manager          | 81000           | Project Manager | 60%       | Testing        |
| 1.2.1                            | Earth Work                     | Project Manager          | -               | Eng. A          | 55%       | Testing        |
| 1.2.2                            | Concrete Work                  | Project Manager          | -               | Y               | 0%        | Not Started    |
| 1.2.2.1                          | Plain Concrete                 | Project Manager          | -               | Y               | 0%        | Not Started    |
| 1.2.2.2                          | Column Neck                    | Project Manager          | -               | Eng. A          | 0%        | Not Started    |
| 1.2.2.3                          | Ground Slab                    | Project Manager          | -               | Eng. X          | 0%        | Not Started    |
| 1.2.3                            | Insulation                     | Project Manager          | -               | Y               | 0%        | Not Started    |
| 1.3                              | Super Structure                | Project Manager          | 198000          | Project Manager | 0%        | Not Started    |
| 1.3.1                            | Civil Work                     | Project Manager          | -               | Eng. B          | 0%        | Not Started    |
| 1.3.2                            | Electrical                     | Project Manager          | -               | X               | 0%        | Not Started    |
| 1.3.2.1                          | Conduits                       | Project Manager          | -               | X               | 0%        | Not Started    |
| 1.3.2.2                          | Wiring                         | Project Manager          | -               | X               | 0%        | Not Started    |
| 1.3.2.3                          | Switches & Boards              | Project Manager          | -               | Y               | 0%        | Not Started    |
| 1.3.3                            | Sanitary Work                  | Project Manager          | -               | Y               | 0%        | Not Started    |
| 1.3.3.1                          | Potable Water                  | Project Manager          | -               | Eng. A          | 0%        | Not Started    |
| 1.3.3.1.1                        | Pipes Network                  | Project Manager          | -               | Eng. A          | 0%        | Not Started    |
| 1.3.3.1.2                        | Accessories                    | Project Manager          | -               | Eng. B          | 0%        | Not Started    |
| 1.3.3.2                          | Drainage System                | Project Manager          | -               | Eng. B          | 0%        | Not Started    |
| 1.3.3.2.1                        | Pipes Network                  | Project Manager          | -               | Eng. A          | 0%        | Not Started    |
| 1.3.3.2.2                        | Floor Drains & Clean Out       | Project Manager          | -               | Y               | 0%        | Not Started    |
| 1.3.4                            | Finish Work                    | Project Manager          | -               | B               | 0%        | Not Started    |
| 1.3.4.1                          | Brick Work                     | Project Manager          | -               | X               | 0%        | Not Started    |
| 1.3.4.2                          | Flooring & Tiles               | Project Manager          | -               | X               | 0%        | Not Started    |
| 1.3.4.3                          | Aluminum Work                  | Project Manager          | -               | X               | 0%        | Not Started    |
| 1.3.4.4                          | Insulation                     | Project Manager          | -               | X               | 0%        | Not Started    |
| 1.3.4.5                          | Doors Installation             | Project Manager          | -               | Eng. X          | 0%        | Not Started    |
| 1.3.4.6                          | Painting                       | Project Manager          | -               | B               | 0%        | Not Started    |

### 6.2.2 Specify the methods used in requirement collection:

Brainstorming  
Document Analysis  
Focus Group  
Interface analysis  
Interview  
Observation  
Prototyping

### 6.2.3 Develop the hierarchical structure of the objectives of the project:



Figure #12

## 7.1 Scope

### 7.1.1 Develop, identify, and prepare the scope statement.

A scope statement is a document that defines all the elements of the project scope as well as assumptions, project requirements and acceptance criteria. Here is the scope statement for our project:

Table#13

|                                 |                                                        |                              |                     |
|---------------------------------|--------------------------------------------------------|------------------------------|---------------------|
| <b>Project name</b>             | "Design Solutions". An Interior design company project |                              |                     |
| <b>Project Sponsor</b>          |                                                        | <b>Project manager</b>       |                     |
| <b>Date of project approval</b> | August, 16, 2022                                       | <b>Last date of revision</b> | September, 15, 2022 |

|                             |                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Scope description</b>    | <p>Making an application called "Design Solutions" to support designing and implementing many diverse works for interior design, by providing the latest international designs for decorations.</p> <p><b>In-scope:</b> designing and implementing works for interior design</p> <p><b>Out-scope:</b> provide consultations in interior design</p> |
| <b>Project deliverables</b> | <p>An application that can be accessed online</p> <p>Fine work of arts in decorations and interior design field</p> <p>Consultations regard designs.</p>                                                                                                                                                                                           |
| <b>Acceptance criteria</b>  | <p>Project can be considered acceptable by users if the application can meet the needs of customers regards the design and furnishing activities.</p>                                                                                                                                                                                              |
| <b>Constrains</b>           | <p>Budget / time / resources / personal limitations</p>                                                                                                                                                                                                                                                                                            |
| <b>Assumptions</b>          | <p>Project teams and customers can meet to provide designs and consultations, even though it is done online.</p>                                                                                                                                                                                                                                   |

### **7.1.2 Develop, identify, and explain Scope creeping:**

Scope creep is a dreaded event that may occur on any project, wasting money, decreasing satisfaction, and causing the project's intended value to fall short. Scope creep appears to be a problem in most projects, which irritates both project teams and stakeholders. Scope creep is defined as the addition of unapproved features or functionalities to a new product, requirements, or work (i.e., beyond the agreed-upon scope).

#### **Example of scope creeping that our company may face:**

The homeowner hired an interior designer to renovate her home's whole first floor. In turn, the interior designer enlisted the help of a lighting design business. Both the interior designer and the lighting consultant signed a conventional service contract outlining the lighting designer's obligations. Unfortunately, the lighting designer never directly spoke with the homeowner and instead relied on the interior designer's explanation of the scope of work.

The homeowner emailed the lighting designer two months into the project, requesting a redesign of several of the rooms as well as more work in the basement screening room. The lighting designer readily agreed, anticipating that he would be able to gain more cash from the additional work in the basement screening room. The lighting designer unknowingly sowed the seeds of scope creep.

### **7.1.3 Illustrate product analysis management:**

Product analysis is a critical project management technique that is required for projects that include products as a deliverable. It is a mechanism for defining the scope of the product. It simply indicates that while studying the product via its breadth, questions concerning it [product] may be asked. Furthermore, the project team is urged to provide responses that explain the qualities, functionalities, and other aspects of the product that will be created.

Product analysis is an efficient project management technique. It is used to determine whether the product being supplied will be effective in attracting its intended clientele. It is crucial to note that while each application field has typically more acknowledged ways for creating a decent product that can be delivered to the market, product analysis contains a variety of instruments for analyzing the product. Systems analysis, product breakdown, system engineering, requirement analysis, value analysis, and value engineering are examples of these approaches.

All of these are required in order to adequately examine a specific physical product and determine its effectiveness in the present market.

- **Products and Services in “Design Solutions”.**

“Design Solutions” focuses on providing interior design consulting. This is complemented by specially purchased furniture, art pieces, decorator fabric, and accessories for the home and office. Products available through Barton Interiors include:

- Furniture available through special purchase arrangements.
- A selection of decorator fabrics
- Accessory and art pieces available through wholesale shows and online application.
- Antiques bought for specific customer needs through a deal with a local antique vendor and direct acquisitions from other sources.

#### **Product and Service Description**

Our primary points of differentiation offer these qualities:

- A one-of-a-kind client experience provided by an educated and professional interior designer who is competent to satisfy the demands of discriminating customers with high expectations.
- Access to a wide and unique selection of new and antique furniture, accessories, and special-order decorator fabrics.
- Personal help from a supplementary product offering, such as hard-covering window treatments, hardware, and home accessories that match the style and objectives of each project.

## 7.2 Time

### 7.2.1 Develop the functions list or the activities included in each work package in WBS

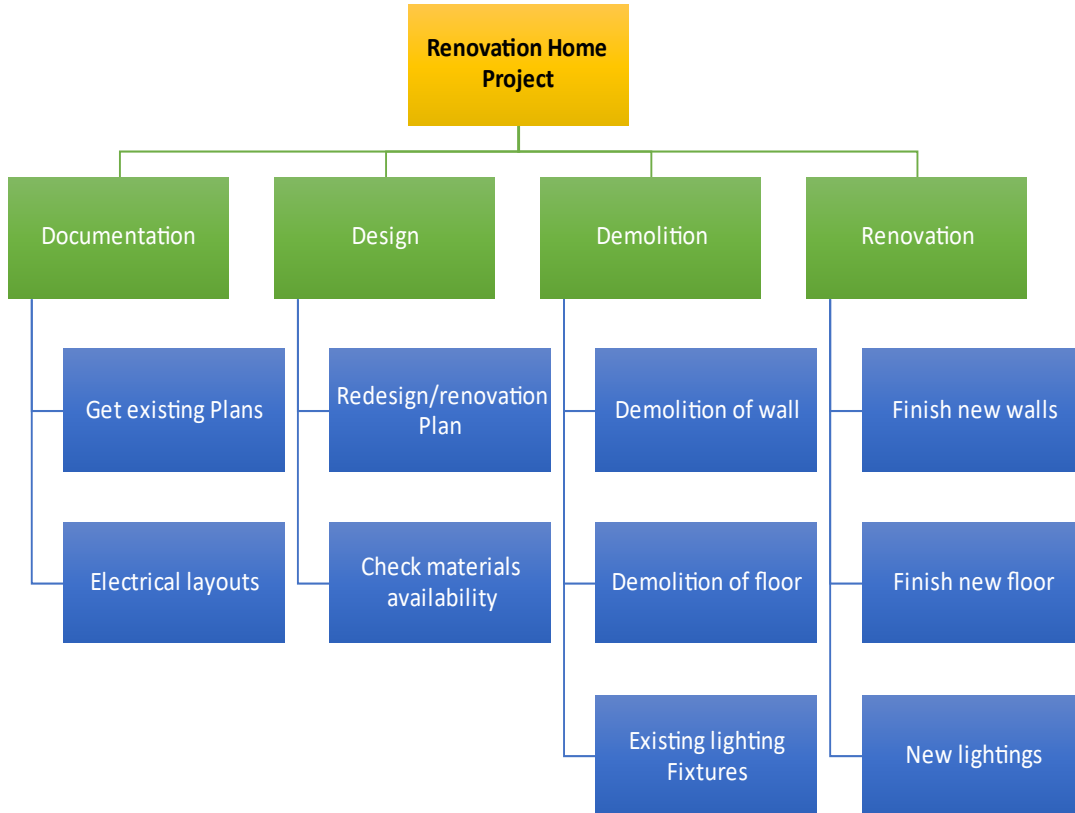


Figure #13

\*This the WBS for a renovation project that our company had made

### 7.2.2 Illustrate the relationships between the activities:

Table#14

| Task ID | Task                        | Predecessor | Duration (days) |
|---------|-----------------------------|-------------|-----------------|
| A       | Start                       | -           | 0               |
| B       | Get Plans                   | A           | 2               |
| C       | Get Electrical Layout       | A           | 2               |
| D       | Renovation/redesign plan    | B           | 7               |
| E       | Check material availability | D           | 3               |
| F       | Demolition of walls         | E           | 2               |
| G       | Demolition of floors        | F           | 2               |
| H       | Fix Lightening              | C           | 3               |

|   |                      |      |   |
|---|----------------------|------|---|
| I | Finish new walls     | G    | 4 |
| J | Finish new floor     | I    | 4 |
| K | Finish new electrics | H    | 3 |
| L | Finish renovation    | J, K | 0 |

### 7.2.3 Develop the logical diagram of the project activities, and identify the critical path:

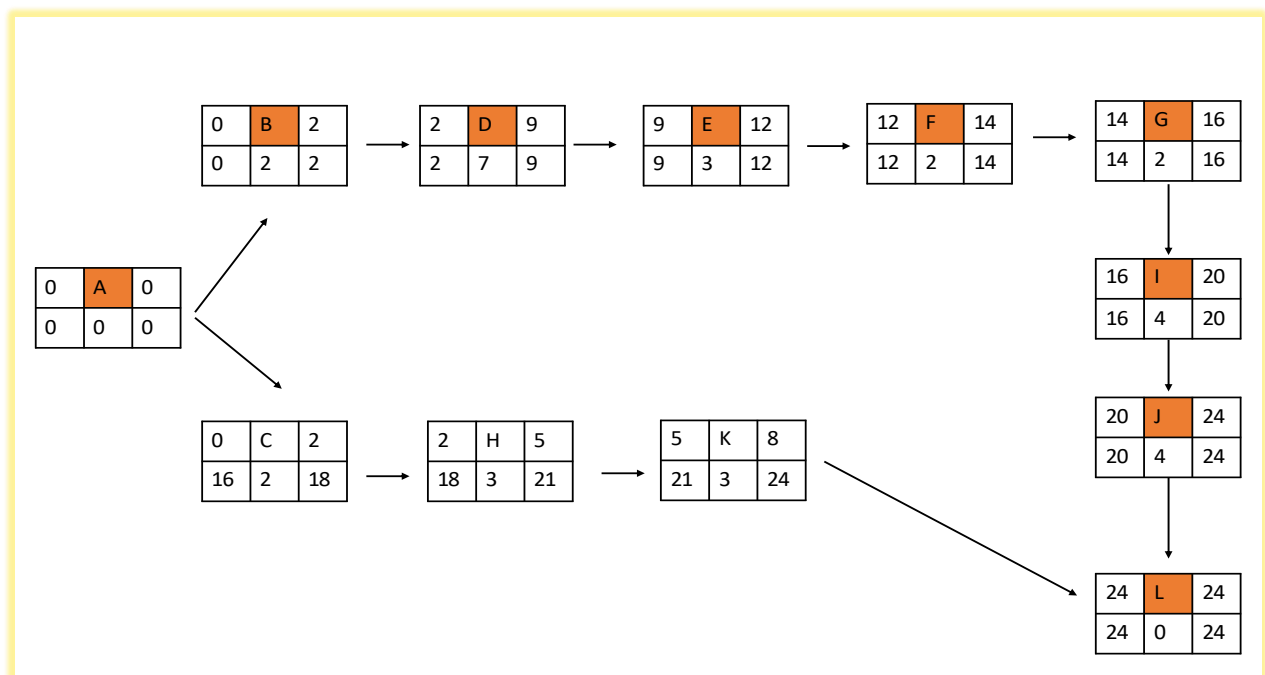
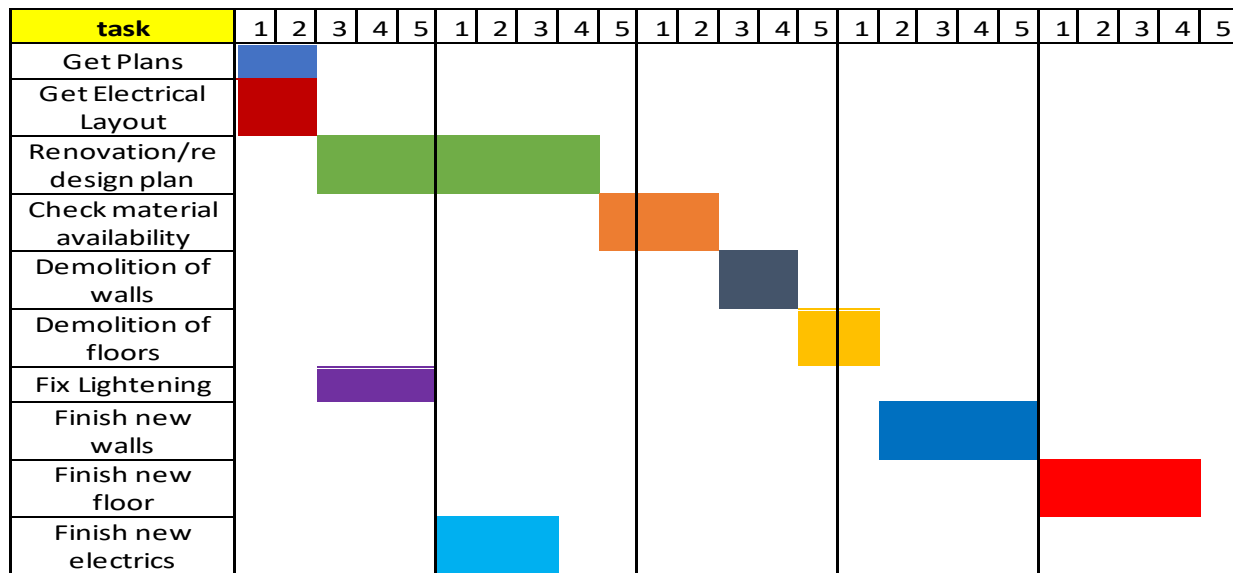


Figure #14

The critical Path of this Project is highlighted, which is [A-B-D-E-F-G-I-J-L]

### 7.2.4 Prep are Gantt chart and Milestones model:

Table#15



A Gantt chart is a bar chart that depicts how project duties are distributed over time. A Gantt chart is a useful tool for project planning since it displays what work is scheduled to be completed on different days. It displays the start, completion, and milestone dates of a project timeline in a single stacked bar chart for project managers and team members. As seen above, this is the Gantt chart for the house-remodeling project.

While A project milestone is a management tool that is used to specify a point in the timetable of a project. These milestones can represent the start and finish of a project, as well as the completion of a critical period of work. Milestones can represent anything that has begun or concluded, although they are most commonly used as a scheduling tool.

### 7.3 Quality

#### 7.3.1 Clarify Deming model for quality:

The PDSA Cycle (Plan-Do-Study-Act) is a methodical approach to collecting usable knowledge and expertise for the ongoing development of a product, process, or service. This integrated learning and improvement model, often known as the Deming Wheel or Deming Cycle, was first given to Dr. Deming by his mentor, Walter Shewhart of New York's legendary Bell Laboratories.

The cycle begins with the Plan phase. This process includes identifying a goal or purpose, formulating a theory, setting success measurements, and putting a plan into action. Following these steps is the Do stage, in which the plan's components, such as



product creation, are implemented. The Study phase follows, in which outcomes are evaluated to determine the validity of the plan for indications of progress and success, as well as obstacles and areas for development. The Act stage completes the cycle by combining the knowledge gained during the process, which may then be used to update the goal, alter methodology, totally reformulate a theory, or broaden the learning – improvement cycle from a small-scale experiment to a larger execution Plan. These four processes can be repeated indefinitely as part of an ongoing cycle of learning and improvement.

### 7.3.2 Develop the SIPOC model and Ishikawa for one of the issues of the project outputs:

A SIPOC (suppliers, inputs, process, outputs, customers) A diagram is a visual tool for documenting a business process from start to finish before it is implemented. SIPOC (pronounced sigh-pock) diagrams are also known as high level process maps due to their lack of information. SIPOC diagrams are effective for centering a debate, assisting team members in developing a common language, and comprehending a continuous improvement process.

Below Shown the SIPOC diagram for our Business Process.

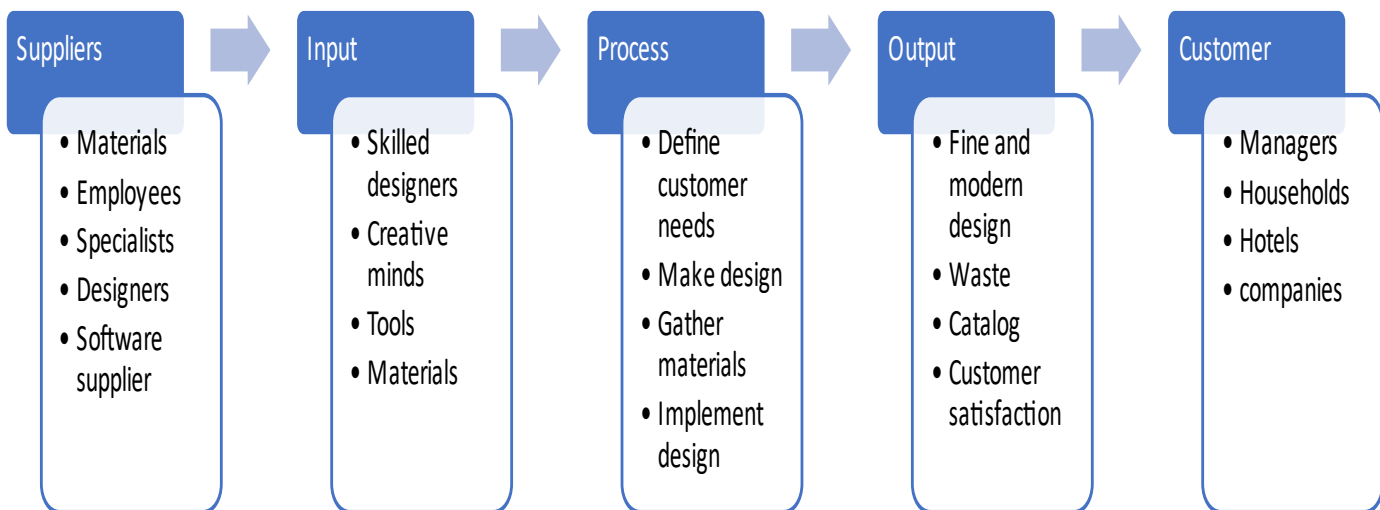


Figure #15

**Ishikawa diagrams** Fish bone diagrams, herringbone diagrams, cause-and-effect diagrams, and Fishikawa diagrams are some other names for them. They are Kaoru Ishikawa's causal diagrams, which show the causes of an event. They are formed in the shape of a fish skeleton, with the "ribs" representing the causes of an event and the ultimate consequence shown at the skeleton's head. The goal of the Ishikawa diagram is to assist management in understanding which issues must be addressed in order to gain or prevent a certain occurrence.

Below Shown the Ishikawa diagram for “*Low customer satisfaction*” Issue.

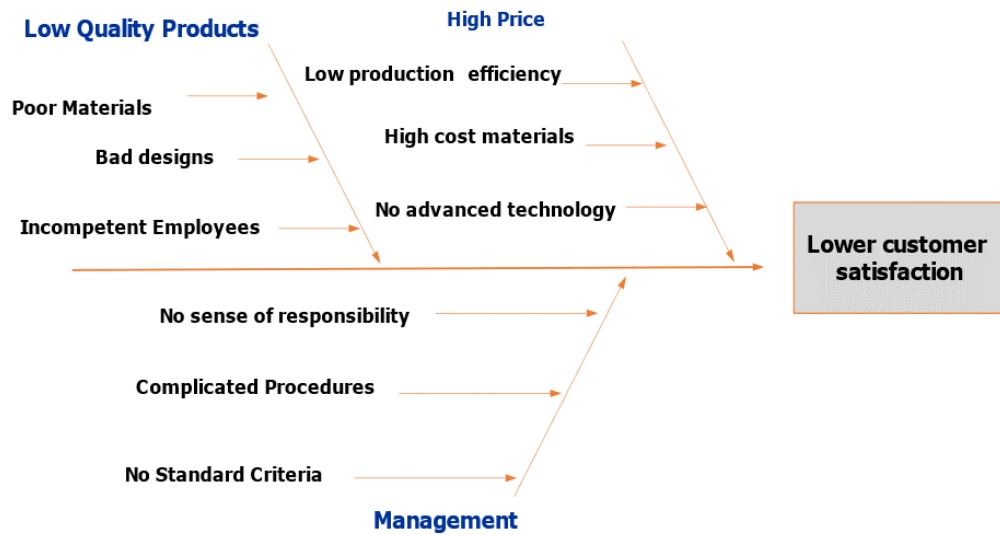


Figure #16

## 8.1 Finance

### 8.1.1 Cost Breakdown structure and project balance:

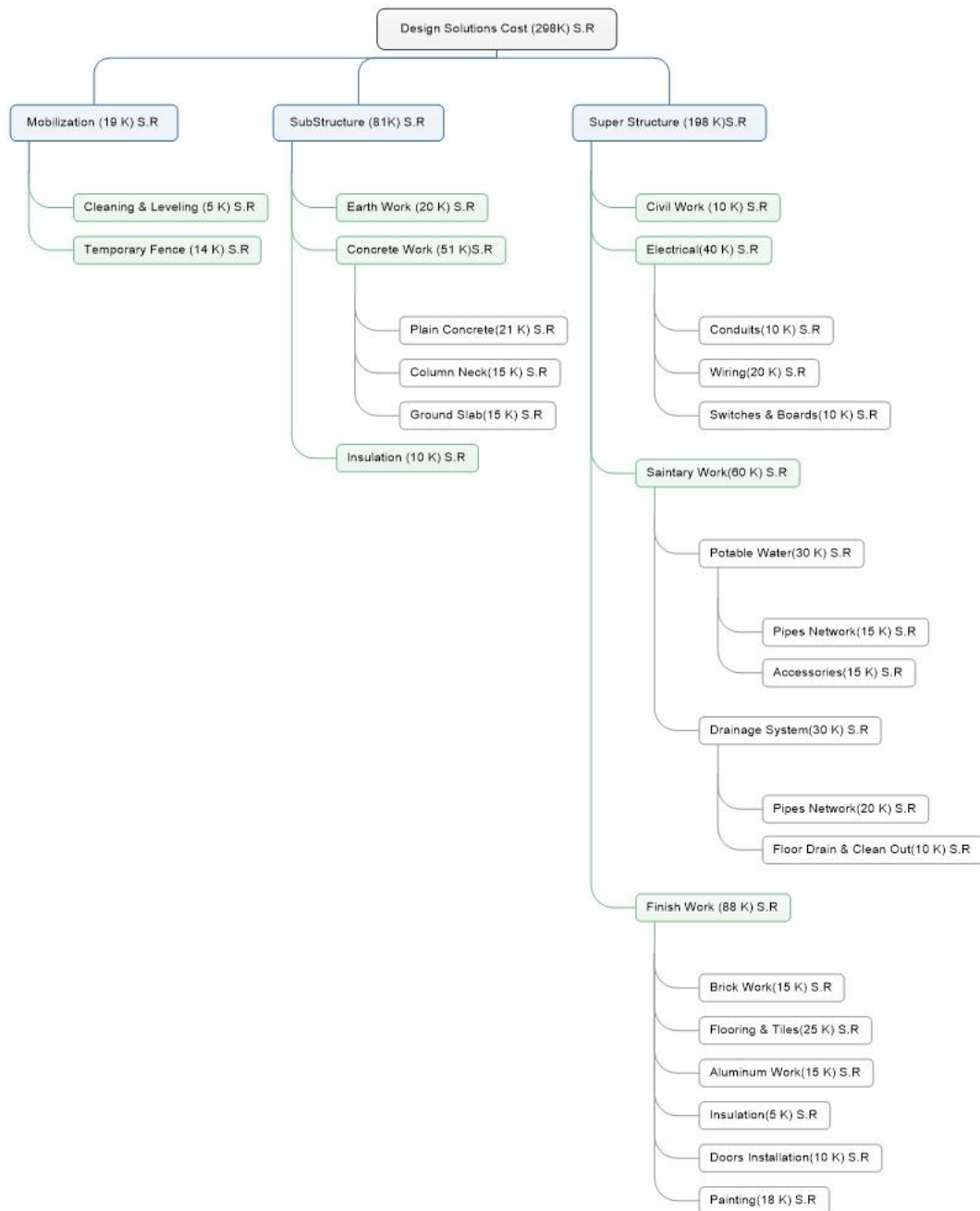


Figure #17

Table#16

| General information                 |                  |
|-------------------------------------|------------------|
| All study amounts (currency)        | SR (Saudi riyal) |
| The duration of the financial study | 3 years          |
| Worktime                            |                  |
| Number of weeks in a year           | 52               |
| Number of working days per week     | 7                |
| Number of days of the year          | 270              |
| Number of working hours per day     | 8                |

| Capital Expenditure Summary    | cost         | present | cost         | total |
|--------------------------------|--------------|---------|--------------|-------|
| Ground                         | 1,200,000.00 | 0.1     | 1,320,000.00 | 0.39  |
| Construction works             | 1,038,900.00 | 0.1     | 1,142,790.00 | 0.33  |
| The machines and the equipment | 555,659.00   | 0.1     | 611,225.00   | 0.181 |
| Furniture                      | 47,850.00    | 0.1     | 52,635.00    | 0.016 |
| Vehicles and transportation    | 23.40        | 0.1     | 25,740.00    | 0.008 |
| Pre-operating expenses         | 15,500.00    | 0.1     | 17,050.00    | 0.005 |
| Working capital first          | 195,646.00   | 0.1     | 215,210.00   | 0.064 |
| <b>Total (SR)</b>              | 3,076,955.00 |         | 3,384,651.00 | 1     |

| Pre-operating expenses |  | cost      |
|------------------------|--|-----------|
| Governmental fees      |  | 1,500.00  |
| move                   |  | 1,500.00  |
| marketing              |  | 10,000.00 |
| training               |  | 2,500.00  |
| <b>Total</b>           |  | 15,500.00 |

| Working capital first           | months    | present     | cost              |
|---------------------------------|-----------|-------------|-------------------|
| operating expenses              | 4         | 0.33        | 124,583.00        |
| Administrative and public banks | 4         | 0.33        | 5.37              |
| Marketing expenses              | 4         | 0.33        | 7,290.00          |
| indirect salaries               | 4         | 0.33        | 58,400.00         |
| <b>Total</b>                    | <b>16</b> | <b>1.32</b> | <b>190,278.37</b> |

Table#17

| operating expenses                                   |                   |                   |                     |
|------------------------------------------------------|-------------------|-------------------|---------------------|
| Description                                          | 2022              | 2023              | 2024                |
| Expenses of raw materials and packaging from revenue | 17,955.00         | 18,900.00         | 19,896.00           |
| Revenue utilities expense                            | 179,549.00        | 189,004.00        | 198,957.00          |
| Maintenance expenses from revenue                    | 44,887.00         | 47,251.00         | 49,739.00           |
| Consumables                                          | 1,795.00          | 1,890.00          | 1,990.00            |
| Direct salaries                                      | 259,931.00        | 269,931.00        | 280,998.00          |
| Other expenses                                       | 52,698.00         | 52,698.00         | 55,158.00           |
| <b>Total</b>                                         | <b>579,674.00</b> | <b>579,674.00</b> | <b>6,067,738.00</b> |

| Description            | 2022     | 2023     | 2024     |
|------------------------|----------|----------|----------|
| Communication expenses | 2,814.00 | 2,898.00 | 2,985.00 |
| Hospitality expenses   | 3,939.00 | 4,057.00 | 4,179.00 |
| Stationery and prints  | 1,126.00 | 1,159.00 | 1,194.00 |
| Transfers              | 1,688.00 | 1,739.00 | 1,791.00 |
| Consultation fees      | -        | -        | -        |

|                    |                  |                  |                  |
|--------------------|------------------|------------------|------------------|
| Wheeling expenses  | 3,377.00         | 3,478.00         | 3,582.00         |
| Insurance expenses | 3,548.00         | 3,654.00         | 3,764.00         |
| Other expenses     | 1,649.00         | 1,699.00         | 1,750.00         |
| <b>Total</b>       | <b>18,141.00</b> | <b>18,685.00</b> | <b>19,245.00</b> |

| Job title               | number    | Total monthly salaries | Total annual salary |
|-------------------------|-----------|------------------------|---------------------|
| Director general        | 1         | 2,500.00               | 40,000.00           |
| Accountant              | 1         | 600.00                 | 9,600.00            |
| Marketing Officer       | 1         | 900.00                 | 14,400.00           |
| Security                | 10        | 3,500.00               | 56,000.00           |
| A guard                 | 2         | 500.00                 | 8,000.00            |
| Watch and control       | 3         | 1,350.00               | 21,600.00           |
| Maintenance             | 4         | 1,600.00               | 25,600.00           |
| Total indirect salaries | 22        | 10,950.00              | 175,200.00          |
| Receptionist            | 4         | 1,200.00               | 19,200.00           |
| Ticket Sales Officer    | 9         | 3,150.00               | 50,400.00           |
| <b>Total</b>            | <b>57</b> | <b>26,250.00</b>       | <b>420,000.00</b>   |

Table#18

| Net income                                     | 2022         | 2023         | 2024         |
|------------------------------------------------|--------------|--------------|--------------|
| <b>Revenues</b>                                |              |              |              |
| Sales revenue                                  | 1,795,490.00 | 1,890,040.00 | 1,795,490.00 |
| Total operating revenue                        | 1,795,490.00 | 1,890,040.00 | 1,795,490.00 |
| operating expenses                             | (553.84)     | (579.67)     | (606.74)     |
| total profit (or loss)                         | 1,241,655.00 | 1,310,366.00 | 1,382,832.00 |
| gross profit margin                            | 0.69         | 0.69         | 0.70         |
| Salaries and wages (indirect)                  | (205.75)     | (214.18)     | (222.97)     |
| General and administrative expenses            | (18,141.00)  | (18,685.00)  | (19,245.00)  |
| Marketing expenses                             | (44,887.00)  | (47,251.00)  | (49,739.00)  |
| <b>Pre-operating expenses</b>                  |              |              |              |
| Total indirect costs                           | (268.78)     | (280.12)     | 291.95       |
| Income before taxes, depreciation and interest | 972.88       | 1,030,246.00 | 1,090.882    |
| Depreciation of fixed assets                   | (132,272.00) | (133,915.00) | (135,601.00) |
| Income before taxes and interest               | 840,606.00   | 896,331.00   | 955,281.00   |
| bank interest                                  | (45,774.00)  | -            | -            |
| Income before taxes                            | 794.83       | 896,331.00   | 955,281.00   |
| Income tax                                     | (39,742.00)  | (44,817.00)  | (47,764.00)  |
| net profit (loss)                              | 755.09       | 851,514.00   | 907,517.00   |
| net profit ratio                               | 0.42         | 0.45         | 0.46         |
| compulsory reserve                             | (75.51)      | (85.15)      | (90.75)      |
| The retained earnings                          | 2,130,374.00 | 2,896,737.00 | 3,713,502.00 |

| Description                      | 2022         | 2023         | 2024         |
|----------------------------------|--------------|--------------|--------------|
| <b>Assets</b>                    |              |              |              |
| box                              | 1,245,690.00 | 2,218,758.00 | 3,249,282.00 |
| Inventory                        | 1,496.00     | 1,575.00     | 1,658.00     |
| accounts receivable              | -            | -            | -            |
| Total current assets             | 1,247,186.00 | 2,220,333.00 | 3,250,940.00 |
| non-current assets               |              |              |              |
| fixed assets (net)               | 2,568,382.00 | 2,450,898.00 | 2,332,153.00 |
| Total non-current assets         | 2,568,382.00 | 2,450,898.00 | 2,332,153.00 |
| total assets                     | 3,815,568.00 | 4,671,231.00 | 5,583,093.00 |
| <b>Liabilities</b>               |              |              |              |
| Current liabilities              |              |              |              |
| Payables                         | 89,313.00    | 93,462.00    | 97,807.00    |
| Current portion of the loan      | 0-           | 0-           | 0-           |
| Total current liabilities        | 89,313.00    | 93,462.00    | 97,807.00    |
| Non-current liabilities          |              |              |              |
| long term loans                  | -            | -            | -            |
| The sum of long-term liabilities | -            | -            | -            |
| total liabilities                | 89,313.00    | 93,462.00    | 97,807.00    |
| Property rights                  |              |              |              |
| Member contributions             | 1,353,860.00 | 1,353,860.00 | 1,353,860.00 |
| compulsory reserve               | 242,020.00   | 327,171.00   | 417,923.00   |
| Retained profits (losses)        | 2,130,374.00 | 2,896,737.00 | 3,713,502.00 |
| Royal Highness                   | 3,726,255.00 | 4,577,769.00 | 5,485,286.00 |
| Total sweeteners and equity      | 3,815,568.00 | 4,671,231.00 | 5,583,093.00 |

## 9.1 Resources

### 9.1.1 Resource leveling and smoothing concept:

Resources leveling and smoothing are techniques used to resolve overallocation or scheduling conflicts in the projects to make sure that the project can be done with the available and assigned resources.

The main objective of these activities is to complete the project by the due date while avoiding peaks and drains of resource demand. When the time constraint is the most important factor, resource smoothing is applied. When the availability of resources is limited, resource leveling is employed. It simply answers the question, 'When will the work be completed, given the resources available?'

Delaying some operations will result in a smoother resource profile. This reduces the schedule's flexibility and ability to deal with unexpected delays, but it usually results in a more efficient and cost-effective utilization of resources.

A few differences between the resource leveling and resource smoothing shown below

**Table#19**

| Resource leveling                                                   | Resource Smoothing                                                    |
|---------------------------------------------------------------------|-----------------------------------------------------------------------|
| Importance is given to limited resources                            | Importance is given to time and duration of project                   |
| Project duration could be extended and may change the critical path | Project duration remain the same and no change to the critical path   |
| May not require additional resources                                | May require some additional resources to cover the resource conflicts |

## 9.2 Procurement

### 9.2.1 Procurement process and contractor selection:

Procurement management is organized in a rational manner. You plan what you need to contract first, then how you'll go about doing it. Then you send out your contract specifications to potential supplier. Then choose the best offer and then sign a contract with them. You keep an eye on the job once it starts to ensure that the contract is being followed. When the work is completed, you must close the contract and complete all paperwork and terminate.

Planning the entire project is important before you do anything, you need to think about all the work you subcontract for your project. All purchases and acquisitions should be planned. Find out what type of contract makes sense for the project and try to define all parts of the contracted project. Plan individual contracts for project work and understand how to manage these contracts, the metrics you need to meet to be considered successful, how to select sellers, and how to manage contracts after work is completed.

#### **Contract types:**

- Fixed price contracts
  - Fixed price with price adjustment
  - Fixed price with incentive fees
- Cost reimbursable contracts
  - Reimbursable with fixed fee
  - Reimbursable with % fee
  - Reimbursable with incentive fee
  - Reimbursable with Award fee

### **9.3 Plan and control**

#### **9.3.1 Agenda invitation and meeting record for virtual meeting:**

Meetings are a way of communication in any project and operation typical meetings get done during working hours and in person but after the pandemic the virtual meetings became the norm to almost all sectors. And to get the most out of the meeting an agenda needs to be ready and shared to prepare the meeting floor with the topic and familiarize the attendees of what's to be discussed in the meeting.

Steps to ensure an effective meeting:

- Preparing a clear agenda for the topic of discussion
- Having a note taker in the meeting to write the important notes
- Organizing the meeting with good leadership style and control the flow of information

- Ask questions and clear important thoughts for the attendees
- Write a meeting minutes after the meeting to capture all important tasks and meeting outcome

The meeting minutes has to have the following:

- Date and time of meeting
- Meeting #
- Name of all attendees and who wasn't there
- Meeting agenda
- Important discussion and outcome (summary)
- Meeting decisions and calls
- Meeting end time and date and time for next meeting

The most important activity after the meeting is to announce the outcome of the meeting to the involved parties and follow up if there are any actions that needs to be followed.

### Meeting Minutes

Meeting #:  
Project name:  
Date:  
Time:  
Place of meeting:

| Name | Attendance |
|------|------------|
|      | Attended   |
|      | Absent     |

|                |  |
|----------------|--|
| Agenda         |  |
| Discussion     |  |
| Final Decision |  |

|  
Meeting ended on **date** and **time**

Figure #18

### **9.3.2 Performance measurement:**

Project success needs to have a tool to measure performance can monitor and track and as a project manager we can use any applicable measure to track the project performance.

For example:

- Budgeted cost of work scheduled (BSWS) also known as planned value (PV)
  - $(\% \text{ of complete (Planned)} * \text{Project budget})$
- Actual cost (AC) all cost incurred in the project also known as actual cost or work performed (ACWP)
  - $(AC = \text{all \$ incurred in the project})$
- All reports and other indicators for measurement.
  - (ROI, GPM, SPI, CPI, RU, status reports, trend report, variance report, forecasting etc....)

### **9.3.3 Change request:**

All project has surprises while executing them and for that a proper change request needs to be prepared and followed for each change and submitted through a proper procedure that is cleared in the start of the project.

The request should have a clear information that contain the following:

- Name of requester, Request #,
- Detail description of change, reason for change, impact of change
- Effect on time, quality, scope, risk, and any other aspects in the project.
- Approval from PM and Project sponsors

### Change request

|                 |  |
|-----------------|--|
| Project name    |  |
| Project #       |  |
| Change order #  |  |
| Date of request |  |
| Requester name  |  |
| Project manager |  |
| Project owner   |  |

|                |  |
|----------------|--|
| Change reasons |  |
| Impact         |  |
| PM Approval    |  |
| PS Approval    |  |

Figure #19

## 10.1.1 Risks and opportunities

### 10.1.1 Definition and examples of risks and opportunities:

One of the most important pillars of project management is risk management. It is impossible to implement any project without considering the risks that may arise during the course of the project as well as the opportunities that may be considered an added benefit to the project.

So, what are the risks?

According to PMI, a risk is "an uncertain event or circumstance that, if it occurs, will have a positive or negative impact on the project's objectives." These events include unexpected circumstances, situations, and threats, the occurrence of which will have a negative impact on the project's progress.

We also mentioned that the risks are not limited to having a negative impact on the project's objectives, but can also have a positive impact. Examples of negative risks include the end of the project and its delay after the specified date, or the lack of some resources needed to complete the project

An example of positive risk is the completion of the project before the specified date or the failure to use all the resources allocated to the project.

#### Project risk management

After we know what the risks are in the projects, what needs to be done before they occur.

- What are the risks in projects, and what should be done to avoid them?
- What if the project takes longer than expected?
- What if the project's requirements exceed the budgeted amount?
- What if the project does not produce the expected results?
- What if I run into operational issues while implementing the project?

All of these questions and others should be asked while writing the project proposal, and then work on analyzing them and figuring out how to deal with them if they arise, because risk management is a planned and organized process that assists the project team in making the right decision at the right time by identifying and analyzing risks. Then manage it in a way that prevents it from happening or limits its consequences, and projects are inherently risky because they are determined by project planning and assumptions, and they are also subject to external influences. It enables unexpected events to be understood and managed in advance, reducing the likelihood of threats while increasing the likelihood of opportunities.

What are the stages of risk management in projects?

The project risk management process goes through six main stages:

1. Risk identification: by collecting data on the risks that are expected to occur
2. Risk analysis entails examining each risk individually and determining the likelihood and impact of each risk.
3. Risk assessment: Quantitative risk assessment and qualitative risk assessment
4. Arranging risks in order of priority: In order to manage risks in an orderly manner, they must be prioritized.
5. Risk response: Create a separate preventive plan for each risk based on the type of risk and its impact.

6. Risk assessment: to determine the extent to which the risk management plan has succeeded in confronting and benefiting from risks.

#### **10.1.2 Define the risk register:**

Risks are identified by gathering data on the risks that are expected to occur during the course of the project, which is done based on previous experience and research into previous projects similar to the project. Some tools and techniques for data collection can also be used, such as:

- Brainstorming between project planners and company executives
- Consultation with subject matter experts
- Use a SWOT analysis to identify your company's strengths, weaknesses, opportunities, and current challenges.
- Questionnaires for people with experience or an interest in the project activity
- The method of determining risks varies depending on the nature of the project, the tasks involved, and the size of the labor, the availability and cost of resources, and the extent of the project.
- The complexity of the project, the criticality of the duration of its schedule and the impact of the project, and the risks are identified at the planning stage, but this does not mean that other risks do not appear during implementation to be added to the project's risk register.

Table#20

| life cycle | risk                                                                                   | The type of risk | responsible for the risk        | probability |           | degree of risks |    |       |        |      |          |       |           | response method | response scenario                                                                                                   | Responsibility for processing  | Monitor and control                                                       |
|------------|----------------------------------------------------------------------------------------|------------------|---------------------------------|-------------|-----------|-----------------|----|-------|--------|------|----------|-------|-----------|-----------------|---------------------------------------------------------------------------------------------------------------------|--------------------------------|---------------------------------------------------------------------------|
|            |                                                                                        |                  |                                 | The ratio   | Classes   | time            |    | cost  |        |      |          |       |           |                 |                                                                                                                     |                                |                                                                           |
| Execution  | Changes in project scope                                                               | Technical        | project management              | %70         | very high | %80             | 48 | 100 % | 50000  | 33.6 | high     | 4000  | very high | avoid           | Define the scope clearly and in detail by meeting with all stakeholders and involving them in formulating the scope | project manager                | Continuous follow-up on a weekly basis                                    |
| Execution  | Late payments                                                                          | Financial        | financial management            | %50         | very high | %60             | 36 | %60   | 30000  | 18   | low      | 18000 | Average   | mitigation      | Finalize procedures, provide requirements, coordinate, and closely follow up with those concerned with the ministry | Project Finance Officer        | Follow up on every bill                                                   |
| Execution  | Change in building legislation and regulations                                         | Regulatory       | Government Relations Department | %40         | Average   | %40             | 24 | %80   | 40000  | 9.6  | low      | 16000 | Average   | mitigation      | Follow up closely with the municipalities                                                                           | Government Relations Officer   | Follow-up every two months for the legislative bodies of the relationship |
| planning   | Unavailability of engineering software for design                                      | Technical        | purchase management             | %30         | Average   | %40             | 24 | %40   | 20000  | 7.2  | low      | 80000 | low       | Acceptance      | Accept risk and use the project manager's powers                                                                    | Project Procurement Department | Since the beginning of the project                                        |
| start      | Unavailability of specialized personnel                                                | Administrative   | HR                              | %20         | low       | %20             | 12 | %20   | 100000 | 2.4  | very low | 20000 | very low  | Acceptance      | Raise the request to the Director-General and take advantage of his powers                                          | project manager                | Since the beginning of the project                                        |
| Execution  | Unavailability of technical specifications                                             | Technical        | Quality Management              | %60         | very high | %40             | 24 | %20   | 100000 | 14.4 | low      | 40000 | very low  | Acceptance      | Coordination with a larger number of medical device factories                                                       | Specifications section         | On a monthly basis, it is necessary                                       |
| Execution  | The abundance of sub-contracts                                                         | Financial        | Contract Management             | %10         | Very low  | %40             | 24 | %20   | 100000 | 2.4  | very low | 40000 | very low  | Acceptance      | Reducing dependence on external contracts                                                                           | project manager                | Accomplishment before starting the activity                               |
| Execution  | Delay in making important decisions Change in the requirements of the Survey Authority | Administrative   | Higher Management               | %25         | low       | %60             | 36 | %60   | 300000 | 9    | low      | 18000 | Average   | Average         | Distribution of powers and responsibilities, coordinating periodic meetings; and documenting decisions              | project manager                | Periodically                                                              |
| Execution  | Change in the requirements of the Survey Authority                                     | Regulatory       | government relations            | %35         | Average   | %80             | 48 | 100 % | 50000  | 16.8 | low      | 40000 | very high | very high       | Raise the matter to senior management to take the appropriate decision                                              | the manager of the program     | Periodically                                                              |
| planning   | Soil testing prices are high                                                           | Financial        | financial management            | %40         | Average   | %20             | 12 | %80   | 40000  | 4.8  | very low | 80000 | low       | low             | Contracting in an early period and searching for alternatives                                                       | Project Procurement Department | Higher Management                                                         |
| Execution  | Weather conditions in the project land                                                 | external         | project management              | %30         | Sometimes | %40             | 24 | %60   | 30000  | 7.2  | low      | 12000 | Average   | Average         | Providing special equipment                                                                                         | Purchasing Officer             | Periodically                                                              |

### 10.1.3 Qualitative risk analysis:

The primary distinction between quantitative and qualitative risk analysis is that qualitative risk analysis employs a descriptive scale to assess the likelihood of a risk occurring, whereas quantitative risk analysis employs a numerical scale.

Prioritizing risks is required for additional action or analysis when performing qualitative risk analysis; qualitative risk analysis is used to assess the likelihood of their occurrence and potential impact), which enables project managers to prioritize risks and their owners, so the process is implemented at the start of the project and at the start of each unexpected sudden turn.

The main advantage of qualitative risk analysis is that by rating risks, project managers can focus on high-prioritized risks, laying the groundwork for more quantitative risk analysis. Scoring is based on a low-medium-high scale.

However, qualitative analysis is subjective and is dependent on the risk perceptions of the project team members, allowing for bias that must be identified and corrected. The outcomes are determined by the knowledge and experience of those assessing the risks. Because the quantification method does not use absolute variables, there is some uncertainty. Because it identifies priority risks, qualitative risk analysis is appropriate for all businesses and projects, regardless of size, complexity, or life cycle. The use of outside experts can help to avoid bias. For use in threats/opportunities, qualitative analysis is adaptable, quick to implement, and appropriate.

The probability/effect matrix is the most commonly used method. This two-dimensional technique is used to evaluate likelihood and impact. The probability of a risk occurring is defined as a probability.

The result or effect of risk, usually associated with project objectives such as cost, schedule, scope, and quality, is referred to as an impact.

The scale can be used to assess both threats and opportunities. Threats with higher risk scores have negative consequences, such as delays or budget overruns. Higher opportunity risk scores indicate positive effects such as schedule or budget cuts.

**Table**                      **The probability that**   **The consequences**  
**the danger will occur**   **of the occurrence of**  
**danger**

| the level | The level                  | The Result               |
|-----------|----------------------------|--------------------------|
| high      | High expectation of danger | High impact loss         |
| Average   | The possibility of danger  | Medium Impact Loss Ratio |
| low       | Danger rarely occurs       | Losses are not affected  |

Table #21

#### **10.1.4 Plan risk-response strategies:**

There are several strategies for dealing with various project risks, including:

- Removing and avoiding project risks, for example, by testing the production quality of various suppliers before agreeing to supply and thus avoiding
- Eliminate the risk of coming into contact with harmful materials.
- Reducing risks by renting generators to be used during power outages, for example.
- Transferring these risks by obtaining appropriate insurance from insurance companies to deal with the consequences of these risks
- Subcontractors, for example, can be used to share risks.

### 10.2 Stakeholder

#### **10.2.1 Stakeholder engagement and engagement assessment matrix:**

Managing stakeholder engagement is one of the most challenging, but important tasks of a project manager. However, there are tools and techniques such as the stakeholder engagement matrix that greatly facilitate and improve project stakeholder management.

The Stakeholder Participation Assessment Matrix is a simple yet powerful project management technique for documenting and monitoring actual stakeholder participation levels. Helps identify potential gaps in stakeholder engagement. Each project has stakeholders. However, the number and stakeholder participation vary greatly between the different types of projects.

A small apartment-finishing project, for example, may have only a few stakeholders. On the other hand, a large project such as building an infrastructure for a residential city, for example, can involve a large number of individual stakeholders and stakeholder groups. Regardless of the project's size, managing the project's relationship with stakeholders is critical to ensuring project success. This is especially true for influential and interested stakeholders.

As a result, it was necessary to create a matrix that assesses the level of participation of project stakeholders.

The Stakeholder Participation Assessment Matrix is made up of several rows, each of which represents a different stakeholder (or group of homogeneous stakeholders, if applicable).

The columns represent the degree of participation. The level of correlation for each is determined by the following classification:

- Unaware
- Resistance
- Neutral
- Supports
- Leadership.

The current level of participation is then documented and denoted with a "C," while the required level is represented and denoted with a letter.

How do you determine the required level of stakeholder engagement?

Those levels of participation are determined by a classification that classifies them as follows:

The degree to which each of them is required

All of us are optimistic about them.

All of the theme's interests

Each of them has the potential to have an impact.

This assessment serves as the foundation for the project's stakeholder engagement strategy. The plan specifies the extent and mode of productive stakeholder participation in the project.

Other tools, techniques, and documents that can help with stakeholder participation include, but are not limited to:

Analysis of stakeholders (identifying relevant stakeholders and their interests)

Stakeholder registration (list and classification of stakeholders)

The above-mentioned stakeholders' network of influence (9.4) and similar

The level of actual participation of shareholders is then compared to the level of participation required at the outset in monitoring and evaluation processes. As a result, any gaps can be identified and addressed by the project manager.

- Department Head of Quality
- Patients and their loved ones
- Engineers and workers on the project
- Consultants
- Officials from the Ministry of Health, for example.

The project manager must have it when creating a stakeholder participation assessment matrix, such as in the Engagement Matrix process in (9.4), in order to achieve the desired level of participation.

## 11. Result

The availability of many different services and the diversity and distinction of services within the project.

Providing clients with high-quality technical advice. Follow the best way to deal with customers.

Rely on experts, technicians, and engineers who have the highest ability, experience, and professional level.

Supervising the management at work in an accurate and disciplined manner.

Providing employment opportunities to many people will help improve their social standards.

Relying on the best technical means and methods, as well as advanced modern technology.

Providing a great deal of unique cash flow and returning investors with generous profits.

## 12. Recommendations

- 1- Activating the role of economic feasibility studies as a scientific method in investment decision-making, through the establishment of consulting companies under the supervision of specialists and experts in this field.
- 2- It is necessary to work to raise awareness among investors and businessmen through courses and scientific symposia to show the importance of economic feasibility studies as a means to the success of their projects, and to reduce the risks in the completion of the project.
- 3- We suggest that the concerned authorities provide researchers and specialists in the field of feasibility studies with data and accurate and modern statistics that help to reach conclusions and rational decisions to reduce risk.
- 4- Paying attention to the marketing aspect by developing an integrated and detailed promotion plan through agreements in cooperation with research centers.

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