Failure of Projects in Pakistan Electron Limited due to Lack of Project Management Office

by

Asif Majeed

A project submitted in partial fulfillment for the degree of Master of Science

in the
Faculty of Management & Social Sciences
Department of Management Sciences

2019

First of all, I thank ALLAH Almighty who is the most merciful and beneficent. ALLAH created us and showed us a correct pathway. ALLAH always secretes sins and protects us from social troubles. I also dedicate my study to my grandfather and grandmother (late), my dearly loved parents.

CERTIFICATE OF APPROVAL

Failure of Projects in Pakistan Electron Limited due to Lack of Project Management Office

by

Asif Majeed

MPM-171031

RESEARCH PROJECT EXAMINING COMMITTEE

S. No.	Examiner	Name	Organization
(a)	Internal Examiner	Dr. Ansir Ali Rajput	CUST, Islamabad
(b)	Project Supervisor	Mr. Rizwan Ali Khan	CUST, Islamabad

Mr. Rizwan Ali Khan

Project Supervisor

March, 2019

Dr. Sajid Bashir

Head

Dept. of Management Sciences

March, 2019

Dr. Arshad Hassan

Dean

Faculty of Management & Social Sciences

March, 2019

Author's Declaration

I, **Asif Majeed (Registration No: MPM-171031)**, hereby state that my MS project titled "**Failure of Projects in Pakistan Electron Limited due to Lack of Project Management Office**" is my own work and has not been submitted previously by me for taking any degree from **Capital University of Science and Technology, Islamabad** or anywhere else in the country/abroad.

At any time if my statement is found to be incorrect even after my graduation, the University has the right to withdraw my MS Degree.

(Asif Majeed)

Dated: March 2019

Registration No: MPM-171031

Plagiarism Undertaking

I solemnly declare that research work presented in this project titled "**Failure of Projects in Pakistan Electron Limited due to Lack of Project Management Office**" is solely my research work with no significant contribution from any other person. Small contribution/help wherever taken has been dully acknowledged and that complete project has been written by me.

I understand the zero tolerance policy of the HEC and Capital University of Science and Technology towards plagiarism. Therefore, I as an author of the above titled project declare that no portion of my project has been plagiarized and any material used as reference is properly referred/cited.

I undertake that if I am found guilty of any formal plagiarism in the above titled project even after award of MS Degree, the University reserves the right to withdraw/revoke my MS degree and that HEC and the University have the right to publish my name on the HEC/University website on which names of students are placed who submitted plagiarized work.

(Asif Majeed)

Registration No: MPM-171031

Acknowledgements

I want to acknowledge our Holy Prophet Hazrat Muhammad (P.B.U.H) the man who is the great leader and base of all knowledge in the world. Now we want to acknowledge the hard work, help and kindness of my supervisor Sir Rizwan Ali who was always there for me during our work and treated me well and give me full guidance and knowledge about our study.

Abstract

The Report is about study regarding Establishment of Project management office (PMO) in EPC (Engineering Procurement and Construction) Division of Pak Electron Limited (PEL). For this purpose, actual data of EPC division was obtained and analyzed using knowledge of PMO. The information is collected through Previous Project Documents, Interviews of Senior Project Managers in PEL and Organizational Historical Artifacts. After the analysis, it has been found that the most of the PEL Projects fail due to lack of centralized and standardized Project Management System. This deficiency can be fulfilled by application a Project Management Office (PMO). Further, on the basis of requirement of the organization, Type of PMO, Structure of PMO, PMO Vision, PMO Mission, PMO Roles and Functions, PMO Challenges and Benefits of PMO have also been outlined. It has been concluded that the percentage of successful projects in PEL can be enhanced through establishing a Supporting PMO in EPC Division of PEL.

Contents

List of Figures

List of Tables

Abbreviations

Acronym	What (it) Stands For
PEL	Pakistan Electron Limited
PMO	Project Management Office
RAID	Risk Assumptions Issues
OPAs	Organizational Process Assets
EEFs	Enterprise Environment Factors
RTM	Requirement Traceability Matrix
CEO	Chief Executive Officer
KPI	Key Performance Indicators
PMI	Project Management Institutes
IPPs	Independent Power Producer
WAPDA	Water and Power Development Authority
DHA	Defense Housing Authority
SICPA	Stanford Inventory cares patents adjustments
HVAC	Heating, Ventilation and Air Conditioning
NUST	National University of Science and Technology

Chapter 1

Introduction to the Organization Under Study

1.1 Overview

Pakistan Electron Limited (PEL) is working as pioneer of manufacturing in electrical engineering industry in Pakistansince1956, not only providing electrical appliances and the power products such as transformers, electrical energy meters and switch gears but also EPC solutions.

From the outset, PEL is working on its basic principle of bringing peace and smartness in its customers' lives through innovation and advancement. PEL does not only provide the electrical appliances but also contributes in engineering sector with improvements through developing a skilled workfare, standard operating procedures and policies.

Before 1981, PEL was solely dealing with the power equipment market; however, after it has been taken over by Saigol group, it entered into manufacturing of home appliances market based on group's policy of diversification.

PEL group is consisted of three main divisions:

- Power Division

- EPC Division

- Appliances Division

1.2 Vision

To provide engineering product and services with continues development and with low risk and less defects.

1.3 Mission

To provide our customers high quality products and services with complete satisfaction and by using resources, provide maximum return to stakeholders.

To motivate great governance, corporate qualities, and safe workplace with strong sense of social duty.

1.4 Company's Key Personnel

Mr. M. Naseem Saigol	Chairman - Executive
Mr. M. Murad Saigol	Chief Executive Officer–Executive/Certified (DTP)
Mr. Azam Saigol	Director – Non Executive
Mr. Muhammad Zeid Yousuf Saigol	Director – Executive/Certified (DTP)
Syed Manzar Hassan	Director – Executive
Mr. Asad Ullah Khawaja	Director – NIT Nominee/Independent
Sheikh Muhammad Shakeel	Director – Non Executive/Certified (DTP)
Mr. Wajahat A. Baqai	Director – NBP Nominee U/S 182 of the Ordinance/ Non Executive
Mr. Usman Shahid	Director – NBP Nominee U/S 182 of the Ordinance/ Non Executive
Mr. Khalid Siddiq Tirmizey	Director – BOP Nominee U/S 182 of the Ordinance/ Non-Executive

1.5 Corporate's Organizational Chart
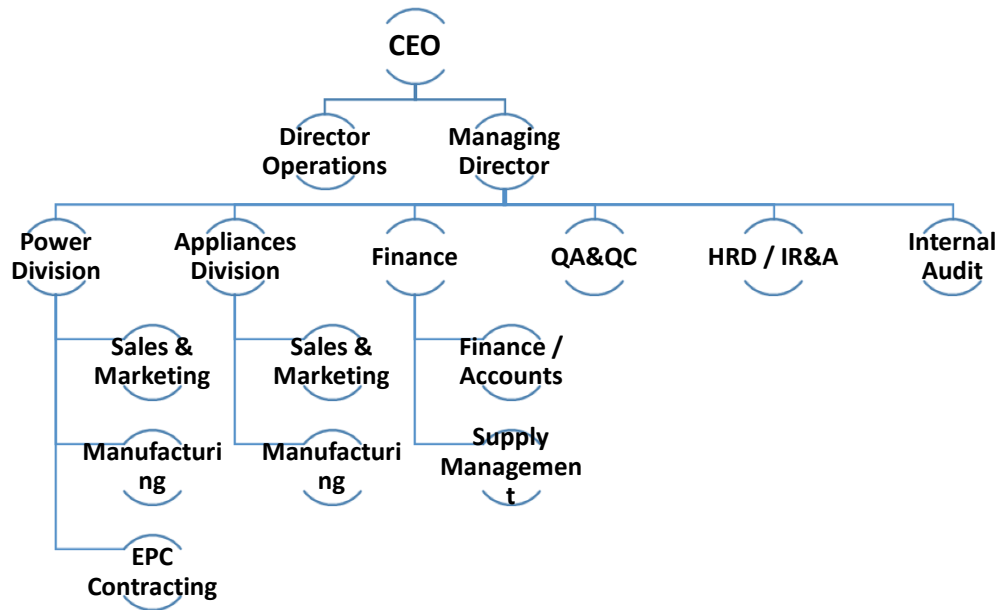
FIGURE 1.1: Organizational Chart

1.6 Financial Overview
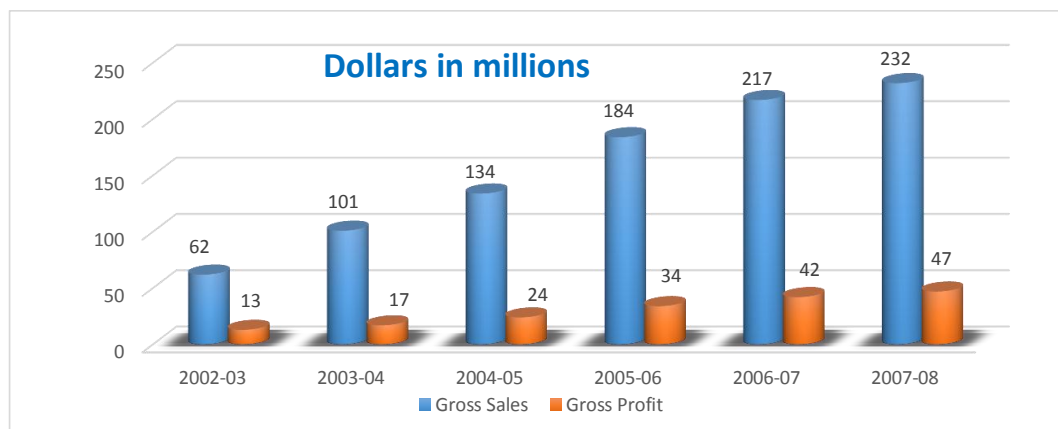
FIGURE 1.2: Financial Overview

1.7 Introduction to EPC Division

By knowing about power division in Pakistan and bring up in commercial, economic and mechanical exercises, more power utilities and different clients required high esteem bundled answers for their transmission frameworks and undertaking electrification demands. For meeting this prerequisite PEL renowned Manu fracturing sales-purchase & development sector. PELs Engineering

Procurement Construction sector incorporates of human asset with high scholarly capabilities and involvement national and also universal market.

1.7.1   Areas

The EPC sector conveys custom designed and built solutions in following regions:

- 132kV and 220kV grid stations for power and service companies.

- 132kV and 11kV substations for industrial &commercial customers.

- Integration of self-contained attentive power generation plants into utility network for sale of their surplus power to utility companies.

- Power circulation systems for Independent Power Producers (IPPs).

- Electrical Plant for, Thermal & Hydro Power Units.

- Electrification of commercial, housing projects and industrial parks.

1.7.2   EPC Division's Services

- Design & Engineering

- Project Management

- Project Execution

- Turnkey or customized projects

- Automations, Hi-tech Systems & Solution

- Field Services for Erection, Testing & Commissioning

- Maintenance of Plant/Equipment

Pakistan Electronics Limited (PEL's) turkey control framework depends as indicated by its structure. Notwithstanding utilizing its very own assets, PEL keeps an all-around oversaw inventory network of universally prestigious producers and specialist organizations to finish the task scope. Thusly, the final result is a dependable, high caliber and value savvy most ideal arrangement.

1.7.3   EPC Department
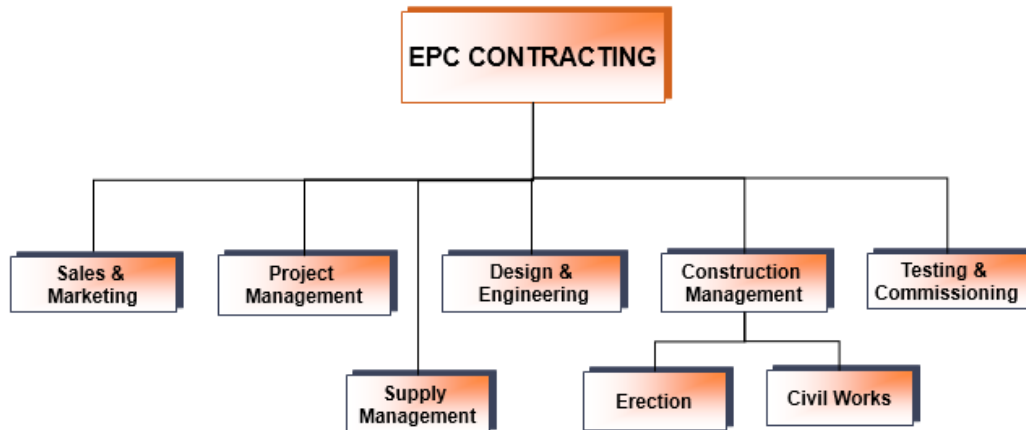
FIGURE 1.3: EPC Department of PEL

1.7.4   Recently Completed Successful Projects

TABLE 1.1: Recently Completed Successful Projects

Sr. No.	Name of Work	Employer/Client	Amount (Rs.)	Date	
				Start	**Compel.**
1	Execution of Balance Electrification works in Ph-VII in Newly Cleared Areas of Secs P,Q,U,V,W & X - Under the CA of Supply of Material, Equipment & Construction of Underground External Electrification System in Sec Y&Z Ph-VII DHA, Lahore.	DHA Lahore	127,644,090	10-Feb-15	Fit for energization, Mar. 2016

2	Underground External Electrification in Y & Z Blocks of Phase – VII, DHA, Lahore.	DHA Lahore	1,660,000,000	18-Sep-13	Fit for energization, Feb. 2015
3	Underground External Electrification in U & T Blocks of Phase – VII, DHA, Lahore.	DHA Lahore	170,000,000	18-Sep-13	Fit for energization. 2014
4	Construction of Underground External Electrification System on Turn Key Basis of Commercial Express Broadway Phase – VIII, Lahore	DHA Lahore	1,015,522,905	10-Mar-12	Work Completed in Jan, 2015energization in process
5	Electrical work at Naval Anchorage society Islamabad Zone V.	Pakistan Navy Director Housing	157,225,223	11-Aug-10	Completed, Feb 2014
6	Mangla Dam Raising Project-38: Electrical work near Siakh, Dadial, Islamgarh and Chakswari.	WAPDA	444,837,000	01-Sep-07	Completed, Dec. 2012
7	External Electrification & Street Light System at Defence Housing Authority, Extension of Sector A, C, D & N, DHA Phase - VI, Lahore Cantt.	DHA Lahore	390,950,000	13-Apr-11	Completed, June. 2012

8	Supply and Construction of HT/LT electrical works and HVAC equipment at SICPA Inks Factory Karachi	SICPA Inks, Karachi	38,500,000	08-Jun-10	Completed, June. 2011
9	External Underground Electrification System of Ph-VIII DHA (Park View) Lahore Cantt	DHALahore	581,500,000	02-Apr-08	Completed, Aug. 2011
10	External electrification of House Building Finance Corporation, Lahore	House Building Finance Corporation	48,528,000	13-Jun-07	Completed, Oct. 2015
11	External electrification of DHA Homes, Lahore	DHA Lahore	29,403,000	21-Feb-08	Completed, March 2016
12	External electrification, of Iqbal Avenue C/H/Society, Lahore	Iqbal Avenue C/H/Society,	99,046,000	14-Jun-06	Completed, June 2014
13	External electrification, of NUST campus Islamabad	NUST	278,705,016	15-Aug-06	Completed, June 2012
14	Kohinoor City Faisalabad (Electrification & Networking)	Kohinoor City Faisalabad	667,966,000	16-Apr-04	Completed, Feb. 2015
15	Electrical work at Askari Villas Phase-II, Lahore	Askari Villas	19,023,000	01-Jun-06	Completed, April. 2014

1.7.5   Key Mega Projects in Hand

TABLE 1.2: Mega Projects

Sr. No.	Name of Work	Employer/Client	Amount (Rs.)	Date Start
1	Underground External Electrification along with Street Light System of 1268 Kanal Additional Land Phase-II (Extension) DHA Lahore Rahbar Sector	DHA Lahore	1,584,250,371	03-Apr-15
2	Underground External Electrification along with Street Light System on Supply and Installation Bai's for Additional Area 2 & 3 Commercial Broadway Phase-VIII DHA Lahore.	DHA Lahore	3,257,500,000	15-Feb-16
3	Underground External Electrification along with Street Light System of Sector E (Ext-I) Phase-VI, DHA, Lahore.	DHA Lahore	2,318,864,323	05-Dec-14

4	Underground External Electrification along with Street Light System of Sector E (Ext-II) Phase-VI, DHA, Lahore.	DHA Lahore	3,199,700,000	31-Dec-14
5	Design, Manufacture, Supply, Erection, Testing and Commissioning on Turnkey Basis of 132/11.5 KV (AIS) Grid Station at DHA Valley Islamabad	DHA Valley Islamabad	3,265,000,000	25-Mar-16

Chapter 2

Project Management Office

The PMO as the name indicates is a separate entity or department within an enterprise, organization or business unit that strives to centralize and standardize the project management practices in order to bring predicable project performance leading to enhanced quality and lesser cost.

2.1   Why do we need a PMO?

At the outset, it should be clear that PMO is not mandatory for all the organizations. The need of PMO depends upon various factors including but not limited to the Structure, Culture, and Growth Rate of the Enterprise, Degree of Successful and failed Projects, and extent of the issues faced by Project Managers (MoniqueAubry, BrianHobbs, & DenisThuillier, 2007).

The recent report titled "Reasons Behind Failed Projects" published by Project Management Institute (PMI) clearly specified that 72% of the software projects fail in terms of meeting the scope/cost/time and quality constraints. Only 28% of the project complete within scheduled time, allocated budget and scope requirements. This meager parentage of successful projects shows that projects are not being managed properly.

The PMO is said to be as individuals power who effort combined to achieve common goal (Cleland & Kerzner, 1985) and from improved methods and procedure it

also improves project management practices of organization (Block, 1998). PMO works in every type of organization, like mechanical engineering, civil engineering, software and hardware engineering, etc., that are found in engineering design houses. In pharmaceutical company's departments of PMO are such as cardiovascular, gastrointestinal, and neurosciences. PMO may be named as according to company's structure such as Project Office, PSO (Project Scope Office), PMO, Project Management Group, Project Management Center of Excellence, or Directorate of Project Management. Self-sufficient of the equipped title, a Project Management Office is the organizational entity with full-time personnel to provide a focal point for the discipline of project management.

In addition to the foregoing, a detailed survey by Price water house Coopers covering more than 1600 organizations explains that 35 percent of the projects fail due to poor estimates and project planning, 15 percent of the projects fail due to lack of executive sponsorship and 10 percent of the projects fail due to poorly defined goals and objective and 10% of the projects failed due lack of standard methodology. As noted by (Murphay, 1997) the PMO's principal charter. The survey also identified that the use of project management technique has extensively increased the no. of successful projects.

Wrong estimates, poor planning, unrealistic goals and improper execution of the projects result from not having a standard and centralized project management system. Having a comprehensive and centralized project management system within an organization based on standard procedures, tools and techniques lead to the successful delivery of the projects. The project management office serves the same purpose. It establishes the standards and maintains them to bring economies of replication in the implementation of the projects.

2.2 Problem Statement

The main reason of failure in PEL project is due to the lack of centralization and coordination. PMO centralized the whole system and bring transparency in performance of the projects by collecting all projects related information. PEL

project works in decentralization system .So there was no centralization system in PEL. Coordination of over all stakeholders involve in the project including internal and external. PMO removes obstacles arising from improper coordination among various departments or divisions dealing with the project. So there was no proper coordination in PEL project. The project manager in PEL often work individually without any team coordination which was due to the political influence among employees, brings demotivation among employees and employees quit the job during the execution of the project which make the project moves towards failure.

In PEL due to PMO 72% of projects fail in sense of cost, scope, time, and quality due to decentralization and lack of coordination among officials. While 28% projects becomes successful as they manage centralization properly and coordination system. So they meet requirements of four constraints.

2.3 Types of PMO

There are three main types of PMO depending upon its role and function:

2.3.1 Supportive PMO

2.3.2 Controlling PMO

2.3.3 Directive PMO

2.3.1 Supportive PMO

Supportive PMO generally provides support to the project manager and other stakeholders in the form of standard documents, templates, best practices and consultancy in matters related to projects. Sometime projects are managed successfully in a loosely controlled environment and there is no need to establish more control. In this scenario, supportive PMO is preferable. Following are the key features of a supporting PMO:

- Provides Support only

- Less authority and less control

- No compulsion and compliance of PMO's establishes rules

- No interruptions in the affairs of the Project Manager

2.3.2 Controlling PMO

In most of the cases, projects are not being successfully managed due to lose control of the higher management over projects. In this scenario, where methods, processes, procedures, documentations are more emphasized, controlling PMO is preferred. In this type of PMO, the requirements may include adoption of specific set of methodologies, procedures, templates and forms. Controlling PMO does not only provide only support to the project manager but also ensures the compliance by monitoring the progress in a routinely manner. Following are the key features of controlling PMO:

- Provide support to the Project Manager

- Monitor Progress on routinely basis

- Ensure compliance to the defined standards and rules

- Has sufficient executive support and authority

- Raise red signals to warn project Manager

2.3.3 Directive PMO

Contrary to support and control, directive PMO in fact takes over the projects. When PMO works as a directive PMO, a project manager within a PMO assigns as a project manager. As project manager is from within the PMO and reports back to its parent unit, the chances of success of the projects increases (Meredith & Mantal, 2000). Following are the salient features of Directive PMO:

- It takes over the Projects and fully manage it

- High control and Authority

- Higher executive support

2.4 Stages of PMO

Just as nothing starts giving results at its inception. It needs time to mature. There are five basic stages of PMO depending upon the culture of the organization and time by which PMO has been operating within an organization.

2.4.1 The Project Office

2.4.2 The Basic PMO

2.4.3 The Standard PMO

2.4.4 The Advance PMO

2.4.5 The Center of Excellence

2.4.1 The Project Office

This is the most basic and earlier stage of a PMO within an organization. Most of the organizations are not congenial to the concept of PMO, hence, there is a need to develop a basic PMO first. At this stage, PMO ensures achievement of deliverables within scheduled time, budgeted cost and defined scope. Time frame for this stage is normally less than six (06) months.

2.4.2 The Basic PMO

After almost six (06) months since its inception, the project office is converted into basic PMO. The function of basic PMO is to define standard procedures, methods, techniques and tools in order to make them repeatable in project management

process (Luftman, 1996). These standards may be applicable on project/ program and portfolio management. Time frame for this stage is normally 12 months since the birth of the Basic PMO within an enterprise.

2.4.3 The Standard PMO

After successfully establishing standards for project management processes, the basic PMO turns into standard PMO. The core responsibility of a standard PMO is to establish capability and infrastructure to support and govern a cohesive and harmonized project management environment. The standard PMO has normally three phases depending upon the time frame for which it has been working. Phase-I of the standard PMO continues for at least twelve (12) months. From twelve to twenty-four months (12-24) phase-II remains continue. After 24 months the standard PMO enters into phase-III.

2.4.4 The Advance PMO

In advance PMO, the role of PMO enhances from establishing standard environment to achieve business objective. The advance PMO aligned the project with business strategy of an enterprise. At this PMO has sufficient support of the higher executives and have enough control to make decision regarding selection of the projects and their successful implementation according to the business needs of an enterprise. It needs minimum two (02) years after the standard PMO for maturity.

2.4.5 The Center of Excellence

The COE is the most advanced stage or form of a PMO. An organization needs sufficient time to move from the basic unit of PMO which is called the project office to the advance level PMO which is called enter of excellence. COE deals with strategic planning to achieve high level strategic objective, henceforth, it is sometime called as strategic PMO. The degree of control at this stage of PMO

is very high. Furthermore, it manages continuous systematic improvement and cross-departmental collaboration. Minimum two (02) years are required for its maturity after the stage-IV.

2.4.6 Levels of PMO

There are five (05) levels of PMO depending upon its maturity and needs of the enterprise:

2.4.6.1 Reactive Project Management - Ad-Hoc

2.4.6.2 Repeatable Proses Project Management - Consistent

2.4.6.3 Proactive or Standardized Project Management- Integrated

2.4.6.4 Measured Project Management – Comprehensive

2.4.6.5 Matured Project Management- Optimized

2.4.6.6 Reactive Project Management - Ad-Hoc

At this stage no formal project management system exists within an enterprise and most of the tasks are running haphazardly. The processes and progress go undocumented, resulting loose management control over the projects. This led to the failure of the projects. At this stage, PMO needs to understand the requirement of establishing standards for project management, especially, standards procedures and method for project scheduling (Lubianinker & Levin, 2001). Project budgeting, resource assignment and defining measurable objectives of the project in order to track project progress during the currency of the project. In order to track project progress, an automated project dashboard may also be created.

2.4.7 Repeatable Proses Project Management – Consistent

After the Ad-Hoc stage, PMO establishes standard practices but those practices are not consistently used in an organization. This level of PMO ensures consistency

in use of already defined Standards for project management. Furthermore, PMO at this level trains the project managers to use repeatable project manager standards.

2.4.8 Proactive or Standardized Project Management- Integrated

At this level, PMO focuses on establishing advance techniques to integrate various functions of project management. This included but not limited to Integrate business and Project Management Processes, Integrate Project Management Information system and introducing advance project management tools such as software, etc. After this, when newly introduces techniques are mastered, PMO focuses on automating other business functions of an enterprise that support successful delivery of Projects such as Financial Management and Business Processes Modeling, etc.

2.4.9 Measured Project Management – Comprehensive

This level of PMO stresses on measureable and trackable project performance. For this, PMO quantifies and establishes key performance indicators that might be used to assess the performance of the project. At this level, PMO has achieved consistent use of standard practices throughout the enterprise, now it is free to introduce new and innovated ideas to improve and economize the project management cycle. Key identification of this type of PMO is to endorse metrics base feat, endorse contribution of all stakeholders, launch risk management culture, and establish a project management core proficiency.

2.4.10 Matured Project Management – Optimized

At this level, PMO focuses on continuous improvement and put more emphasis on business strategic objectives and goals. Optimized PMO identifies potential projects that aligned with the business strategy of an enterprise and collaborate among various business functions. It achieves high project success rates.

2.5 PMO Scope of Work across Project/ Program/ Portfolio Management

- Project Management

- Program Management

- Portfolio Management

2.5.1 Project Management

Project management is the process of initiating, planning, executing, controlling, and closing the collaborative work of coworkers to attain specific goals and meet specific success criteria under a specified time period. A project is temporary that it has a defined start and time-end, and therefore has defined scope and resources, a project unique that it is not a routine operation, but a specific set designed to achieve a single goal. So a project team often includes people who usually do not work together - sometimes by different organizations and by multiple geographical.

Following is the scope of work of PMO in Project Management:

- Initiation of the Project

- Project Budgeting

- Project Scheduling

- Project Resource allocation

- Project Deliverables

- Project Scope

- Project Risks

- Metrics

2.5.2   Program Management

Program management is the practice of organizing several related projects, often in a way of improving firms performance. There is a difference between project management and program management such as in program management there comes a multiple projects and in project management you only have to deal with a specified project. There are few things that a project manager should keep in mind while managing a program.

- Expect Uncertainty

- Train your Team for Success

- You Need to Delegate

- Manage Conflict

Following is the scope of work of PMO in Program Management:

- Comprehensive Program Planning

- Change and Risk Management

- Coordination of Project Delivery

- Measurement of Results

- Business-IS collaboration

2.5.3   Portfolio Management

Portfolio management investment mix and policy, investment in goals, allocation of resources for individuals and organizations, and decision-making risks against performance, industry and science. Portfolio management, selects the best investment mix of the right investment, and continuously transfers to the portfolio, to increase returns on investment and to maximize the investor's assets and manage

the investment portfolio. Here, the portfolio refers to financial products held by investors, such as stocks, bonds, mutual funds, and more.

Following is the scope of work of PMO in Portfolio Management:

- Portfolio Scope Definition

- Overall Investment, Benefit, Risk Optimization

- Active Portfolio Performance Monitoring

- Business Environment Change Adaptation

2.5.4   Challenges to PMO

In some cases, the PMO is less sticky than having more understanding of compliance around their internal processes, which they may face in businesses that support it. Others work through a project line that does not stop from the annual plan. So, how do you build a path ahead to change PMO priority? Removing a plan and priority model from a fully compliant governance model can be a win-win. This will drive IT conversion strategies that are really important in business strategies. Another way is to provide meaningful information about project leaders' project results and money investing pricing.

Following are the key challenges faced by PMO:

- Organizational Cultural Resistance

- Overhead Cost Against Productivity

- Demonstrating the Value of PMO

- Time and Resource Constraints

- Poor Resource Management Capability

- Alignment of PMO with Organization's Business Strategy

Chapter 3

Establishment of PMO in Engineering, Procurement and Construction Division of PEL

3.1 Why there is a need of PMO for EPC Department/ Gap Analysis

After analyzing the detailed documents including Lesson Learned from previously completed projects by PEL, it has been found that Majority of the projects failed in terms of costumers' satisfaction and quality/cost/time/scope constraints. In addition to the above, after interviewing Ten (10) Project Managers within PEL, we have found following major reasons behind Projects' failure:

- Reasons Behind Scope Creep

- Reason Behind Wrong Estimates (Over-Budgeting)

- Reason Behind Incorrect Scheduling

- Reasons Behind Improper Execution

3.1.1 Reasons Behind Scope Creep

Scope creep can happen for any number of reasons. A small change request snow-balls in a big new feature. Client group changes vision of a new executive project. Some of these factors are extinguished by your control.

- Not defining the baselines to assess Project Progress

- Poorly defined Project Requirements due to lack of clarity and in-depth foresight of what is to be done and how is to be done

- Pre-mature start without proper planning and documentation

- Poor change-control procedure

- Poor Stakeholder Management

3.1.2 Reason Behind Wrong Estimates / Project Cost

In most cases, cost control in the allowances, in order to include the cost, becomes fire-fighting. However, if the cost estimation is poor in the first place, but with any amount of assessment engineering (the concept of determining the cost efficiency of each decision, along with the reduction in running costs) your project is happy with bringing the value of the house home and the price, and it is appropriate for the leaf to the skin page.

- False Benchmarking

- Unclear or incomplete design

- False and Inaccurate Data and unrealistic assumptions

- Wrong allocation of Resources

- No standard estimation Technique

- Lack of latest costing Tools

- No cash flow plans

3.1.3   Inaccurate Scheduling/ Delays

In spite of acquiring knowledge acquired in project management, delays and expenditure are the underlying parts of most projects. Although some may argue that it is not insignificant, it is important that the physical and economic scale of today's projects is that it is managed under the platform of profit for the parent organization and for national interest (for government projects) by the degree of cost, time, and scope of success defined in the iron triangle. It is highly appreciated to focus on delay and expense due to project and delay to increase the perception of the project.

- Planning based on Impracticable Goals

- Lack of proper Risk Management

- Undocumented delays

- Less accountability due to overburdened Human Resources

- Delays caused by other stakeholders involved, e.g., Client, Consultants, Legal Authorities, etc. (Poor Stakeholder Management)

3.1.4   Reasons Behind Improper Execution

After analyzing the above identified reasons behind project failures, the establishment of PMO becomes indispensable. PMO would help to minimize the impacts of above mentioned issues.

- Overburdened Project Managers/ Improper Resource allocation

- Lack of Resource Ability Matrix

- Untrained Professionals

After analyzing the above identified reasons behind project failures, the establishment of PMO becomes indispensable. PMO would help to minimize the impacts of above mentioned issues.

3.2 Roadmap to the Establishment of PMO

3.2.1 PMO Vision

To become a supportive organ within an enterprise to assist Project Managers

3.2.2 PMO Mission

To assist project managers by providing standard documents, best practices, templates and forms

To provide consultancy to the Project Managers in Project related issues

To conduct trainings for Project Teams

3.2.3 PMO Objectives

The purpose of a PMO is very simple, it is a framework that supports all stakeholders and project teams to improve the success of successful steel. An organization embarks on a project to achieve a result. This involve valuable asset investment (people, money, time). It does not work if it does not improve the possibilities of project delivery successfully, and it is not necessary.

- Efficient and effective resource utilization

- Define and maintain Standard Operating Procedures

- Establishment of principal organizational fountain for OPAs and EEFs.

- Unified templates creation for documenting and reporting purposes

- Project dashboard and performance tracking

- Training the Project Teams

3.2.4   Type of Proposed PMO

According to the Gap analysis and its identification, Supportive PMO is being proposed for PEL. Following are the reasons behind the proposal:

- The key problem in project failure was lack of standard procedures and formats; hence, at the outset there is a need to support the Project Managers by providing standard documents, templates and forms. For this purpose, supportive PMO is preferable.

- The Organizational culture would not readily accept the authority of PMO. If a PMO with higher authority is established, it would create sense of insecurity among other departments or functions of the organization. They would regard it as Project Police and a type of organizational bureaucracy. Therefore, Supportive PMO would be preferable since it would develop its repute through support and help to the Project Managers.

- At start, higher management would hesitate to provide sufficient support to newly established PMO. However, Controlling PMO or Directive PMO requires higher authority and control over Projects. Therefore, Supportive PMO is desirable, since, it can be productive with lesser control and authority.

3.2.5   PMO Roles and Responsibility

PMO is a central management structure for a center of projects in an organization that ensures standards, reduces duplication and extends resources like public, technology and communication, project tracking, and project support.

- Developing Standard Project Documents

- Business Case

- Project Charter

- Project Scope Statement

- Work Breakdown Structure

- Requirement Traceability Matrix (RTM)

- Risk Register

- Stakeholder Register

- Project Management Plans

- Scope Baseline

- Cost Baseline

- Schedule Baseline

- Status Reports

- Statement of Works

- Request for Proposal

- Bidding Documents

- Procurement Management Plan

- Conducting Trainings

- Provide Consultancy to the Project Manager

3.2.6 PMO Governing Authority/ PMO Structure

PMO Manager would directly report to the CEO. A PMO Steering Committee would be established to set targets for PMO and assess its usefulness.
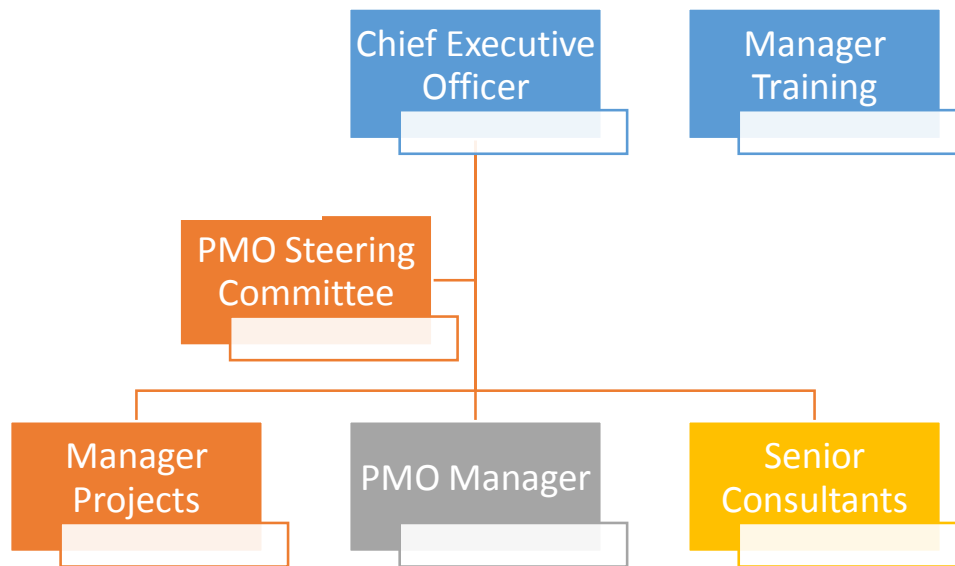
FIGURE 3.1: PMO Structure

3.2.7 PMO Key Performance Indicators

A Key Performance Indicator (KPI) is an example of performance measurement (eg metric), which uses a resource to evaluate the success of a specific activity. PMO has to define a specific set of matrices (with its stakeholders) and it will pay for the business.

- Improved Project Completion (%)

- Improved Stakeholder Satisfaction

- Sufficient Support from the Higher Management

- Development of Standard Documents, Templates and Forms

- Improved Employee's Performance

3.2.8 Implementation Challenges to PMO

Here are few challenges that an organization mostly face during the implementation of PMO

- Organizational Cultural Resistance (Bureaucracy Phobia)

- Overhead Cost Against Invisible Productivity

- Demonstrating the Value of PMO

- Lesser Authority and executive support at its inception

- Poor Resource Management Capability

3.2.9   Outcomes/ Benefits of PMO

Each company is different, but the management of the project management is universal. The organization has the benefit of having the best practices for managing the project. Even if it is in an office, a PMO can help in:

- Development of Standard documents, methodology and processes for Project Management

- A way forward to Economy of Repetition

- Optimized Resource Utilization

- Trained Project Management Teams

- Increased Cooperation and Coordination among various division of PEL

- Improved Risk Management

- Improved Stakeholder Management

- Minimizing the obstacles to the Project, e.g., Legal obstacles, Consultant's Approvals, etc.

Chapter 4

Suggested Implementation of PMO

The following are seven stages that will assist you with defining and execute a PMO into your Organization.

4.1 Stage 1 – Characterize the Objective of the PMO

Be sure about the objectives of the PMO

There are three types of PMO (Administrative, Pro-active and Hybrid). You would then need to determine which type to establish based on organizational needs.

4.2 Stage 2 – Sponsorship

PMO support is crucial for progress. This is something you 'must have'. Without senior/official sponsorship ordering the necessity of a PMO, you will think that its exceptionally troublesome, even inconceivable, to implement. Without this command, you will find that venture management and groups will resist.

Some project managers will be uncomfortable with this as they lose some authority over controlling the message stream on project status.

You should capture the goals of the PMO as characterized in stage 1 and after that concur them with the PMO sponsor. You should then get the PMO support to convey that a PMO will be shaped, the targets of the PMO and to sustain that you have the command to set up the PMO. This correspondence ought to at the very least be as a reasonable and brief email to all significant resources. Far and away superior is if the support gives the order in suitable gatherings, town lobbies, and so forth.

This stage will help evacuate a great deal of obstructions and push back, which thus will spare time.

4.3 Stage 3 – Characterize PMO Devices and Procedures

In view of the concurred destinations, list the capacities that the PMO should support. Again to make it simple, think about what abnormal state capacities are required, and afterward expound at lower levels inside capacity, where important.

The Project Management Body of Knowledge (PMBOK) provides a decent reason for the required functions. These are nonexclusive and ought to be a piece of each PMO.

- Planning (achievements)

- Financial arranging (spending plan)

- RAID the board (Risks, Assumptions, Issues, Dependencies)

- Reporting (report types, announcing journal)

- Quality confirmation

- Change control (scope, costs, plan, benefits)

- Resourcing (organization structure, enlistment, asset arranging)

- Communication

- Procurement

- Project archive stockpiling

These are a piece of project methodology and apparatuses/forms (counting supporting programming).

4.4   Stage 4 – PMO Organization

After you have worked out what instruments and procedures should be built up, you would then be able to think about what number of and what type (skills)of assets you require for the PMO.

Again it is essential that you build a PMO that will have the capacity to convey the destinations of the PMO. This progression can be extremely uncertain as, until the point when the esteem has been demonstrated, senior management are hesitant to put resources into assets.

It is a decent exercise to outline the PMO organization in an organization diagram. This will assist you with thinking through the structure and how it will bolster draw in with stakeholders. It additionally will give an exceptionally valuable report that you can impart to extend groups, and so on when they ask how the PMO underpins and connects inside the organization.

To defeat this barrier, it merits reminding the support that the reason for the PMO is to give transparency through precise detailing permitting the early identification of issues/dangers that will affect fruitful delivery.

The forthright cost spares a higher long haul cost when dates are missed, benefits neglect to appear, and so forth.

4.5   Stage 5 – Engage and Impart

This is a crucial step. You have to recognize the key partners to the PMO, particularly those in charge of dealing with the project and programs. Make beyond any doubt they comprehend what you are intending to do, what is normal from them and most critical, how you will help them. Remember, correspondence is 2 different ways, since you have conveyed a message it doesn't mean it has been gotten, comprehended or accepted. Make beyond any doubt you increase positive affirmation.

A decent method to do this is by catching up with partners by inquiring as to whether they have any inquiries and on the off chance that they might want any further information. This has the additional advantage that it enables you to draw in and construct working connections.

Tip: If the data stream is one route with the PMO requesting data (more often than not by risk of naming and disgracing), you won't get the required dimension of commitment and you will fall flat.

The best PMO's that I have constructed is the place a PMO offers help to the task directors, turns into an accomplice cultivating a domain of trust. In this circumstance the project supervisors will be straightforward, enlighten you regarding the issues and after that you can work with them to enable them to tackle them. This implies more undertakings remain on track and everybody is glad (particularly you as pioneer of the PMO as you can show the estimation of the administration).

4.6   Stage 6 – Monthly PMO Schedules

Rapidly implement the PMO schedules

Consistently or even more regularly, the PMO will be required to give a status of the projects and programs. Therefore, it is basic to get these calendars completely operational as quick as possible. Even in case you have not worked out all of the gadgets and systems, you ought to plan to get the declaring typical going as quick

as possible. This is a fast success and will give senior management opinion that you have everything under control.

Ensure that the schedules are documented and communicated to all significant parties. This will help guarantee that project groups recognize what is normal and by when. This enables them to deal with their time and will guarantee that the ordinary solicitations are not seen as "flame drills". Project managers can get extremely unsettled with what they believe are a minute ago demands and they will be exceptionally vocal to their very own project sponsors.

It is basic that once you have set out timetables and schedules that you stick to them. If you don't it will baffle the stakeholders as they won't comprehend what is happening, result in more fire penetrates and sends the message that gathering dates isn't generally essential.

4.7   Stage 7 – PMO Charter

Stages 1 – 6 covers a lot of information. Therefore, it is a smart thought to catch these key components in a project charter. A decent project charter will cover these focuses in an approach to plainly well-spoken:

- **PMO Goals**

- What the PMO will/won't do

- Organizational appear (checking occupations and commitments)

- Tools and methods

- Monthly uncovering essentials

- Key contacts

Chapter 5

Change Management in Organization

5.1 Change Management in Organization

One of the fundamental challenges in executing a PMO, beside presenting apparatuses, frameworks and procedures, is managing the "general population side" of change. Regularly organizations don't consider how the adjustment being presented will influence the association, it's folk, and ethos. Affecting into a task constructed corporate or developing the compass of the Project Management Office in the event that it is as of now settled, regularly has impacts on numerous parts of the corporate. It is basic to construct clear the mean to address administrative adjustment controlling at the start of the usage or when the Project Management Office capacity is being improved.

Regularly the measure of the interest in a Project Management Office is generous. Also, it very well may be challenged to work sub ideally or flop if the Corporation Adjustment Administration perspectives are mistreated or neglected. Tending to the Organization Change Management problems from the start of any Project Management Office usage or change improves the probability of its prosperity.

5.1.1 Normal Organization Change Management Challenges When Implementing a PMO

A PMO is a project management office that represents a division of an organization works to improve the project Management. In fact it is a unique complex organization existing in an organization. There are several positions representing PMO, they are process management offices, portfolio management offices etc. However, the term commonly used is mostly for PMO's project management office, where process management, portfolio management, other terms and conditions are used explicitly.

- Finding "steps" in the organization that repress or keep the improvement of data expected to decide.

- Implementing a PMO out of the blue – and not knowing how much the organization can or will be influenced.

- Not understand the pace and adaptation rate of adjustment the organization can achieve.

- Resistance to the possibility of a Project Management Office or reinforcing the Project Management Office by higher innovators, mid-stage supervisors as well as employees to the adjustment and responsibility that originates from a task constructed association.

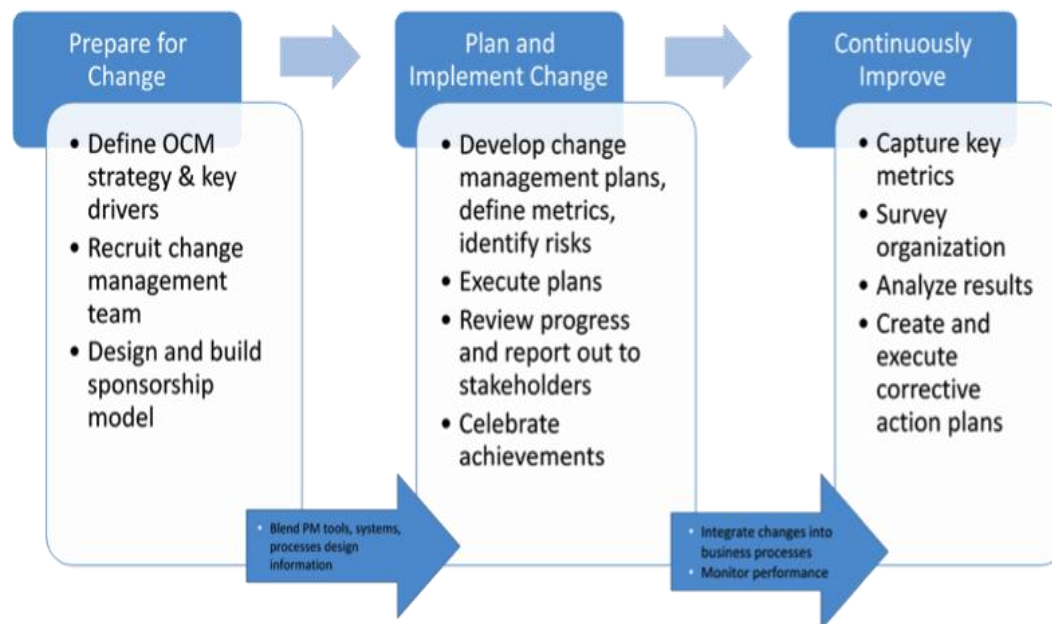## 5.1.2 PMO Change Management in Organizational

FIGURE 5.1: PMO Change Management in Organizational

Figuring out what desires enhancement and executing that in a Project Management Office frequently necessitates organ.

Firm and people adjustment how they job and play out their job. This can be awkward or notwithstanding alarming to the individuals who are needed to adjustment. Assisting individuals at all dimensions adapt to the progressions facilitates the way for usage.

We consider that Organization Change Management job is without a doubt the greatest fundamental job that customer's comprehension. Ten Six specialists get wide involvement as trade pros and adjustment management who acknowledge how to do this fundamental capacity with our customers. Underneath is a plan of our Organization Change Management procedure, which depends on business greatest performs and our practice in this domain?

Customers to create and define the following for its Project Management Office implementation:

- PMO executions

- Organization Impact

- Change Management Strategy

It is suggested that a change management group be distinguished. It tends to be the undertaking group or a different group of representatives from the organization components influenced. We likewise work with customers to recognize the supporters and include them all through the change endeavors.

As the project builds energy we utilize a variety of devices to survey resistance and work with the group to proactively deliver these issues to alleviate their effects. If necessary, issues can be heightened and tended to with management.

- Sponsorship Model and Roadmap

- Communications Plan

- Change Agents, Support Managers and Supervisors Coaching Plan

- Resistance Management Plan

- Master Change Management Plan

5.2   Getting Started with Change Management

The motivation behind all ventures is to actualize adjustment and to empower an organization to move from a present state a desired coming state (with new) to procedures, frameworks, organization structures or occupation jobs).

While (PM) Project Management is tied in with conveying the projects prerequisites, change management centers around the persons impacted by the adjustment and encourages people to create a fruitful individual progress to the latest state.

Moving without interview is certifiably not a decent technique for progress

This is the reason change managers must be mined full so as no 'pitch' a change to individuals as a method for quickening their acknowledgment. Moving without

meeting is definitely not a decent system for progress, as it distances individuals. When we tune in to senior management pitching to us, we may grin and seem to acknowledge what is being stated, however within we may believe. I make sure been counseled or included and I'm stressed over the outcomes of this adjustment. It might profit the chief.

A few persons may need to drive further to arrive. Others will be put in an open arrangement condition and need to surrender their isolated workplaces. A couple of individuals may even be apportioned a hot work area and dread it will influence their capacity to center and take care of business.

The sort of dread and vulnerability that these individuals feel can't be defeated through power or by pitching to them. It must be tended to when change administrators appreciate individuals' profoundly established feelings and the necessities that motivation them.

Explain the different Advantages

FIGURE 5.2: Create Steps of PMO

5.2.1 Kotter's define the different eight Advantages to Advance Change

Change management master, John Kotter proposes that for adjustment to be effective, Seventy-five % of the influenced organization desires to become tied up with the change. This stresses the significance of making discourse with individuals and adjusting the change so a minimum amount of individuals will boost it.

Kotter has conceived an 8 -advance adjustment model to enable execute to adjustment in a powerful way. The different eight stages are to be Explain:

5.2.1.1 Create Urgency

One of the best ways to convert and sell is to create a sense of urgency in your marketing. For a long time, a person will deliberately consider whether to buy your product or service, perhaps they will speak themselves out of it.But your product or service may not be available in the future but may cause concern among your visitors, but people can take and purchase fast.

There are ten different ways respectively

- Offer something people want

- Set a Deadline

- Use the Right Words

- Offer a Bonus Incentive

- Customize Your Offers

- Keep the Pressure On

5.2.1.2 Form a Powerful Coalition

Powerful coalition - A key tool for volunteers enthusiastic team-leaders across an organization, and is an important tool for leaders interested in implementing

new strategies and converting their organizations. And the inductive alliance is essential to decide who will take part.One of the most important aspects of a guiding alliance is its diversity. A functioning team includes people across the organization who can bring unique skills, experience, outlook and network to the table, Their distinct perspectives enable the team to see all aspects of an issue and raise the most innovative ideas; Their reliance on efforts to change their role and title; And their encouragement helps push the campaign forward with the speed and speed required for success.

5.2.1.3 Make a Dream for Adjustment

Reasonable idea that can be effectively gotten a handle on and recollected will enable everybody to comprehend why the adjustment is vital. To acquire the dream right, it's imperative to maintain it small and basic and that it is centered around the passionate and inventive viewpoints that are important to push administration and effectiveness.

5.2.1.4 Connect the Vision

The wish has been made it ought to be passed on a great part of the time and proficiently and introduced in everything that the change gather does. In doing in that capacity, they should address society's stresses and nerves straightforwardly. In any case, it's lacking to examine the vision. The change gathering ought to moreover walk the talk and display the kind of direct they require from others.

5.2.1.5 Remove Obstacles

At the point when the change is in progress it's vital to continue evacuating any restrictions that are standing out with the goal that we can engage the individuals who requirement to help perform the idea. Modification administrators can expel restrictions by tuning in to individuals' feelings of dread and questions and helping them see how might this benefit them. This is tied in with empowering productive input and fulfilling and perceiving individuals for getting change going.

5.2.1.6 Make Short-Term Wins

Defining objectives in the passing that are anything but difficult to accomplish and that produce snappy successes can increase further purchase in for the adjustment. There is nobody as incredible as observing substantial outcomes being actualized. Break the adjustment into chomp measure lumps and guarantee that advantages will be conveyed timely and bit by bit.

5.2.1.7 Construct on the Adjustment

Rapid successes and conveying timely advantages are just a piece of what requirements to ensue to accomplish long haul adjustment. On the off chance that we let up too soon the task may fall flat. Modification administrators requirement to guarantee on-going advancement that keeps the force up and expands on past victories.

5.2.1.8 Anchor the Adjustment

The remainder of Kotter's 8 stages is to roll out the improvement stick by implanting it into the company background and the organization's everyday work. This implies new working strategies may should be made and pursued. But on the other hand it's critical for long haul achievement that management keeps on stimulating the estimation of the adjustment and display bolster for it.

The capacity to execute adjustment and help an organization progress well starting with one formal then onto the next is fundamental for any organization that needs to tolerate and flourish. For adjustment to be effective supervisors want to regular and convey an obvious idea, frame a solid adjustment group, actualize brisk successes and make change some portion of the organization's day by day business working model. In any case, similarly significantly if not more is that change troughs adopt a counselling strategy and truly care about the general population will identity influenced. They need to give as much clearness as they can around the adjustment, address individuals anxieties and worries and attempt to turn in their shoes.

All things considered, modification administration is about the general population. Furthermore, if individuals oppose, the change will fall flat.

Bibliography

Block, T. R. (1998). The Project Office, Crisp Publications, Menlo Park, CA,. *International Journal of Project Management*, 12(2), 121-131.

Cleland, D., & Kerzner, H. (1985). A project management dictionary of terms van Nostrand. *International Journal of Project Management*, 4(3), 172-192.

Darrel, V. (2011). Roles and responisibility of PMO and its characteristics. *International Journal of Project Management*, 10(1), 181-190.

H.Salameh. (2014). A framework to establish a project management office. *European Journal of Business and Management*, 6(9), 19-26.

Huemann, M. (2010, May). Considering Human Resource Management when developing a project-oriented company: Case study of a telecommunication company. *International Journal of Project Management*, 28(4), 361-369. doi:10.1016/j.ijproman.2010.02.008Get

Lilis, G., Conus, G., Asadi, N., & Kayal, M. (2017). Towards the next generation of intelligent building: An assessment study of current automation and future IoT based systems with a proposal for transitional design. *Sustainable Cities and Society*, 28(1), 473-481. doi:10.1016/j.scs.2016.08.019

Luftman, J. (1996). Competing in the Information Age: Practical Applications of the Strategic Alignment Model, Oxford University Press, New York. *Journal of Strategic Sciences*, 10(1), 89-94.

Meredith, J., & Mantal, S. J. (2000). Project Management: A Managerial Approach, 4th ed., John Wiley & Sons, New York. *Journal of Management Sciences*, 5(2), 221-228.

MoniqueAubry, BrianHobbs, & DenisThuillier. (2007). A new framework for understanding organisational project management through the PMO. *International Journal of Project Management*, 25(4), 328-336.

R.Muller, & K.Jugdev. (2012). Critical success factors in projects: Pinto, Slevin, and Prescottthe elucidation of project success. *International Journal of Managing Projects in Business*, 5(4), 757-775.

Raynor, D. (2011). Roles and responisibility of PMO and its characteristics. *International Journal of Project Management*, 10(1), 181-190.

S. Spalek. (2013). Improving industrial engineering performance through a successful project management office. *Inzinerine Ekonomika-Engineering Economics*, 24(2), 88-98.