BANU MUKHTAR SINCE 1964
STEEL (Pvt.) Ltd.

CERTIFICATE

This witness statement is issued to the applicants for the fulfillment of their MS (Project Management) program requirements being carried out at Bahria University Lahore Campus (BULC).

It is witnessed that **Mr. Adnan Jamil**, Enrollment: **03-298152-003** and Mr. **Muhammad Tahir Ismail** Enrollment: **03-298152-016** Class: **MSPM-II_** Semester: **Spring 2016** have participated in our real-time projects for implementing project management skills using MS Project as a leading software tool.

They have contributed fully in the following project(s) and within the highlighted fields (planning, scheduling, earned value analysis, performance monitoring, claim debugging):

1. Up Gradation of Banu Mukhtar Steel Fabrication Plant

They have been found skillful in applying MS Project in the following highlighted fields

- Planning
- Scheduling
- Earned value analysis
- Performance monitoring & report generation

Additionally they have analyzed the organizational project and suggested a PMO to organization. In the 1st stage of implementation of PMO they have provided templates for Project Charter and Project Scope Statement.

It is noteworthy to mention that **Mr. Adnan Jamil**, Enrollment: **03-298152-003** and Mr. **Muhammad Tahir Ismail** Enrollment: **03-298152-016** demonstrated good ethical practices, enthusiastic approach to work, task convergence capabilities, professionalism while their stay with this organization.

Certified By Company Official:
(Signature, Stamp & Date)

10th JUNE 2016

Mr. Zeeshan Azhar Ch.
Management Representative [Banu Mukhtar]

5-A, Ali Block, New Garden Town, Lhr
BANU MUKHTAR Steel (Pvt.) Ltd.
UAN. 111-212-111

Verified By Trainer:
(Signature & Date)

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Abstract

This report is prepared to as a part of course MSP632-Dynamics of PMO & EPM Server. The purpose is the practical application of the knowledge studied at Bahria University (Lahore Campus). The report consists of two major parts.

Part one consists of introduction of PMO and its implementation in Banu Mukhtar Group. As part of this task, the organization existing processes are studied to perform need assessment of PMO in the organization. The report also covers the objectives and the success factors for implemented PMO at Banu Mukhtar.

In second part a computer based scheduling tool MS Project is applied on a real world running project. While using this tool, we have learned and applied the software capabilities of the scheduling, resource definition and assignment, costing, tracking and performance reporting. These tasks are performed on MS Project 2010.

We hope this report will help the reader to understand the PMO, its implementation in Banu Mukhtar and project handling through MS Project.

Table of Contents

emplates Attachments

- Project Charter
- Project Scope Statement

01- Overview of Organization [Banu Mukhtar]

1.1 Introduction

Banu Mukhtar Group established since 1964 is now rated as one of the prominent construction groups. Following companies are working under the flag of Banu Mukhtar.

1.1.1 Banu Mukhtar Contracting Pvt Limited

Banu Mukhtar contracting is the lead company of Banu Mukhtar group and working since inception of the group. The company experience spanning over more than 5 decades now has to its credit the diverse nature projects including industrial, commercial, institutional buildings, infrastructure projects and all kind of civil works.

Banu Mukhtar Contracting Pvt Ltd is registered in C-A catogory of Pakistan Engineering councel. Companies in this catagories are liscenced to construct engineerig works upto capital cost of No Limit.

1.1.2 Banu Mukhtar Steel Pvt Limited

Banu Mukhtar Steel Pvt Limited is the latest venture of the group but growing exponentially owing to the huge demand of steel buildings in the country. The company provides full range of services including steel structure design, detailing, shop drawings, manufacturing and installation services at site. The products is enriched with unique advantages of large span, economy of construction, reduced time frame and low maintenance.

1.1.3 Banu Mukhtar Products Pvt Limited

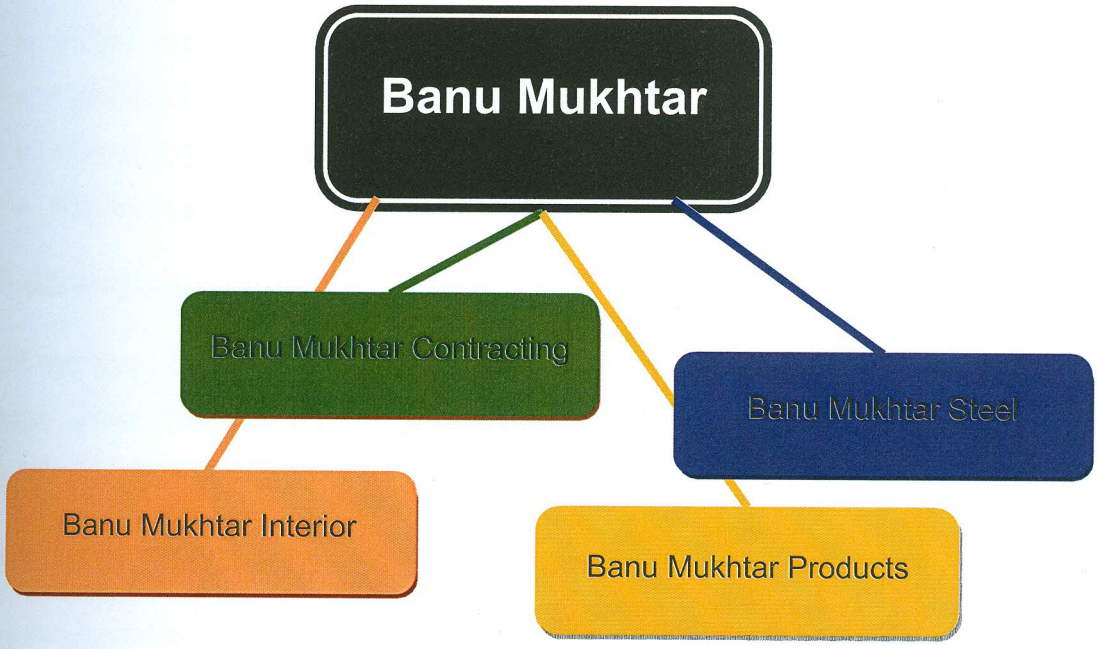
Banu Mukhtar Products Pvt Limited is one of the biggest suppliers to produce pre-cast and pre-stressed concrete products in the country. The company offers following products;

- Precast Pre-stressed Double Tee Planks

- Precast Pre-stressed Hollow Core Slabs
- Precast Pre-stressed Girder Slab System
- Precast Boundary Wall Systems
- Paving Stone
- Kerb Stones & Edging Stones
- Hollow and Solid Concrete Blocks
- Precast Security Barriers
- Precast Drains

1.1.4 Banu Mukhtar Interior Pvt Limited

The collection is targeted to provide comfort and luxury at reasonable prices. The range of products of Banu Mukhtar Interior includes a wide range of designer kitchens, doors, wardrobes, wooden flooring and furniture illustrating contemporary lifestyle.



1.2Vision of Organization

"To become the Market Leader in Services and Products of Construction Industry"

1.3 Mission of Organization

"Keeping the customers our first priority our mission is to deliver the best quality of construction services and products through innovative engineering and efficient processes. We empower every individual of our complete supply chain team to improve the quality of our services & products every day"

1.4Core Values of Organization

Banu Mukhtar remains adhered to its founding values of Quality, Morality, Professional Commitment and Hard Work. Banu Mukhtar believes in establishing a long-term Customer relationship by focusing on a proactive approach of Timely completion but with quality and commitment.

1.5 Core Areas of Business

The core areas of business for Banu Mukhtar is as following

- General Civil Works
- Industrial Constructions
- Commercial and High Rise Construction
- Pre-Cast Construction
- Prefabricated Steel Buildings Construction

1.6 Strengths of the Organization

Over the time, the company has developed into a trusted name in the construction sector. Other than solid financial muscels, the company capitalize on the below mentioned areas of strength.

1.6.1 Structural Design and Engineering

The Engineering Department of Banu Mukhtar is equipped with the latest building design codes and tools to perform both 2D and 3D structural modeling for analysis and design of structures. The department has the capabilities to perform;

- 3D Structural Modeling
- Seismic Analysis & Design
- Finite Element Modeling

- Static & P-Delta Analysis
- Non Linear Analysis

The department is equipped with the following building design codes.

- Metal Buildings System Manual by MBMA (Metal Building Manufacturers Association Inc. USA)
- Manual of Steel Construction – ASD by AISC (American Institute of Steel Construction Inc.)
- Cold Formed Steel Design Manual by AISC (American Iron & Steel Institute)
- Manual of ASCE (American Society of Civil Engineers)
- International Building Code (IBC)
- American Concrete Institute
- Building Code of Pakistan

In order to yield high efficiency and speed the engineering department takes benefit fromthe below mentioned computer based tools:

- MBS (Metal Buildings Software)
- STAAD – PRO
- SAP 2000
- ETABS
- TEKLA Structures
- AutoCAD
- 3-D Max
- In House Developed sheets & Software

1.6.2 Construction and Contracting

The lead company of Banu Mukhtar Group "Banu Mukhtar Contracting (Pvt.) limited" is company certified by Pakistan Engineering Council (PEC) in highest category C-A. This category is entitled to perform no limit construction contracts of all types. The company is involved in construction of scores of Industrial, High Rise Structures, infrastructure projects and Institutional & Commercial Buildings.

1.6.3 Manufacturing Plants

1.6.3.1 Steel Building Fabrication Plant

The company owns fully equipped steel buildings manufacturing facility developed in 16 acres of land. The facility is currently operational at full capacity and also is under up gradation which will increase the manufacturing capacity by three folds. Upgrade will be complete by end of August this year.

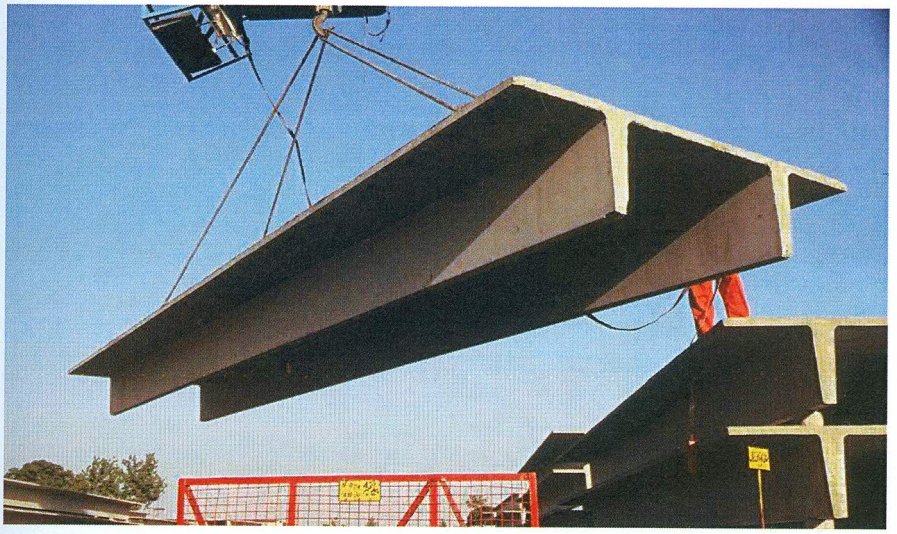
1.6.3.2 Pre Cast Pre Stressed Hollow Core Slabs Plant

The plant is operated under the umbrella of Banu Mukhtar Products (Pvt) Ltd and has the capacity to produce country`s largest span using Hollow Core Slabs. The Pre stressed hollow slabs are considered as the most sophisticated technology of pre casting in the world. Banu Mukhtar is the pioneer to produce such pre cast slabs in the country.

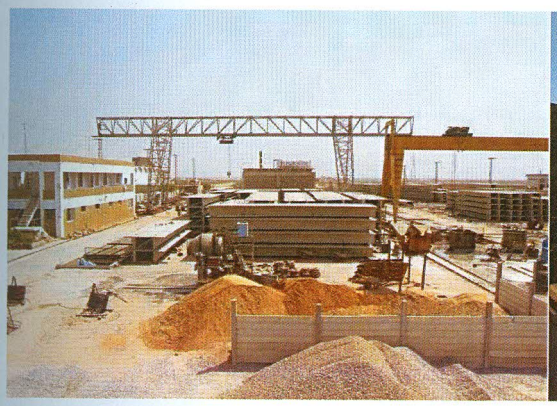
Hollow Core Plant

1.6.3.3 Double Tee Plants

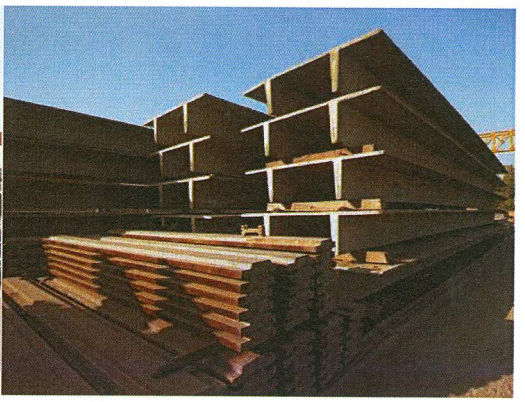
Like the name indicates, a precast, pre-stressed double tee look like two side-by-side coupled capital letter T. Double tees offer much flexibility in construction, where structures requiring long but uninterrupted spans to carry high load. Double Tee found most suitable for industrial buildings, Godowns, warehouses and maintenance shops etc. Double Tees can be used to build Multi Storey Buildings. Banu Mukhtar has three difference plants for the production of Double Tee located in Lahore, Karachi and Hattar.



Double Tee Plant in Lahore



Double Tee Plant in Karachi

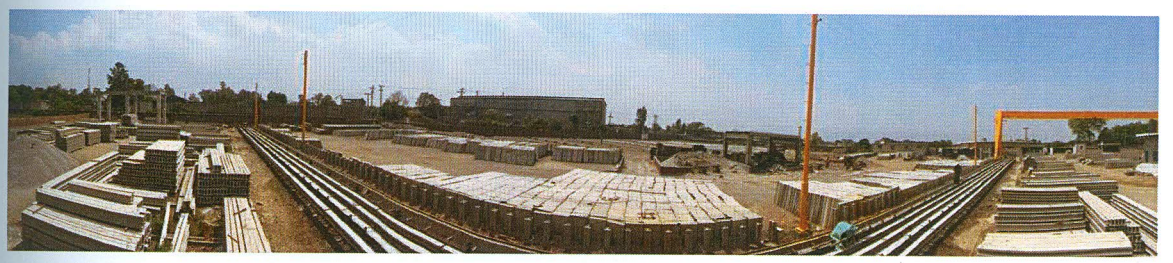


Double Tee Plant in Hattar

1.6.3.4 Pre Cast Wall & Girder Slab Plants

Going with the latest trends of the reducing construction times, the Banu Mukhtar Products is running a plant to produce small pre cast products at its plants in Gujranwala and Hattar.

Pre-Cast slabs Plant in Gujranwala

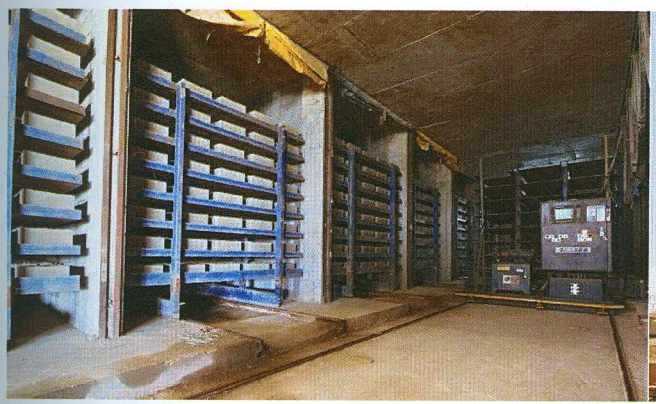


Pre-Cast slabs Plant in Hattar

1.6.3.5 Concrete Paver and Block Plants

Banu Mukhtar Products (Pvt) Ltd is the largest producer of Pavers, Blocks and paving accessories. At the moment there are five different plants operational in Sheikhupura, Hattar, Hub and Karachi.

Pavers Plant in Hattar



Pavers Plant in Hub

Pavers Plant in Kaarchi

1.6.4Equipment and Tools

The list of equipment's and tools owned by Banu Mukhtar is as following

Description	Capacity	Quantity
Batching Plants	60m3/Hr.	01
	40m3/Hr.	02
	30m3/Hr.	06
	15m3/Hr.	07
Mixer Machines (Mobile)	2 bags	24
	1 bags	40
Concrete Pumps (Mobile)	20m Boom	03

Heavy Truck Trailers	50 feet Length	02
	40 feet Length	06
Bed Ford Tricks		02
Fork Lifter (Trucks)	4 Tons	01
	3 Tons	10
	2 Tons	02
Transit Mixer	6 m^3	05
	3 m^3	07
Mobile Cranes	35 Tons	02
	25 Tons	02
	15 Tons	02
	5 Tons	02
Electric Power Generators	250 KVA	04
	200 KVA	02
	150 KVA	02
	100 KVA	06
Front End Loaders	CAT 950 Plus	01
	CAT 910 Plus	01
	Kawasaki	01
Form Work	Steel Plate Shuttering	500,000 SFT
	Steel Form Work	30 Set (Shell Type)
Slip Forming	For concrete silos	01 set
Scaffolding Pipes		1,100,000 RFT
Scaffolding Splices		7,500 Nos.

1.6.5 Registrations and Accreditations.

Banu Mukhtar is a recognized company registered with the following authorities

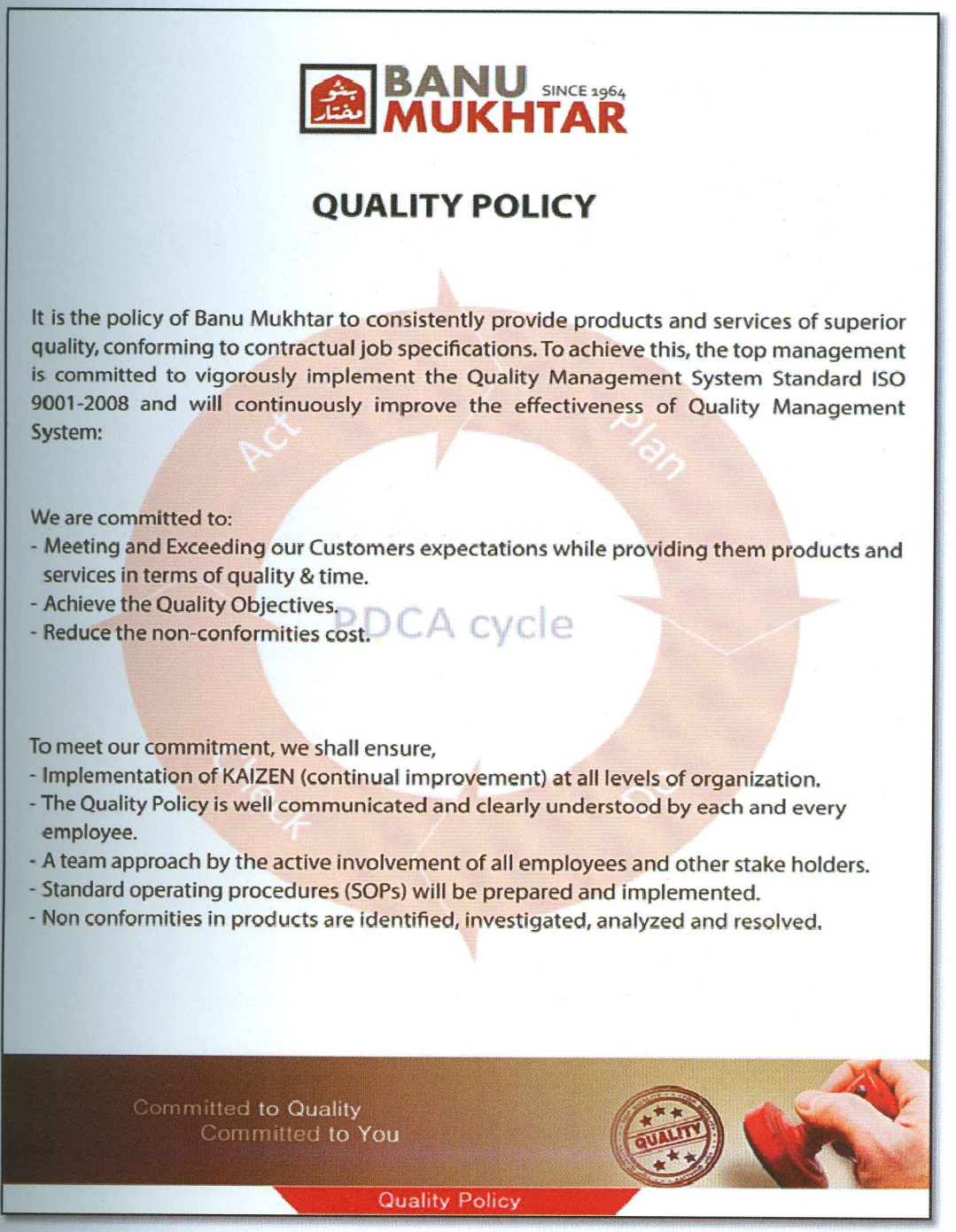
- Securities and Exchange Commission of Pakistan – SECP
- Pakistan Engineering Council – PEC
- Federal Board of Revenue FBR
- Pakistan Building Department
- Lahore Chamber of Commerce and Industry
- Pakistan Green Building Council – PGBC

1.6.6Turnkey solution

Banu Mukhtar has recently decided to exploit its rich experience and a highly capable work force by seeking turnkey construction contracts. The venture is moving with exponential growth and is developing as a key revenue generation operation of the group.

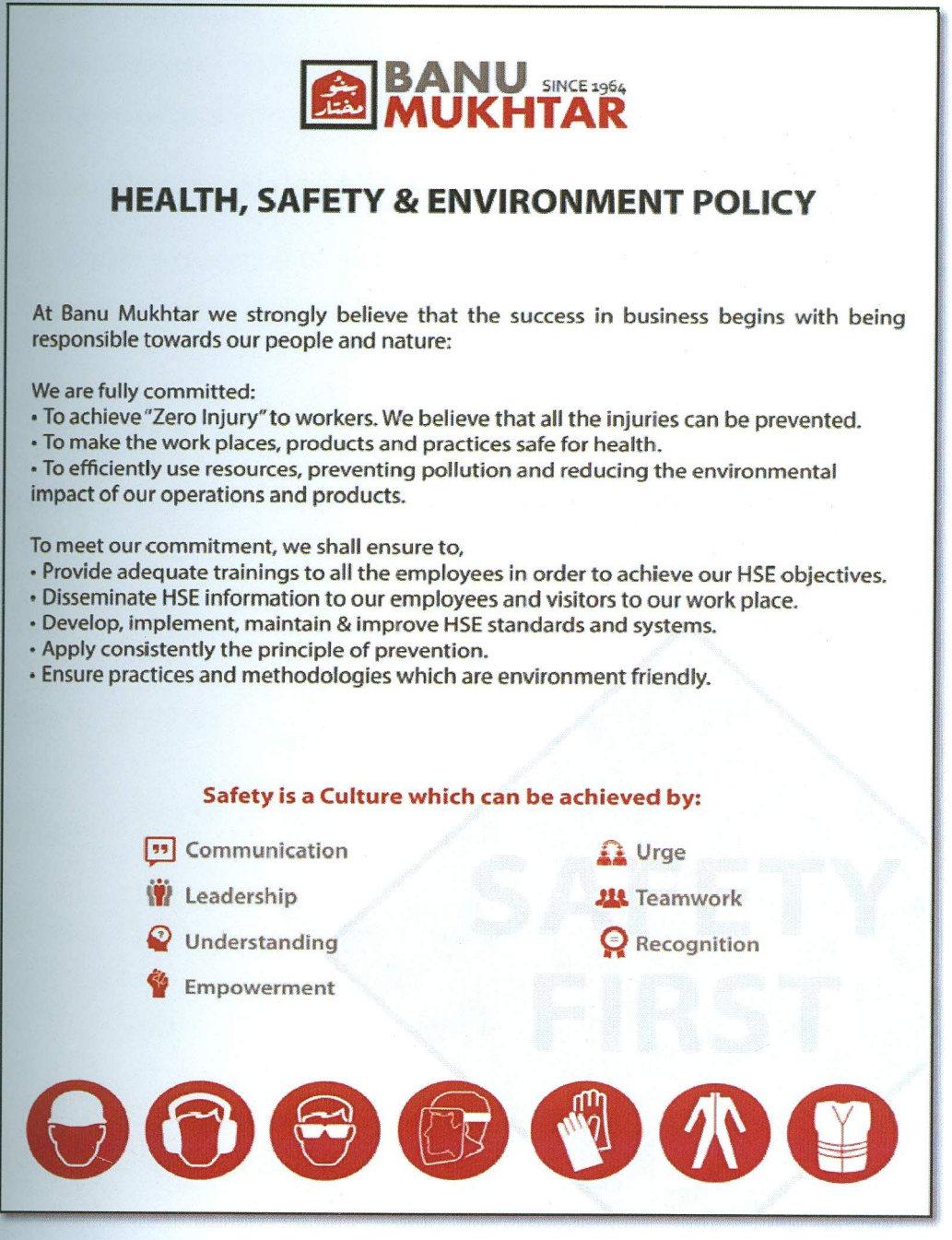
1.7 Quality Assurance

Banu Mukhtar believes in quality of products and services. The quality policy displayed hereunder drives the overall quality philosophy of the organization. Independent focal persons exist in each company to audit and implement quality policy.



1.8 Health, Safety and Environment

Recognizing the social responsibility towards its employees and environment in which the organization company operates, the company has a well-defined health, safety and environment policy displayed as under. The functional groups performance appraisals system includes the performance in this domain in order to develop and maintain as safe, tidy and responsible working unit.



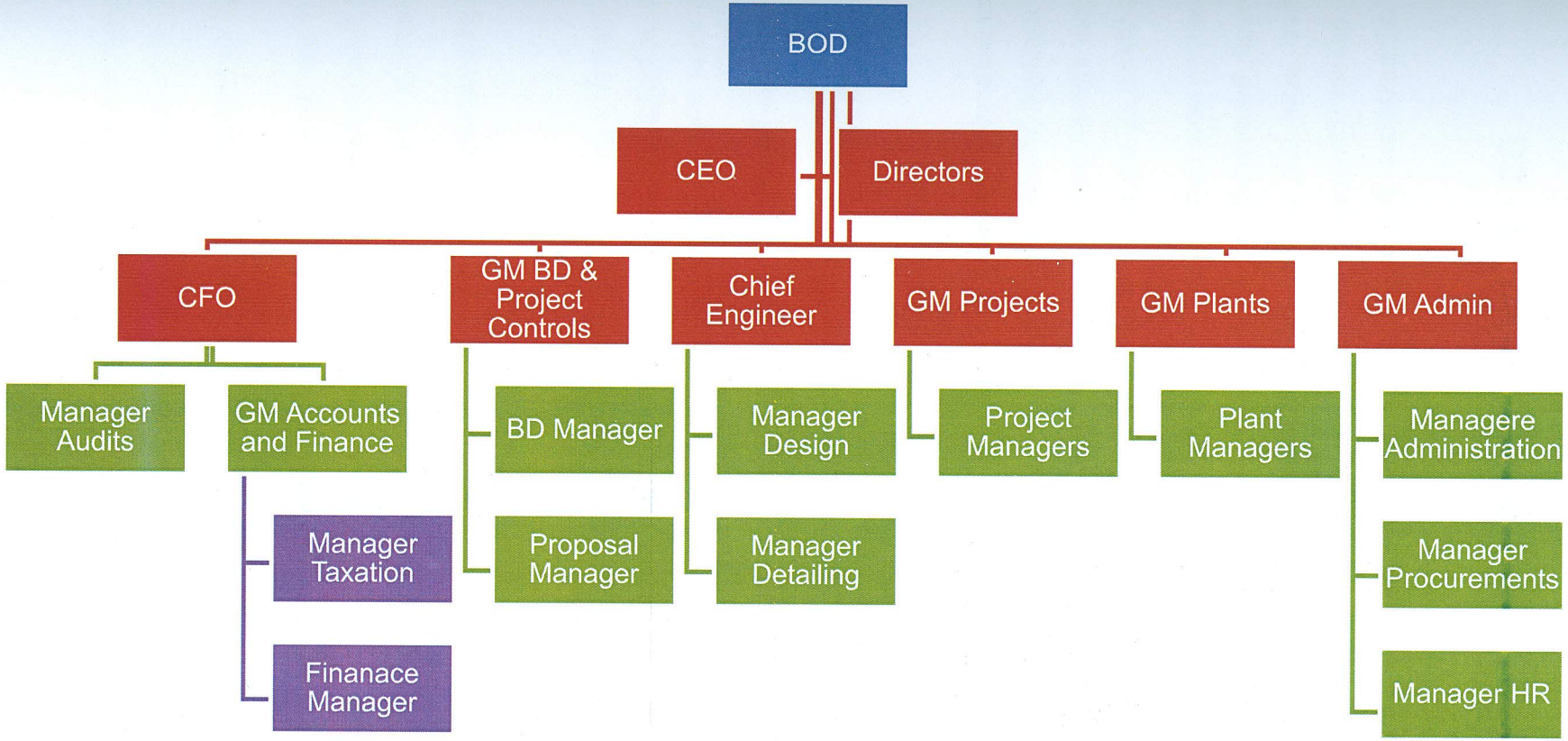
1.9 Banu Mukhtar Business Drivers

- Past Experience and History
- Scalable Capital
- Advanced equipment and tools
- Experienced Human resource
- Client satisfaction
- Market Reputation
- Diversification – Shift in Market demand towards high speed construction
- Single source solution provider

1.10 Banu Mukhtar Valued Clientele

Carrying a wide experience of more than 50 years Banu Mukhtar has a long list of their clients some of the major clients are as following.

1.11 Banu Mukhtar Team (Organo-gram)



02 - Introduction to PMO

PMO is an organizational group/structure that regulates/standardizes the processes related to project governance in order to facilitate resource sharing, work methodologies, tools and techniques. Simply put, this is a structure which may help/lead/control performing groups to work more efficiently and effectively in order to achieve desired work objectives.

The main purpose of a PMO is to achieve the maximum benefits, economy and efficiency from standardizing the practices. The standardized practices should be adopted by following best practices as suggested by the known bodies of the project management like Project Management Institute and APMG International.

2.1Keys to PMO Vitality

2.1.1 Defining "P" in PMO

It is an important and necessary factor to define the right level PMO as per the requirement of PMO for the organization and desired goals. That's why it is necessary to analyze the organizational problems and structure to decide about the PMO level.

2.1.2 PMO Sponsorship

A strong sponsor is one of the key factors that contribute for the success of a PMO. Without a storage sponsor the PMO may be doomed. Due to this reason most of the times PMO is directly reporting to higher management or C Level executives.

2.1.3 Clarity of Goals

For the PMO to be effective, it is necessary to define its objectives. The Objectives must be specific and measurable. This can be reached by setting key performance indicators.

2.1.4 Continuous Improvement

PMO should be flexible and use the lessons learnt to mold itself for the maximum effectiveness and usefulness.

2.2 Forms of PMO

PMO can take any of the following three forms

2.2.1 Weather Station

The Weather Station PMO reports on what is going on. The main purpose of this PMO is to accumulate data about projects/programs and summarize it for executives. The decisions making or enforcing any standards is not the job of this PMO. They just have to pass on the information to one who is interested and authorized.

2.2.2 Control Tower

In this type of PMO, the office gives direction to project managers on methodology. This can includes formats of project document for initiation of project, resources acquisition and correcting variances. This type of PMO has more power than weather station but the level of power will be defined as per the main objective of making PMO.

2.2.3 Resource Pool

This type of PMO helps projects to conform and perform. The organizations that rely heavily on projects/programs to do business and cannot afford inattention, can "hire" a project/program manager from this repository of the expertise.

2.3 Stages of PMO

There are 5 basic Stages of PMO

2.3.1 Project Office

At this stage the objective of PMO is to over sight the project activities. Collect the information and make reports and Data repositories. The main purpose is to help to achieve Programs/Program/Projects deliverables and objectives within defined

scope, schedule and cost. Usual time frame to achieve the objective of this stage is nearly 6 months.

2.3.2 Basic PMO

At this stage objective of PMO is to control the process that are already been developed by the organization, improve them and provide a standard and repeatable PM methodology for use across all Projects. Usual time frame to achieve the objective of this stage is nearly 12 months.

2.3.3 Standard PMO

The objective of PMO at this stage is to facilitate teams to establish capability and infrastructure to support and govern a cohesive Projects environment. Usual time frame to achieve the objective of this stage is nearly 12 - 24 months.

2.3.4 Advance PMO

The purpose of PMO at this stage is to apply an integrated and comprehensive projects management capabilities to achieve business objectives by make process and methodologies for maturity of organizational business. Usual time frame to achieve the objective of this stage is nearly 3 years.

2.3.5 Center of Excellence

At this stage PMO make strategic decisions for organization.PMO Manage continuous improvement and cross-department collaboration to achieve strategic business goals

It defines policies for selection or rejection of projects and how these will be completed to achieve strategic goals. Usual time frame to achieve the objective of this stage is nearly 3 – 5 years.

2.4 PMO Functional Model

2.4.1 Practice Management

This function model of PMO helps the project team to learn and implement 5 process groups of project management. The framework will guide the teams that what needs to be done in each process group.

Guides the project team to learn and implement project management tools to perform their work more effectively, efficiently and consistently. The tools include software like MS Project, Primavera and also paper- based Project management tools including, Templates, checklists, Process Guides and Work Instructions.

Develop and establish performance measurement standards for project activities and team performance.

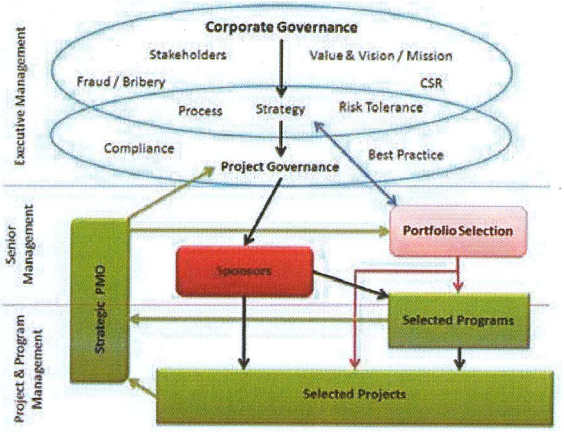
PMO will examine organizational knowledge and will help to increase Project management capability of organization.

2.4.2 Infrastructure Management

This function model of PMO guides the project team for

2.4.2.1 Projects Management Governance.

The role of project management governance is to provide a decision making framework that is logical, robust and repeatable to govern an organization's capital investments.



Governance tree

2.4.2.2 Projects Management Assessment

The role of project management assessment is to identify areas of strength and expertise, considers potential weaknesses and highlights opportunities for investment within your organization or team. This allows you to improve your project management.

2.4.2.3 Projects Organization & Structure

This functional model of PMO defines and proposes the organizational structure that matches the requirements of the organization projects. This can be projectise, weak, balance or strong matrix or functional matrix organization.

2.4.3 Resource Integration

This functional model of PMO guides the project team for the following basic functions.

- Resource integration & collaboration
- Project team training &education
- Team Development
- Career Development

2.4.4 Technical Support

PMO can provide technical support by

- Mentoring & coaching
- Projects planning
- Core technical (engineering) support
- Project audits & health checks

2.4.5 Business Alignment

PMO can guide the organization team members to select the project such that they are consistent with the organization vision and mission. Criteria may be set forth to be followed and may be based upon parameters such as

- Strategic importance
- Financial viability
- Risks
- Business Value
- Regulatory compliance

The information from 2.2 to 2.4 can be summarized as

Project Management Office	3-Types of PMO	Stage of PMO	PMO Functional Models
	Weather Station	The Project Office	Practice Management
		The Basic PMO	Infrastructure Management
	Control Tower	The standard PMO	Resource Integration
		The Advance PMO	Technical Support
	Resource Pool	The Center of Excellence	Business Alignment

2.5 Roles of the PMO

2.5.1 PMO in Supportive Role

Supportive PMO provide training, information centers, templates and datacenter for the previous lessons learnt. This also guides performing team about the best practices being followed in the pertaining field. Such PMO`s do have low degree of control and provide support when demanded.

2.5.2PMO in Controlling Role

Such type of PMO demand compliance against the support provided. Compliance implies that the provided templates and suggested frameworks should be adopted. Such type of PMO exercise moderate degree of control and also is responsible to develop and implement the methodologies and templates.

2.5.3 PMO in Directive Role

Directive PMO`s manage the projects directly by taking control of the projects and hence such PMO`s are held accountable for the functions performed in the project. Their working suggested that such type of PMO`s should have the high degree of control.

2.6 What does PMO Do?

PMO is expected to perform any of the followings functions

- Provide a roadmap for the projects to follow.
- Establish the project management strategies and implement them
- Develop templates for the project documents like project charter, scope statement, risk register, management plans etc.
- Improve project performance
- Achieve efficiency by reducing project cost and redundant features
- Develop reporting formats and track the running projects
- Update lessons learnt and other data repositories
- Provide Trainings and mentoring
- Serve as a resource pool
- Prioritizing of Projects

Any PMO is not expected to perform all above mentioned tasks. A PMO can be either need based or purpose based and the tasks to be performed are specifically defined each time any PMO is established.

2.7 When do you need a PMO?

There can be several reasons that can leads toward the implementation of PMO. Some of those are

- The projects are not being closed properly
- The projects are not delivering full scope, they are exceeding deadlines, going cost overrun and/or quality is being compromised
- A common problem is occurring again and again
- Complex or difficult tasks are causing delay or cost overrun of the project

- Documentation of project/program is poor
- Projects are facing administrative issues
- Lack of unified and integrated management methodology
- Organization is facing some urgent issues that take priority over other important issues (i.e. managerial crisis)

03-Need Assessment and Implementation of PMO

3.1 Study of Banu Mukhtar Projects

To find that which type of PMO does Banu Mukhtar need let's have a study for some of the projects that has been completed or under execution from 2015 to 2016

Project	Status / Problem	Reason
Boiler Building for Sadaqat Limited	Project work completed on time but suffered closure.	False Assumption
VHT Plant at Fauji Fresh n Freeze (Pvt) Ltd	Project Completed as planned	No Problem
Knitting Hall for Ittefaq Building Soln.	Project suffered major scope changes without similar adjustments in time and cost.	Not Well Defined scope
Factory Hall for YUTIAN Chemicals	Project is suffering scope validation and financial closure	Conflict in project scope
School Building for Beacon House School	Project completed on time and within budget	No Problem
Power House for Sitara Chemical Industries	Project is delayed largely because of clash of activities by multiple contractors.	False Assumptions
Helicopter Hangar for Pakistan Electric Works	Progress very slow because of ever changing scope by client	Poor Scope definition
Boiler Building for Shahkam Industries	Project complete within time and budget but suffered scope creep	No Problems
Factory for Capital Sports Corporation (pvt) Ltd	Project completed on time and within budget	No Problems
Factory for Siddique Sons Denim	Project completed on time and within budget	No Problems

Warehouse for Mezan Beverages Pvt Ltd	Project Delayed because of varying scope.	Poor Scope Definition
Factory Hall for Bulleh Shah Packages (Pvt) ltd	Project is suffering scope validation.	Poor Scope Definition
FG Warehouse for Interloop Limited	Project is delayed due to change orders, scope creep and gold platting	Poor Scope Definition
Rana Textile Mills Limited	Project completed on time but suffered scope creep	Poor Scope Definition
Construct	Project completed on time and within budget but final conflict at time of completion caused trouble and unsatisfied customer.	Poor Scope Definition
Dyeing Unit for Interloop Limited	Project is continued within budget but delayed due to wrong safety assumption by Banu Mukhtar	False assumption to estimate activities duration
Chemical Store for Interloop Limited	Project is continued and on time	No Problem
Al Noor Construction Company	Project completed on time and within budget	No Problem
Shalimar Construction Company	Project completed on time and within budget	No Problem
Officers Mess for Pak Army	Project is continued and on time	No problem so far
Grinding building for National Foods	Project is continued and on time	No problem so far
Warehouse for Century Paper and Board Mills Limited	Project is continued and on time and already suffered scope conflict	Poor Scope Definition

Production Facility for Auto Mobile Corporation of Pakistan	Project is continued butgetting delayed due to scope conflict	Poor Scope Definition
22 Story residential tower for Al-Ghurair Giga Islamabad	Project faced delay in completion because of incorrect assumptions and risk analysis and facing delayed financial closure	Poor Scope Definition and Risk Management

Table 2.2a review of Banu Mukhtar Project (for Year 2015-16)

3.2 Analysis results about project management Methodology at Banu Mukhtar

The project management methodology at Banu Mukhtar is as following

- Banu Mukhtar is following traditional style of doing projects
- Project proposal, tender and agreements are handled by a Business development department.
- Business development department makes commitments regarding scope, cost and timelines of project
- The scope is then translated in technical terminologies and communicated to execution departments
- Though dedicated project Manager is assigned to each project, but his function is mainly as a "Project Coordinator".
- Organizational structure is similar to weak matrix organization. Therefore mainly tasks are performed by functional departments in isolation.
- There is no proper SOP for scope clarification with client, signing of the scope and validation of scope to client

The major problem that this analysis tells is

Due to false assumptions, poor scope definition and unclear communication of scope to stakeholders, many project are facing delay and problem in scope validation by client.

3.3 Suggested PMO for Banu Mukhtar

To resolve above analyzed problem and achieve maturity in project management at Banu Mukhtar, the following PMO is recommended and implemented.

PMO	3-Types of PMO	Stage of PMO	PMO Functional Models
	Weather Station	The Project Office	Practice Management
		The Basic PMO	Infrastructure Management
	Control Tower	The standard PMO	Resource Integration
		The Advance PMO	Technical Support
	Resource Pool	The Center of Excellence	Business Alignment

3.4 Objectives of Proposed PMO

The objectives of PMO at Banu Mukhtar will be

- Improve communication process between the internal functional departments, client and other key stakeholders for clear definition of project scope.
- Develop templates to manage the projects. The templates will be in line with the good practices of the construction industry. The project management methodology suggested by PMI in PMBOK 5th edition is to be followed.
- Train the Project Managers to adopt and practice the PMI standards to Initiate, plan, execute and close projects.
- Encourage employees to do certifications in PMI standards i.e. PMP, RMP etc.
- Continuous improvement for project management processes.

3.5 PMO Implementation

At Banu Mukhtar PMO will be implemented in 4 stages to make minimum interruption to running projects, processes and overcome the organizational resistance to the newly proposed processes by PMO.

3.5.1 Stage 01

- Detailed study of existing processes, problems and causes faced during executed and running projects.
- Provide the organization with at least two templates as per PMI standards
    - Project Charter
    - Project Scope Statement
- Prepare the above documents as per suggested template for running projects and share with execution teams.
- The documents will be prepared for all new projects by the Project Manager and signed off by sponsor and other key stakeholders.
- This stage will be continued for 6 months (Approx.)

3.5.2 Stage 02

- Control that charter and scope statements are being used for projects in true spirit.
- Control the projects scope as per the Project Charter and scope statement.
- Identify areas of weakness for scope definition and improve it.
- Develop the templates of the following documents in accordance to the PMI recommendations.
    - WBS
    - WBS Dictionary
    - Project Schedule Template
    - Lessons Learned Template
- Organize training sessions to encourage the employees to use the same for each new project
- Define SOPs for Initiation, plan and execution and closing the projects.

- Train the employees to use project management tools. MS-Project and Primavera.
- This stage will be continued for 1.5 years (Approx.)

3.5.3 Stage 03

- Develop and establish performance measurement standards for project activities and Project team.
- Implement full methodology as suggested by PMI.
- Establish consistent oversight and control for cost, schedule and resource utilization
- Identification of employee's competencies
- Organize trainings for team building
- This stage will be continued for 1.5 year (Approx.)

3.5.4 Stage 04

- Tracking and auditing the project working
- Defining and updating policies and procedures
- Plan for continuous improvement of project management processes

3.6Success Criteria

Some of the problems and requirements are identified in this study but for success of PMO, it is necessary that PMO should continuously oversee the organizational processes to discover and meet the new requirements.

PMO Success will be measured directly by project success percentage per year with reference to scope completion, time, cost and quality. Equal weight-age will be given to all of these out of 10. A simple evaluation example can be as following

Project	Scope [2.5]	Time [2.5]	Cost [2.5]	Quality [2.5]	Total [10]
A	2	2	2.5	2.5	9
B	1.5	1	2.5	2	7
C	2.5	2	1.5	2.5	8.5
Total	6/7.5	5/7.5	6.5/7.5	7/7.5	24.5/30
%age	80%	66%	86%	93%	81%

PMO success will be considered as

PMO implementation Stage	Over All Project	Individual Project Objective
Stage 01	>80%	> 70%
Stage 02	>83%	>75%
Stage 03	>87%	>80%
Stage 04	>90%	>85%

PMO should develop and maintain lessons learned from the past and use those for the future course of actions. It will be the job of PMO that same problem should not be repeated again and again at same or different projects.

3.7PMO Roles in the organization

Role of PMO at different stages will be as following

3.7.1 Stage 01

At this stage PMO role will be Supportive. PMO will oversight companywide project management and operations. PMO will only advice for management processes and will not enforce those at this stage.

3.7.2 Stage 02

At stage 2 of implementation, PMO role will be at transition from supportive to controlling. PMO will support and help project teams to learn new processes of PMI and will control the project and documentation as per the charter and scope statement templates provided in stage 01. PMO will have authority to remind and enforce the use of Project charter and scope statement. At this stage PMO will also measure the project management performance to decide whether the implementation plan is progressive or not.

3.7.3 Stage 03

At stage 3 of implementation, PMO will be fully controlling PMO. Although at any stage PMO will provide help to project teams, but from this stage it will be made possible that all teams should work as per PMI standards and templates provided by PMO.PMO will have authority to enforce project management processes on all projects. PMO will track the performance of projects to check the effectiveness of processes.

3.7.4 Stage 04

At this stage PMO will serve as Center of Excellence and will train the new project managers and develop new resources. The department will generate reports for performance review. Focus will be on developing PM Competencies. PMO will allow project managers to pool their skills and knowledge. Continuous improvement will made PMO vital.

3.8PMO Level in Banu Mukhtar hierarchy

PMO will be directly reporting to CEO of the Company. This is to increase the controlling power of PMO and direct reporting to CEO level which will make PMO decisions effective and align with company`s strategies.

3.9Value Addition by PMO

PMO is expected to add following values to the organization

- Projects will be completed within budget, on time as per scope statement and required quality.
- Due to control on projects success percentage of projects will increase.
- Project Management processes will become aligned with PMI standards.
- Competencies of Project teams will continuously increase.

4 - Selected Project and Suggested Templates

Banu Mukhtar is currently upgrading its Steel Fabrication Plant to enhance its production capacity. This project is selected for further discussion and working.

4.1 Project Introduction:

The project under consideration is up gradation of Banu Mukhtar steel fabrication plant. The upgrading will mainly include the following tasks.

1. Study of existing Production Process and identify potential for improvements
2. Survey the market and obtain market trends
3. Planning of new production process and identification of Machines/equipment required
4. Identify potential Suppliers / Vendors of required Machines
5. Procure the machines and equipment
6. Following new process, calculate new land requirements
7. Acquire Land and Complete Infra Structure Works
8. Install new equipment
9. Train employees and workers and implement new work process

4.2 The Project Charter

Project Title: Up-Gradation of Banu Mukhtar Steel Production Plant.

Project Sponsor: Mr. Umar Mukhtar

Location: Baigpur, Sheikhupura

Date: March 21, 2016

Scope of Project

Upgrade existing BMS Production in order to enhance production capacity, speed and efficiency.

Project Objectives / Success Criteria

- Double the existing production Capacity of 200 MT per Month.
- Upgrade welding technique from CO2 welding to Submerged Arc Welding.
- Redesign Production process to enhance efficiency and hence minimize production overheads. (Double Production Capacity does not mean Double Production Cost).
- Up-gradation must include one or more USP`s to make this a marketing point.

Project Time

Up-gradation should be complete by August 31, 2016. (Eight Months)

Summary Budget

Budget Allocated is 100 Million Rupees.

Summary Milestone

- Existing Market Study (Competitors, Suppliers) and equipment finalization.
- Revised Layout and determination of new area Requirement
- Land acquisition and Construction
- Procurement of Machines and Equipment.

- Commissioning of Machinery.
- Test Run and Trial Production.

High Level Project Risks

- Skilled Welders of SAW
- Existing orders in production.
- Lack of Power Availability

Project Stakeholders

- Sponsor
- Internal Functional Department heads
- Vendors
- Competitors

Roles & Responsibility

- Sponsor Mr. Umar Mukhtar
- Project Manager Muhammad Tahir Ismail
- Risk Manager Adnan Jamil

Project Manager Authority: The project is fully authorized to assign resources to the project activities as deemed necessary.

Approved By: **Mr. Umar Mukhtar**

(Sponsor)

Signature:

_____

4.3 Project Scope Statement

4.3.1 Version History

Version	Date	Prepared By	Approved By
Version – A	13/05/2016	Adnan + Tahir	

4.3.2Scope

The scope of the project is to upgrade the existing fabrication plant of Banu Mukhtar Steel Pvt Ltd. to enhance production capacity.

4.3.3Deliverable

The final deliverable of the project will be in the form of Up Graded fabrication plant with following characteristics.

4.3.3.1 Primary Deliverables

1. Study of existing Production Process and identify potential for improvements
2. Survey the market and obtain market trends
3. Planning of new production process and identification of Machines/equipment required
4. Identify potential Suppliers / Vendors of required Machines
5. Procure the machines and equipment
6. Following new process, calculate new land requirements
7. Acquire Land and Complete Infra Structure Works for Plant
8. Install new equipment
9. Achieve production capacity 400 M.Ton/month.
10. Train employees and workers and implement new work process
11. Addition of option of automatic submerged welding for built-up beams
    a. 3 number Submerged Arc Wielding machines
    b. 6 number Operators for Submerged Arc Wielding
12. Uninterrupted flow of plant production during the project

4.3.3.2 Secondary Deliverables

Construction of double story offices for plant teams with the following specifications.

Sr. #	Usage	Size	Location	(minimum) Requirements
A	Plant Manager Office	14' x 14'	Ground Floor	• Office table (Wooden) size 4' x 6' • Side table (Wooden0 Size 1.5' x 3' • AC (1 Ton Capacity) split unit • Window (Size 4' x 6') direction to ward plant Hall • Attached Bath Room (4' x 6')
b	Production Manager Office	12' x 14'	Ground Floor	• Office table (Wooden) size 4' x 6' • Side table (Wooden0 Size 1.5' x 3' • AC (1 Ton Capacity) split unit • Window (Size 4' x 6') direction to ward plant Hall • Attached Bath Room (4' x 6')
c	QC Manager Office	14' x 14'	First Floor	• Office table (Wooden) size 4' x 6' • AC (1 Ton Capacity) split unit • Window (Size 4' x 6') • Attached Bath Room (4' x 6')
d	QA Manager Office	12' x 14'	First Floor	• Office table (Wooden) size 4' x 6' • AC (1 Ton Capacity) split unit • Window (Size 4' x 6') • Attached Bath Room (4' x 6')
e	Meeting Room	12' x 20'	Ground Floor	• Wooden Table (size 6' x 12') • Seats (14 #) • White Board • Multimedia with screen • 3 # AC (1 Ton Capacity) split unit
f	Production supervisor's room	14' x20'		• Wooden Table, cabinets & Chairs for 5 Supervisors • AC (1 Ton Capacity) split unit
g	QA	14' x 10'	First Floor	• Wooden Table, cabinets & Chairs for 3 Supervisors

	supervisor's room			• AC (1 Ton Capacity) split unit
h	QA supervisor's room	14' x 10'	First Floor	• Wooden Table, cabinets & Chairs for 3 Supervisors • AC (1 Ton Capacity) split unit
I	Reception	10' x 10'	Ground Floor	• Wooden Table & Chairs for Receptionist • Seating Arrangement for 4 persons
J	Common Wash Rooms	3' x 6'		• 2 # at Ground Floor • 2 # at First Floor

Construction of Residences with following specifications

Sr. #	Usage	Size	Location	(minimum) Requirements
a	2 # Officer Bed Rooms	12' x 12'	First Floor	• Single Bed • Seating arrangement for 2 persons • AC (1 Ton Capacity) split unit • Window (Size 4' x 6') • Attached Bath Room (4' x 6')
b	2 # Guests Bed Rooms	12' x 12'	First Floor	• Single Bed • Seating arrangement for 2 persons • AC (1 Ton Capacity) split unit • Window (Size 4' x 6') • Attached Bath Room (4' x 6')
c	3 #Labor Rooms	14' x 30'	Ground Floor	• 15 # Single Beds • 8 # Ceiling Fans • 15 # Wall Cabinets • 4 # Window (Size 4' x 6') • Double (2 #) Entrance Doors
g	Dining Hall	14' x 30'	Ground Floor	• Dinning Arrangement for 25 Persons at a Time • 8 # Ceiling Fans

h	TV Room	14' x 30'	Ground Floor	• Seating Arrangement for 30 Persons • 8 # Ceiling Fans
J	Common Wash Rooms	3' x 6'	Ground Floor	• 8 # Washrooms

4.4 Success/Acceptance Criteria:

- Double the production Capacity of plant [from 200 M.Ton per m/Month to 400 M.Ton per Month]
- Addition of automatic submerged welding for built-up beams
- Ensuring continuous flow of production during up gradation
- Upgraded Plant Infrastructure Safe and adequate to accommodate old and new plant machinery
- Suitable to new production processes
- Up-gradation must include one or more USP`s to make this a marketing point.

4.5 Assumptions:

- Double the existing production Capacity of 200 MT per Month. Double Production Capacity does not mean Double Production Cost.
- Infrastructure will be developed after the selection of equipment to be purchased according to the space requirements for new machines.
- Redesign Production process will enhance efficiency and hence minimize production overheads.
- Batching plant installed at job site will be utilized.
- All the equipment/machinery will be procured after consulting with Sponsor.
- Out of country trip & language facilitator will be arranged by sponsor

4.6 Exclusions:

- Fund arrangements for project will not be the responsibility of project team. It will be done by sponsor

Approved By:

1- The End User

2- The Sponsor

4.7 Project Task Sheet

ID		WBS	Task Name	Baseline Duration	Baseline Start	Baseline Finish	% Complete	Baseline Cost	Actual Cost	Actual Duration	Actual Start	Actual Finish	Resource Names
0		**0**	**BMS Plant Upgradation**	**212 days**	**Tue 01-12-15**	**Wed 21-09-16**	**63%**	**Rs95,465,545**	**Rs67,492,830**	**142.98 days**	**Tue 01-12-15**	**NA**	
1		**1**	**BMS Plant Up Gradation**	**212 days**	**Tue 01-12-15**	**Wed 21-09-16**	**63%**	**Rs95,465,545**	**Rs67,492,830**	**142.98 days**	**Tue 01-12-15**	**NA**	
2	✓	1.1	Start	0 days	Tue 01-12-15	Tue 01-12-15	100%	Rs0	Rs0	1 day	Tue 01-12-15	Wed 02-12-15	
3	✓	**1.2**	**Process Design**	**58 days**	**Tue 01-12-15**	**Thu 18-02-16**	**100%**	**Rs2,043,325**	**Rs1,834,350**	**71.75 days**	**Tue 01-12-15**	**Tue 08-03-16**	
4	✓	**1.2.1**	**As Is Process study**	**26 days**	**Tue 01-12-15**	**Tue 05-01-16**	**100%**	**Rs754,900**	**Rs724,400**	**27.75 days**	**Tue 01-12-15**	**Thu 07-01-16**	
5	✓	1.2.1.1	Hold Kick off meeting	1 day	Tue 01-12-15	Wed 02-12-15	100%	Rs60,520	Rs45,520	1 day	Tue 01-12-15	Wed 02-12-15	Admin Person 1,Admin P
6	✓	1.2.1.2	Finalization of Team	2 days	Wed 02-12-15	Fri 04-12-15	100%	Rs82,720	Rs82,720	2 days	Wed 02-12-15	Fri 04-12-15	Assistant Project Manage
7	✓	1.2.1.3	Team Meeting s	4 days	Fri 04-12-15	Wed 09-12-15	100%	Rs187,160	Rs152,160	4 days	Fri 04-12-15	Wed 09-12-15	Admin Person 2[25%],Arc
8	✓	1.2.1.4	Finalization of methodology	2 days	Thu 10-12-15	Sat 12-12-15	100%	Rs64,200	Rs94,800	3 days	Thu 10-12-15	Mon 14-12-15	Project Manager[50%],Productio
9	✓	1.2.1.5	Meetings with Production Key personals	2 days	Sat 12-12-15	Tue 15-12-15	100%	Rs38,400	Rs28,400	2 days	Mon 14-12-15	Wed 16-12-15	Plant Manager[25%],Assistant
10	✓	1.2.1.6	Plant Surveys	10 days	Tue 15-12-15	Tue 29-12-15	100%	Rs124,500	Rs128,650	10 days	Wed 16-12-15	Wed 30-12-15	Project Team Member[20
11	✓	1.2.1.7	Identification of Bottlenecks (Capacity Wise)	4 days	Wed 23-12-15	Tue 29-12-15	100%	Rs62,800	Rs55,350	6 days	Wed 23-12-15	Fri 01-01-16	Project Manager[25%],Productio
12	✓	1.2.1.8	Identification of major contributors in Over heads	2 days	Sat 26-12-15	Tue 29-12-15	100%	Rs25,600	Rs28,800	4 days	Sat 26-12-15	Fri 01-01-16	Production Manager[25%],Project
13	✓	1.2.1.9	Finalization of report	5 days	Wed 30-12-15	Tue 05-01-16	100%	Rs109,000	Rs108,000	5 days	Fri 01-01-16	Thu 07-01-16	Project Manager[50%],Pr
14	✓	**1.2.2**	**Market Research**	**24 days**	**Fri 04-12-15**	**Wed 06-01-16**	**100%**	**Rs498,025**	**Rs309,800**	**28.5 days**	**Sat 05-12-15**	**Wed 13-01-16**	
15	✓	1.2.2.1	Identify Industry Experts	1 day	Fri 04-12-15	Tue 15-12-15	100%	Rs6,025	Rs5,400	1 day	Sat 05-12-15	Wed 16-12-15	Production Manager[25%
16	✓	1.2.2.2	Bench Marks Major competitors	1 day	Tue 08-12-15	Wed 09-12-15	100%	Rs11,000	Rs11,000	1 day	Tue 08-12-15	Wed 09-12-15	Project Manager[25%],Project
17	✓	1.2.2.3	Obtain insights about competitors	15 days	Thu 10-12-15	Thu 31-12-15	100%	Rs175,000	Rs120,000	15 days	Thu 10-12-15	Thu 31-12-15	Project Team Member[200%],Transpor
18	✓	1.2.2.4	Perform trend analysis (Last 10 years)	3 days	Thu 10-12-15	Mon 14-12-15	100%	Rs21,000	Rs21,000	3 days	Thu 10-12-15	Mon 14-12-15	Project Manager[25%],Project
19	✓	1.2.2.5	Meet with SME`s	5 days	Tue 15-12-15	Tue 22-12-15	100%	Rs200,000	Rs60,000	5 days	Wed 16-12-15	Tue 22-12-15	Project Manager,Expert C
20	✓	1.2.2.6	Finalize the report	5 days	Thu 31-12-15	Wed 06-01-16	100%	Rs85,000	Rs92,400	10 days	Thu 31-12-15	Wed 13-01-16	Project Manager[50%],As
21	✓	1.2.2.7	Market Study Completion	0 days	Wed 06-01-16	Wed 06-01-16	100%	Rs0	Rs0	0 days	Tue 12-01-16	Tue 12-01-16	
22	✓	**1.2.3**	**Proposed Process**	**31 days**	**Wed 06-01-16**	**Thu 18-02-16**	**100%**	**Rs790,400**	**Rs800,150**	**40.25 days**	**Wed 13-01-16**	**Tue 08-03-16**	
23	✓	1.2.3.1	Design new process	10 days	Wed 06-01-16	Wed 20-01-16	100%	Rs206,000	Rs206,000	10 days	Wed 13-01-16	Tue 26-01-16	Project Manager[25%],As
24	✓	1.2.3.2	Discussion and Fine Tuning	3 days	Wed 20-01-16	Sat 23-01-16	100%	Rs129,600	Rs129,600	3 days	Tue 26-01-16	Fri 29-01-16	Project Manager,Plant M
25	✓	1.2.3.3	Finalize new process	0 days	Sat 23-01-16	Sat 23-01-16	100%	Rs0	Rs0	0 days	Fri 29-01-16	Fri 29-01-16	
26	✓	1.2.3.4	Draft required capabilities	5 days	Sat 23-01-16	Sat 30-01-16	100%	Rs100,000	Rs100,000	5 days	Fri 29-01-16	Sat 06-02-16	Assistant Project Manage
27	✓	1.2.3.5	Draft specifications of required equipments	5 days	Sat 30-01-16	Mon 08-02-16	100%	Rs130,000	Rs139,750	13 days	Sat 06-02-16	Wed 24-02-16	Project Manager[50%],Productio
28	✓	1.2.3.6	Share the process with key stakeholders/End users	1 day	Mon 08-02-16	Tue 09-02-16	100%	Rs17,600	Rs17,600	1 day	Tue 23-02-16	Wed 24-02-16	Project Manager,Assistant
29	✓	1.2.3.7	Obtain approval of the Proposed process	3 days	Tue 09-02-16	Fri 12-02-16	100%	Rs57,000	Rs57,000	3 days	Thu 25-02-16	Mon 29-02-16	Project Manager[75%],Assistant
30	✓	1.2.3.8	Obtain feedback	1 day	Fri 12-02-16	Sat 13-02-16	100%	Rs8,600	Rs8,600	1 day	Tue 01-03-16	Wed 02-03-16	Project Manager[25%],As
31	✓	1.2.3.9	Finalize Proposed Process	3 days	Sat 13-02-16	Thu 18-02-16	100%	Rs141,600	Rs141,600	3 days	Thu 03-03-16	Mon 07-03-16	Project Manager,Assistan
32	✓	1.2.3.10	New Requirements Finalized	0 days	Thu 18-02-16	Thu 18-02-16	100%	Rs0	Rs0	0 days	Tue 08-03-16	Tue 08-03-16	
33		**1.3**	**Infra Structure**	**126 days**	**Thu 18-02-16**	**Wed 10-08-16**	**67%**	**Rs74,580,180**	**Rs50,069,480**	**94.8 days**	**Wed 10-02-16**	**NA**	
34	✓	**1.3.1**	**Land Acquisitin & Utilities**	**45 days**	**Thu 18-02-16**	**Tue 19-04-16**	**100%**	**Rs46,502,000**	**Rs42,091,600**	**47.5 days**	**Wed 10-02-16**	**Thu 14-04-16**	
35	✓	1.3.1.1	Acquire Land	15 days	Thu 18-02-16	Wed 09-03-16	100%	Rs45,020,400	Rs42,010,000	18 days	Wed 10-02-16	Fri 04-03-16	Admin Person 1,land[2]
36	✓	1.3.1.2	Upgrade Power Connection	30 days	Wed 09-03-16	Tue 19-04-16	100%	Rs220,400	Rs20,400	30 days	Fri 04-03-16	Thu 14-04-16	Admin Person 2[50%],Ele
37	✓	1.3.1.3	Upgrade Gas Connection	30 days	Wed 09-03-16	Tue 19-04-16	100%	Rs320,400	Rs20,400	30 days	Fri 04-03-16	Thu 14-04-16	Admin Person 1[50%],Ga
38	✓	1.3.1.4	Re-route high tension wires	30 days	Wed 09-03-16	Tue 19-04-16	100%	Rs620,400	Rs20,400	30 days	Fri 04-03-16	Thu 14-04-16	Admin Person 1[50%],Ele
39	✓	1.3.1.5	Obtain Relevant Approvals	30 days	Wed 09-03-16	Tue 19-04-16	100%	Rs320,400	Rs20,400	30 days	Fri 04-03-16	Thu 14-04-16	Admin Person 2[50%],Ap
40		**1.3.2**	**Extended Fabrication Plant Area**	**111 days**	**Wed 09-03-16**	**Wed 10-08-16**	**70%**	**Rs14,270,980**	**Rs7,720,520**	**77.97 days**	**Fri 04-03-16**	**NA**	
41		**1.3.2.1**	**Equipment Foundations**	**87 days**	**Mon 11-04-16**	**Wed 10-08-16**	**43%**	**Rs2,848,960**	**Rs48,000**	**29.73 days**	**Fri 29-04-16**	**NA**	
42	✓	1.3.2.1.1	Preparation of Foundation Drawings	10 days	Mon 11-04-16	Mon 25-04-16	100%	Rs33,000	Rs32,000	10 days	Fri 29-04-16	Thu 12-05-16	Design Engineer[50%],Draftman,
43	✓	1.3.2.1.2	Approval from Machine supplier	8 days	Mon 25-04-16	Thu 05-05-16	100%	Rs16,000	Rs16,000	8 days	Fri 13-05-16	Tue 24-05-16	Production Manager[25%
44		1.3.2.1.3	Marking & Layout	2 days	Mon 04-07-16	Tue 12-07-16	0%	Rs9,440	Rs0	0 days	NA	NA	Assistant Project Manage
45		1.3.2.1.4	Cutting of existing Floor	5 days	Tue 12-07-16	Mon 18-07-16	0%	Rs16,600	Rs0	0 days	NA	NA	Assistant Project Manage
46		1.3.2.1.5	Construction of Foundations	10 days	Mon 18-07-16	Mon 01-08-16	0%	Rs2,516,000	Rs0	0 days	NA	NA	Sub Contractor Civil Work
47		1.3.2.1.6	Inspection of levels and foundation geomatry	2 days	Mon 01-08-16	Wed 03-08-16	0%	Rs21,920	Rs0	0 days	NA	NA	Project Manager[50%],labor,Proj

ID		WBS	Task Name	Baseline Duration	Baseline Start	Baseline Finish	% Complete	Baseline Cost	Actual Cost	Actual Duration	Actual Start	Actual Finish	Resource Names
48		1.3.2.1.7	Fixing of bolts and Grouting of pockets	5 days	Wed 03-08-16	Wed 10-08-16	0%	Rs236,000	Rs0	0 days	NA	NA	Sub Contractor Civil Works[Rs200,000],Super
49		**1.3.2.2**	**Plant Building**	**99 days**	**Wed 09-03-16**	**Mon 25-07-16**	**77%**	**Rs11,422,020**	**Rs7,672,520**	**76.53 days**	**Fri 04-03-16**	**NA**	
50	✓	**1.3.2.2.1**	**Civil Works**	**72 days**	**Wed 09-03-16**	**Tue 14-06-16**	**100%**	**Rs1,878,220**	**Rs380,120**	**73 days**	**Fri 04-03-16**	**Fri 10-06-16**	
51	✓	1.3.2.2.1.1	Preparation of Architectural drawings	8 days	Wed 09-03-16	Sat 19-03-16	100%	Rs30,300	Rs28,800	8 days	Fri 04-03-16	Tue 15-03-16	Architect,Draftman,Static + Food[Rs1,500]
52	✓	1.3.2.2.1.2	Preparation of structural drawings	10 days	Sat 19-03-16	Sat 02-04-16	100%	Rs33,000	Rs32,000	10 days	Tue 15-03-16	Tue 29-03-16	Design Engineer[50%],Draftman,
53	✓	1.3.2.2.1.3	Finalization of Contractor	8 days	Mon 04-04-16	Thu 14-04-16	100%	Rs112,000	Rs112,000	8 days	Tue 29-03-16	Fri 08-04-16	Project Manager[25%],Pr
54	✓	1.3.2.2.1.4	Marking & Layout	1 day	Thu 14-04-16	Fri 15-04-16	100%	Rs4,920	Rs4,920	1 day	Fri 08-04-16	Sat 09-04-16	Assistant Project Manage
55	✓	1.3.2.2.1.5	Ground Breaking ceremony at site	0 days	Fri 15-04-16	Fri 15-04-16	100%	Rs0	Rs0	0 days	Sat 09-04-16	Sat 09-04-16	
56	✓	1.3.2.2.1.6	Construction Actvities by Contractor	45 days	Fri 15-04-16	Tue 14-06-16	100%	Rs1,698,000	Rs202,400	46 days	Sat 09-04-16	Fri 10-06-16	Sub Contractor Civil Works[Rs1,500,000],Assis
57		**1.3.2.2.2**	**Steel Structure Works**	**91 days**	**Sat 19-03-16**	**Mon 25-07-16**	**59%**	**Rs9,543,800**	**Rs7,292,400**	**53.59 days**	**Tue 15-03-16**	**NA**	
58	✓	1.3.2.2.2.1	Preparation of Proposal Drawings	2 days	Sat 19-03-16	Tue 22-03-16	100%	Rs4,500	Rs4,000	2 days	Tue 15-03-16	Thu 17-03-16	Draftman,Design Engineer[25%],Stationery
59	✓	1.3.2.2.2.2	Structural Design	5 days	Tue 22-03-16	Wed 30-03-16	100%	Rs16,000	Rs16,000	5 days	Thu 17-03-16	Fri 25-03-16	Design Engineer[50%],Dra
60	✓	1.3.2.2.2.3	BIM Modeling	15 days	Wed 30-03-16	Tue 19-04-16	100%	Rs30,000	Rs30,000	15 days	Fri 25-03-16	Thu 14-04-16	Design Engineer[25%],Dra
61	✓	1.3.2.2.2.4	Generation of fabrication drawings	5 days	Tue 19-04-16	Tue 26-04-16	100%	Rs16,500	Rs16,000	5 days	Thu 14-04-16	Wed 20-04-16	Design Engineer[50%],Draftman,
62	✓	1.3.2.2.2.5	Finalization of Execution Contractor	3 days	Fri 22-04-16	Tue 26-04-16	100%	Rs62,400	Rs62,400	3 days	Sat 16-04-16	Wed 20-04-16	Project Manager,Production
63	✓	1.3.2.2.2.6	Procurement of Steel Raw Materials	8 days	Wed 30-03-16	Sat 09-04-16	100%	Rs5,664,000	Rs5,664,000	8 days	Fri 25-03-16	Tue 05-04-16	Project Team Member[200%],structura
64		1.3.2.2.2.7	Fabrication & Erection of Framing	30 days	Wed 25-05-16	Mon 04-07-16	50%	Rs3,000,000	Rs1,500,000	15 days	Fri 20-05-16	NA	Sub Contractor Steel Buildings[Rs3,000,000]
65		1.3.2.2.2.8	Leveling, alignment and Painting at Frames	4 days	Mon 04-07-16	Thu 14-07-16	0%	Rs437,600	Rs0	0 days	NA	NA	Sub Contractor Steel Buildings[Rs350,000],Sup
66		1.3.2.2.2.9	Fabrication of cladding systems	10 days	Sat 09-04-16	Sat 23-04-16	0%	Rs200,000	Rs0	0 days	NA	NA	Sub Contractor Steel Buil
67		1.3.2.2.2.10	Installation of Cladding	8 days	Thu 14-07-16	Mon 25-07-16	0%	Rs112,800	Rs0	0 days	NA	NA	Sub Contractor Steel Buil
68		1.3.2.2.2.11	Completion of Plant Building	0 days	Mon 25-07-16	Mon 25-07-16	0%	Rs0	Rs0	0 days	NA	NA	
69		**1.3.3**	**Offices & residences**	**121 days**	**Thu 18-02-16**	**Wed 03-08-16**	**39%**	**Rs13,807,200**	**Rs257,360**	**46.8 days**	**Tue 08-03-16**	**NA**	
70	✓	**1.3.3.1**	**Designing**	**19 days**	**Thu 18-02-16**	**Mon 14-03-16**	**100%**	**Rs107,400**	**Rs106,400**	**19 days**	**Tue 08-03-16**	**Sat 02-04-16**	
71	✓	1.3.3.1.1	Calculate office & Residence requirement	1 day	Thu 18-02-16	Fri 19-02-16	100%	Rs13,200	Rs13,200	1 day	Tue 08-03-16	Wed 09-03-16	Architect,Project Manager[50%],Plant
72	✓	1.3.3.1.2	Design Space requirements	2 days	Fri 19-02-16	Mon 22-02-16	100%	Rs5,600	Rs5,600	2 days	Wed 09-03-16	Fri 11-03-16	Architect
73	✓	1.3.3.1.3	Prepare architectural drawings	5 days	Mon 22-02-16	Mon 29-02-16	100%	Rs15,000	Rs14,000	5 days	Fri 11-03-16	Fri 18-03-16	Architect,Stationery + Fo
74	✓	1.3.3.1.4	Involve key users and obtain feedback	2 days	Mon 29-02-16	Wed 02-03-16	100%	Rs19,200	Rs19,200	2 days	Fri 18-03-16	Mon 21-03-16	Architect,Assistant Project
75	✓	1.3.3.1.5	Finalize architectural design	1 day	Wed 02-03-16	Thu 03-03-16	100%	Rs28,800	Rs28,800	1 day	Mon 21-03-16	Tue 22-03-16	Project Manager,Assistan
76	✓	1.3.3.1.6	Prepare structural drawings	8 days	Thu 03-03-16	Mon 14-03-16	100%	Rs25,600	Rs25,600	8 days	Tue 22-03-16	Sat 02-04-16	Design Engineer[50%],Dra
77	✓	1.3.3.1.7	Finalize execution team	0 days	Mon 14-03-16	Mon 14-03-16	100%	Rs0	Rs0	0 days	Sat 02-04-16	Sat 02-04-16	
78		**1.3.3.2**	**Construction**	**90 days**	**Tue 15-03-16**	**Mon 18-07-16**	**46%**	**Rs9,768,600**	**Rs150,960**	**41.73 days**	**Sat 02-04-16**	**NA**	
79	✓	1.3.3.2.1	Perform foundation works	30 days	Tue 15-03-16	Mon 25-04-16	100%	Rs2,090,000	Rs90,000	30 days	Sat 02-04-16	Thu 12-05-16	Sub Contractor Civil Work
80	✓	1.3.3.2.2	Complete Ground Floor structure	20 days	Mon 25-04-16	Sat 21-05-16	100%	Rs4,060,000	Rs60,000	20 days	Fri 13-05-16	Wed 08-06-16	Sub Contractor Civil Work
81		1.3.3.2.3	Curing time	10 days	Sat 21-05-16	Fri 03-06-16	10%	Rs10,600	Rs960	1 day	Wed 08-06-16	NA	labor,water[Rs1,000]
82		1.3.3.2.4	Complete first floor construction works	20 days	Fri 03-06-16	Thu 30-06-16	0%	Rs3,060,000	Rs0	0 days	NA	NA	Sub Contractor Civil Works[Rs3,000,000],Supe
83		1.3.3.2.5	Build partitions	30 days	Fri 03-06-16	Mon 18-07-16	0%	Rs548,000	Rs0	0 days	NA	NA	Sub Contractor Civil Work
84		**1.3.3.3**	**Finishes & Renovation of old block**	**22 days**	**Thu 30-06-16**	**Wed 03-08-16**	**0%**	**Rs3,931,200**	**Rs0**	**0 days**	**NA**	**NA**	
85		1.3.3.3.1	Complete electrical works	15 days	Thu 30-06-16	Mon 25-07-16	0%	Rs162,000	Rs0	0 days	NA	NA	Sub Contractor Electrical
86		1.3.3.3.2	Complete plumbing works	15 days	Thu 30-06-16	Mon 25-07-16	0%	Rs374,000	Rs0	0 days	NA	NA	Sub Contractor Plumbing
87		1.3.3.3.3	Perform false ceiling works	10 days	Thu 30-06-16	Mon 18-07-16	0%	Rs308,000	Rs0	0 days	NA	NA	Sub Contractor Finsihing[
88		1.3.3.3.4	Install doors and windows	5 days	Mon 18-07-16	Mon 25-07-16	0%	Rs404,000	Rs0	0 days	NA	NA	Sub Contractor Finsihing[
89		1.3.3.3.5	Complete paint works	5 days	Mon 25-07-16	Mon 01-08-16	0%	Rs2,158,000	Rs0	0 days	NA	NA	Sub Contractor Finsihing[
90		1.3.3.3.6	Install Fixtures	2 days	Mon 01-08-16	Wed 03-08-16	0%	Rs525,200	Rs0	0 days	NA	NA	Sub Contractor Finsihing[
91		1.3.3.3.7	Construction Completion	0 days	Wed 03-08-16	Wed 03-08-16	0%	Rs0	Rs0	0 days	NA	NA	
92		**1.4**	**Machinery**	**154 days**	**Thu 18-02-16**	**Wed 21-09-16**	**33%**	**Rs18,842,040**	**Rs15,589,000**	**51.33 days**	**Tue 08-03-16**	**NA**	
93		**1.4.1**	**Procurement**	**120 days**	**Thu 18-02-16**	**Tue 02-08-16**	**56%**	**Rs17,410,760**	**Rs15,589,000**	**66.89 days**	**Tue 08-03-16**	**NA**	

ID	WBS	Task Name	Baseline Duration	Baseline Start	Baseline Finish	% Complete	Baseline Cost	Actual Cost	Actual Duration	Actual Start	Actual Finish	Resource Names
94	1.4.1.1	Identify potential suppliers	8 days	Thu 18-02-16	Mon 29-02-16	100%	Rs134,400	Rs134,400	8 days	Tue 08-03-16	Fri 18-03-16	Project Manager[50%],As
95	1.4.1.2	Obtain proposals	8 days	Mon 29-02-16	Thu 10-03-16	100%	Rs32,000	Rs32,000	8 days	Fri 18-03-16	Wed 30-03-16	Project Team Member
96	1.4.1.3	Evaluate proposals	3 days	Tue 08-03-16	Fri 11-03-16	100%	Rs56,400	Rs56,400	3 days	Mon 28-03-16	Thu 31-03-16	Project Manager,Project
97	1.4.1.4	Obtain user approvals	2 days	Fri 11-03-16	Mon 14-03-16	100%	Rs30,000	Rs30,000	2 days	Thu 31-03-16	Sat 02-04-16	Assistant Project Manage
98	1.4.1.5	Shortlist potential suppliers	5 days	Tue 15-03-16	Mon 21-03-16	100%	Rs100,000	Rs100,000	5 days	Sat 02-04-16	Sat 09-04-16	Project Manager,Project
99	1.4.1.6	Visit vendor facility and qualify the vendors	8 days	Mon 21-03-16	Fri 01-04-16	100%	Rs1,660,000	Rs160,000	8 days	Sat 09-04-16	Wed 20-04-16	Project Manager,Project Team
100	1.4.1.7	Fine tune requirements & Specifications	3 days	Fri 01-04-16	Wed 06-04-16	100%	Rs55,200	Rs55,200	3 days	Wed 20-04-16	Sat 23-04-16	Project Manager[50%],Plant
101	1.4.1.8	Negotiate with the suppliers	3 days	Wed 06-04-16	Sat 09-04-16	100%	Rs21,000	Rs21,000	3 days	Mon 25-04-16	Thu 28-04-16	Project Manager[25%],Pr
102	1.4.1.9	Finalize the Contract	1 day	Sat 09-04-16	Mon 11-04-16	100%	Rs15,000,000	Rs15,000,000	1 day	Thu 28-04-16	Fri 29-04-16	Machines[1]
103	1.4.1.10	Maufacturing Lead time	45 days	Mon 11-04-16	Fri 10-06-16	60%	Rs0	Rs0	27 days	Fri 29-04-16	NA	
104	1.4.1.11	Shipment of Equipment	0 days	Fri 10-06-16	Fri 10-06-16	0%	Rs0	Rs0	0 days	NA	NA	
105	1.4.1.12	Transit time for shipment	20 days	Fri 10-06-16	Tue 12-07-16	0%	Rs0	Rs0	0 days	NA	NA	
106	1.4.1.13	Clear the cargo from customs	8 days	Tue 12-07-16	Fri 22-07-16	0%	Rs10,880	Rs0	0 days	NA	NA	Admin Person 1
107	1.4.1.14	land transport	8 days	Fri 22-07-16	Tue 02-08-16	0%	Rs310,880	Rs0	0 days	NA	NA	Admin Person 1,Transpor
108	1.4.1.15	Deliver machines at plant site	0 days	Tue 02-08-16	Tue 02-08-16	0%	Rs0	Rs0	0 days	NA	NA	
109	**1.4.2**	**Relocation of Existing Machines**	**16 days**	**Wed 10-08-16**	**Wed 31-08-16**	**0%**	**Rs200,840**	**Rs0**	**0 days**	**NA**	**NA**	
110	1.4.2.1	Planning of partial shut down	2 days	Wed 10-08-16	Fri 12-08-16	0%	Rs49,600	Rs0	0 days	NA	NA	Project Manager,Product
111	1.4.2.2	De-Erection of machines	4 days	Fri 12-08-16	Thu 18-08-16	0%	Rs60,160	Rs0	0 days	NA	NA	Production Manager[50%
112	1.4.2.3	Shifting of Machines to new locations	1 day	Thu 18-08-16	Fri 19-08-16	0%	Rs7,440	Rs0	0 days	NA	NA	Production Manager[25%],Supervise
113	1.4.2.4	Erection of Machines at new location	6 days	Fri 19-08-16	Sat 27-08-16	0%	Rs55,440	Rs0	0 days	NA	NA	Assistant Project Managers[25%],Supervis
114	1.4.2.5	Trial Run	3 days	Sat 27-08-16	Wed 31-08-16	0%	Rs28,200	Rs0	0 days	NA	NA	Plant Manager[25%],Proc
115	**1.4.3**	**Commissioning**	**54 days**	**Fri 01-07-16**	**Wed 21-09-16**	**0%**	**Rs1,040,240**	**Rs0**	**0 days**	NA	**NA**	
116	1.4.3.1	Unloading of Machines	1 day	Tue 02-08-16	Wed 03-08-16	0%	Rs11,040	Rs0	0 days	NA	NA	Assistant Project Manage
117	1.4.3.2	Arrange visas & Travelling of the commissioning team	20 days	Fri 01-07-16	Tue 02-08-16	0%	Rs477,200	Rs0	0 days	NA	NA	Admin Person 2,Visa + Ticket + Stay[Rs450,000]
118	1.4.3.3	Erect machines in position	10 days	Wed 03-08-16	Tue 16-08-16	0%	Rs225,600	Rs0	0 days	NA	NA	Commissioning Engineer[
119	1.4.3.4	Setup machines for trial runs	3 days	Wed 17-08-16	Sat 20-08-16	0%	Rs4,800	Rs0	0 days	NA	NA	Commissioning Engineer,
120	1.4.3.5	Perform trial runs	15 days	Sat 20-08-16	Fri 09-09-16	0%	Rs222,000	Rs0	0 days	NA	NA	Production Manager[50%
121	1.4.3.6	Mark adherance to specifications	5 days	Fri 09-09-16	Wed 21-09-16	0%	Rs58,000	Rs0	0 days	NA	NA	Production Manager[25%
122	1.4.3.7	Obtain production team approvals	2 days	Fri 09-09-16	Fri 16-09-16	0%	Rs41,600	Rs0	0 days	NA	NA	Project Manager[50%],Pl
123	1.4.3.8	Hand over to production team	0 days	Fri 16-09-16	Fri 16-09-16	0%	Rs0	Rs0	0 days	NA	NA	
124	**1.4.4**	**Training**	**15 days**	**Sat 20-08-16**	**Fri 09-09-16**	**0%**	**Rs190,200**	**Rs0**	**0 days**	**NA**	**NA**	
125	1.4.4.1	Perform need assessment	2 days	Sat 20-08-16	Tue 23-08-16	0%	Rs68,200	Rs0	0 days	NA	NA	Project Manager[50%],Pl
126	1.4.4.2	Design a training process	3 days	Tue 23-08-16	Sat 27-08-16	0%	Rs0	Rs0	0 days	NA	NA	Commissioning Engineer
127	1.4.4.3	Perform training tasks	5 days	Fri 02-09-16	Fri 09-09-16	0%	Rs122,000	Rs0	0 days	NA	NA	Commissioning Engineer[
128	1.5	End	0 days	Wed 21-09-16	Wed 21-09-16	0%	Rs0	Rs0	0 days	NA	NA	

4.8 Resource Sheet

ID	Resource Name	Type	Material Label	Initials	Group	Max. Units	Std. Rate	Ovt. Rate	Cost/Use	Accrue At	Base Calendar	Code
1	Project Manager	Work		P		100%	Rs1,500/hr	Rs3,000/hr	Rs0	Prorated	BMS Plant Upg	
2	Assistant Project Mar	Work		A		200%	Rs700/hr	Rs900/hr	Rs0	Prorated	BMS Plant Upg	
3	Plant Manager	Work		P		100%	Rs1,200/hr	Rs2,000/hr	Rs0	Prorated	BMS Plant Upg	
4	Production Manager	Work		P		100%	Rs1,000/hr	Rs15,000/hr	Rs0	Prorated	BMS Plant Upg	
5	Project Team Membe	Work		P		700%	Rs500/hr	Rs600/hr	Rs0	Prorated	BMS Plant Upg	
6	Superviser	Work		S		400%	Rs200/hr	Rs250/hr	Rs0	Prorated	BMS Plant Upg	
7	Design Engineer	Work		D		100%	Rs600/hr	Rs800/hr	Rs0	Prorated	BMS Plant Upg	
8	Draftman	Work		D		200%	Rs100/hr	Rs125/hr	Rs0	Prorated	BMS Plant Upg	
9	Architect	Work		A		100%	Rs350/hr	Rs450/hr	Rs0	Prorated	BMS Plant Upg	
10	Admin Person 1	Work		A	Admin	100%	Rs170/hr	Rs200/hr	Rs0	Prorated	BMS Plant Upg	
11	Admin Person 2	Work		A	Admin	100%	Rs170/hr	Rs200/hr	Rs0	Prorated	BMS Plant Upg	
12	Sub Contractor Civil V	Cost		S	Sub Contra					Prorated		
13	Sub Contractor Steel	Cost		S	Sub Contra					Prorated		
14	Sub Contractor Electr	Cost		S	Sub Contra					Prorated		
15	Sub Contractor Finsih	Cost		S	Sub Contra					Prorated		
16	Sub Contractor Plumt	Cost		S	Sub Contra					Prorated		
17	Expert 01	Cost		E	Expert					End		
18	Expert 02	Cost		E	Expert					End		
19	Expert 03	Cost		E	Expert					End		
20	Stationery + Food	Cost		S						Prorated		
21	Transportation	Cost		T						Prorated		
22	Machines	Material		M			Rs15,000,000		Rs0	Start		
23	Electric fixture fee etc	Cost		E						Prorated		
24	Gas Fixture fee etc	Cost		G						Prorated		
25	land	Material		I			Rs45,000,000		Rs0	Start		
26	Approvals	Cost		A						Prorated		
27	labor	Work		I		1,000%	Rs120/hr	Rs150/hr	Rs0	Prorated	BMS Plant Upg	
28	structural steel	Material	Kg	s			Rs70		Rs0	Prorated		
29	Paint	Material	Liter	P			Rs1,000		Rs0	Prorated		
30	water	Cost		w						Prorated		
31	Visa + Ticket + Stay	Cost		V						Prorated		
32	Commissioning Engin	Cost		C						Prorated		

4.9 Schedule Bar Chart

1		1	BMS Plant Up Gradation	
2	✓	1.1	Start	
3	✓	**1.2**	**Process Design**	
4	✓	**1.2.1**	**As Is Process study**	
5	✓	1.2.1.1	Hold Kick off meeting	Admin Person 1,Admin Person 2,Architect,Assistant Project Managers,Design Engineer,Plant Manager,Production Manager,Project Manager,Stationery + Food[Rs15,000]
6	✓	1.2.1.2	Finalization of Team	Assistant Project Managers,Design Engineer,Plant Manager,Production Manager,Admin Person 1,Project Manager
7	✓	1.2.1.3	Team Meeting s	Admin Person 2[25%],Architect[25%],Assistant Project Managers,Design Engineer[50%],Plant Manager[25%],Production Manager[50%],Project Manager[75%],Project Team Member[300%],Superviser,Stationery + Food[Rs10,000],T
8	✓	1.2.1.4	Finalization of methodology	Project Manager[50%],Production Manager,Plant Manager,Project Team Member[200%],Stationery + Food[Rs1,000]
9	✓	1.2.1.5	Meetings with Production Key personals	Plant Manager[25%],Assistant Project Managers,Production Manager,Project Manager[50%],Transportation[Rs10,000],Project Team Member[200%]
10	✓	1.2.1.6	Plant Surveys	Project Team Member[200%],Plant Manager[25%],Production Manager[25%],Stationery + Food[Rs500]
11	✓	1.2.1.7	Identification of Bottlenecks (Capacity Wise)	Project Manager[25%],Production Manager[50%],Plant Manager[25%],Project Team Member[50%],Transportation[Rs10,000],Assistant Project Managers[50%]
12	✓	1.2.1.8	Identification of major contributors in Over heads	Production Manager[25%],Project Team Member[200%],Assistant Project Managers[50%]
13	✓	1.2.1.9	Finalization of report	Project Manager[50%],Production Manager[50%],Plant Manager[50%],Assistant Project Managers[50%],Project Team Member,Stationery + Food[Rs1,000]
14	✓	**1.2.2**	**Market Research**	
15	✓	1.2.2.1	Identify Industry Experts	Production Manager[25%],Project Team Member[25%],Plant Manager[25%],Transportation[Rs625]
16	✓	1.2.2.2	Bench Marks Major competitors	Project Manager[25%],Project Team Member[200%]
17	✓	1.2.2.3	Obtain insights about competitors	Project Team Member[200%],Transportation[Rs30,000],Stationery + Food[Rs25,000]
18	✓	1.2.2.4	Perform trend analysis (Last 10 years)	Project Manager[25%],Project Team Member
19	✓	1.2.2.5	Meet with SME`s	Project Manager,Expert 01[Rs50,000],Expert 02[Rs30,000],Expert 03[Rs30,000],Transportation[Rs20,000],Stationery + Food[Rs10,000]
20	✓	1.2.2.6	Finalize the report	Project Manager[50%],Assistant Project Managers[50%],Project Team Member[200%],Stationery + Food[Rs1,000]
21	✓	1.2.2.7	Market Study Completion	12-01
22	✓	**1.2.3**	**Proposed Process**	
23	✓	1.2.3.1	Design new process	Project Manager[25%],Assistant Project Managers,Project Team Member[300%]
24	✓	1.2.3.2	Discussion and Fine Tuning	Project Manager,Plant Manager,Production Manager,Assistant Project Managers,Project Team Member[200%]
25	✓	1.2.3.3	Finalize new process	29-01
26	✓	1.2.3.4	Draft required capabilities	Assistant Project Managers,Production Manager[50%],Plant Manager[25%],Project Team Member[200%]
27	✓	1.2.3.5	Draft specifications of required equipments	Project Manager[50%],Production Manager[50%],Assistant Project Managers,Project Team Member[200%],Plant Manager[25%]

Project: BMS Plant Upgradation
Date: Thu 09-06-16

Task	Project Summary	Manual Task	Start-only	Deadline	Baseline Milestone
Split	Inactive Task	Duration-only	Finish-only	Critical	Baseline Summary
Milestone	Inactive Milestone	Manual Summary Rollup	External Tasks	Critical Split	Progress
Summary	Inactive Summary	Manual Summary	External Milestone	Baseline	Manual Progress

29	✓	1.2.3.7	Obtain approval of the Proposed process	Project Manager[75%],Assistant Project Managers,Plant Manager[25%],Production Manager[25%]
30	✓	1.2.3.8	Obtain feedback	Project Manager[25%],Assistant Project Managers
31	✓	1.2.3.9	Finalize Proposed Process	Project Manager,Assistant Project Managers,Plant Manager,Production Manager,Project Team Member[300%]
32	✓	1.2.3.10	New Requirements Finalized	08-03
33		**1.3**	**Infra Structure**	
34	✓	**1.3.1**	**Land Acquisitin & Utilities**	
35	✓	1.3.1.1	Acquire Land	Admin Person 1,land[2]
36	✓	1.3.1.2	Updrade Power Connection	Admin Person 2[50%],Electric fixture fee etc[Rs200,000]
37	✓	1.3.1.3	Upgrade Gas Connection	Admin Person 1[50%],Gas Fixture fee etc[Rs300,000]
38	✓	1.3.1.4	Re-route high tension wires	Admin Person 1[50%],Electric fixture fee etc[Rs600,000]
39	✓	1.3.1.5	Obtain Relevant Approvals	Admin Person 2[50%],Approvals[Rs300,000]
40		**1.3.2**	**Extended Fabrication Plant Area**	
41		**1.3.2.1**	**Equipment Foundations**	
42	✓	1.3.2.1.1	Preparation of Foundation Drawings	Design Engineer[50%],Draftman,Stationery + Food[Rs1,000]
43	✓	1.3.2.1.2	Approval from Machine supplier	Production Manager[25%]
44		1.3.2.1.3	Marking & Layout	Assistant Project Managers[50%],labor[200%]
45		1.3.2.1.4	Cutting of existing Floor	Assistant Project Managers[25%],labor[200%]
46		1.3.2.1.5	Construction of Foundations	Sub Contractor Civil Works[Rs2,500,000],Superviser
47		1.3.2.1.6	Inspection of levels and foundation geomatry	Project Manager[50%],labor,Project Team Member,Sub Contractor Civil Works
48		1.3.2.1.7	Fixing of bolts and Grouting of pockets	Sub Contractor Civil Works[Rs200,000],Superviser,Assistant Project Managers
49		**1.3.2.2**	**Plant Building**	
50	✓	**1.3.2.2.1**	**Civil Works**	
51	✓	1.3.2.2.1.1	Preparation of Architectural drawings	Architect,Draftman,Stationery + Food[Rs1,500]
52	✓	1.3.2.2.1.2	Preparation of structural drawings	Design Engineer[50%],Draftman,Stationery + Food[Rs1,000]
53	✓	1.3.2.2.1.3	Finalization of Contractor	Project Manager[25%],Project Team Member[200%],Assistant Project Managers[25%],Superviser

Project: BMS Plant Upgradation
Date: Thu 09-06-16

Task	Project Summary	Manual Task	Start-only	Deadline	Baseline Milestone
Split	Inactive Task	Duration-only	Finish-only	Critical	Baseline Summary
Milestone	Inactive Milestone	Manual Summary Rollup	External Tasks	Critical Split	Progress
Summary	Inactive Summary	Manual Summary	External Milestone	Baseline	Manual Progress

55	✓	1.3.2.2.1.5	Ground Breaking ceremony at site	09-04
56	✓	1.3.2.2.1.6	Construction Actvities by Contractor	Sub Contractor Civil Works[Rs1,500,000],Assistant Project Managers[50%],Superviser
57		**1.3.2.2.2**	**Steel Structure Works**	
58	✓	1.3.2.2.2.1	Preparation of Proposal Drawings	Draftman,Design Engineer[25%],Stationery + Food[Rs500]
59	✓	1.3.2.2.2.2	Structural Design	Design Engineer[50%],Draftman
60	✓	1.3.2.2.2.3	BIM Modeling	Design Engineer[25%],Draftman
61	✓	1.3.2.2.2.4	Generation of fabrication drawings	Design Engineer[50%],Draftman,Stationery + Food[Rs500]
62	✓	1.3.2.2.2.5	Finalization of Execution Contractor	Project Manager,Production Manager[50%],Plant Manager[50%]
63	✓	1.3.2.2.2.6	Procurement of Steel Raw Materials	Project Team Member[200%],structural steel[80,000 Kg]
64		1.3.2.2.2.7	Fabrication & Erection of Framing	Sub Contractor Steel Buildings[Rs3,000,000]
65		1.3.2.2.2.8	Leveling, alignment and Painting at Frames	Sub Contractor Steel Buildings[Rs350,000],Superviser,Assistant Project Managers[50%],Paint[70 Liter]
66		1.3.2.2.2.9	Fabrication of cladding systems	Sub Contractor Steel Buildings[Rs200,000]
67		1.3.2.2.2.10	Installation of Cladding	Sub Contractor Steel Buildings[Rs100,000],Superviser
68		1.3.2.2.2.11	Completion of Plant Building	20-07
69		**1.3.3**	**Offices & residences**	
70	✓	**1.3.3.1**	**Designing**	
71	✓	1.3.3.1.1	Calculate office & Residence requirement	Architect,Project Manager[50%],Plant Manager[25%],Production Manager[25%]
72	✓	1.3.3.1.2	Design Space requirements	Architect
73	✓	1.3.3.1.3	Prepare architectural drawings	Architect,Stationery + Food[Rs1,000]
74	✓	1.3.3.1.4	Involve key users and obtain feedback	Architect,Assistant Project Managers[50%],Project Team Member
75	✓	1.3.3.1.5	Finalize architectural design	Project Manager,Assistant Project Managers,Project Team Member[200%],Architect,Draftman[50%]
76	✓	1.3.3.1.6	Prepare structural drawings	Design Engineer[50%],Draftman

Project: BMS Plant Upgradation
Date: Thu 09-06-16

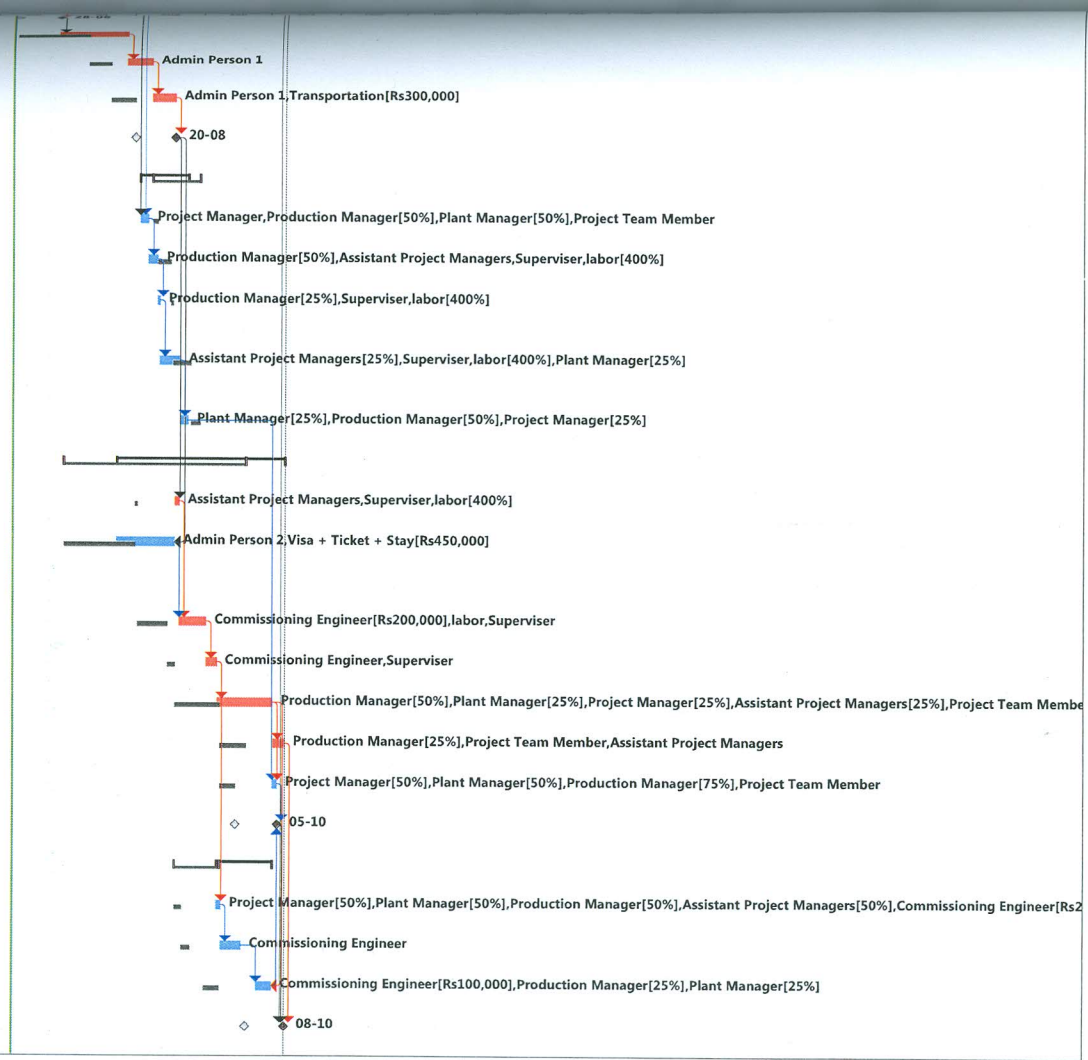
Task	Project Summary	Manual Task	Start-only	Deadline	Baseline Milestone		
Split	Inactive Task	Duration-only	Finish-only	Critical	Baseline Summary		
Milestone	Inactive Milestone	Manual Summary Rollup	External Tasks	Critical Split	Progress		
Summary	Inactive Summary	Manual Summary	External Milestone	Baseline	Manual Progress		

78		1.3.3.2	Construction	
79	✓	1.3.3.2.1	Perform foundation works	Sub Contractor Civil Works[Rs2,000,000],Superviser,Assistant Project Managers[25%]
80	✓	1.3.3.2.2	Complete Ground Floor structure	Sub Contractor Civil Works[Rs4,000,000],Superviser,Assistant Project Managers[25%]
81		1.3.3.2.3	Curing time	labor,water[Rs1,000]
82		1.3.3.2.4	Complete first floor construction works	Sub Contractor Civil Works[Rs3,000,000],Superviser,Assistant Project Managers[25%]
83		1.3.3.2.5	Build partitions	Sub Contractor Civil Works[Rs500,000],Superviser
84		**1.3.3.3**	**Finishes & Renovation of old block**	
85		1.3.3.3.1	Complete electrical works	Sub Contractor Electrical works[Rs150,000],Superviser[50%]
86		1.3.3.3.2	Complete plumbing works	Sub Contractor Plumbing[Rs350,000],Superviser
87		1.3.3.3.3	Perform false ceiling works	Sub Contractor Finsihing[Rs300,000],Superviser[50%]
88		1.3.3.3.4	Install doors and windows	Sub Contractor Finsihing[Rs400,000],Superviser[50%]
89		1.3.3.3.5	Complete paint works	Sub Contractor Finsihing[Rs150,000],Paint[2,000 Liter],Superviser
90		1.3.3.3.6	Install Fixtures	Sub Contractor Finsihing[Rs50,000],Electric fixture fee etc[Rs400,000],Gas Fixture fee etc[Rs72,000],Superviser
91		1.3.3.3.7	Construction Completion	22-08
92		**1.4**	**Machinery**	
93		**1.4.1**	**Procurement**	
94	✓	1.4.1.1	Identify potential suppliers	Project Manager[50%],Assistant Project Managers[50%],Project Team Member[200%]
95	✓	1.4.1.2	Obtain proposals	Project Team Member
96	✓	1.4.1.3	Evaluate proposals	Project Manager,Project Team Member,Assistant Project Managers[50%]
97	✓	1.4.1.4	Obtain user approvals	Assistant Project Managers,Production Manager[50%],Plant Manager[25%],Project Manager[25%]
98	✓	1.4.1.5	Shortlist potential suppliers	Project Manager,Project Team Member[200%]
99	✓	1.4.1.6	Visit vendor facility and qualify the vendors	Project Manager,Project Team Member[200%],Visa + Ticket + Stay[Rs1,500,000]
100	✓	1.4.1.7	Fine tune requirements & Specifications	Project Manager[50%],Plant Manager[25%],Production Manager[25%],Project Team Member[200%]
101	✓	1.4.1.8	Negotiate with the suppliers	Project Manager[25%],Project Team Member
102	✓	1.4.1.9	Finalize the Contract	Machines[1]
103		1.4.1.10	Maufacturing Lead time	

Project: BMS Plant Upgradation
Date: Thu 09-06-16

Task	Project Summary	Manual Task	Start-only	Deadline	Baseline Milestone		
Split	Inactive Task	Duration-only	Finish-only	Critical	Baseline Summary		
Milestone	Inactive Milestone	Manual Summary Rollup	External Tasks	Critical Split	Progress		
Summary	Inactive Summary	Manual Summary	External Milestone	Baseline	Manual Progress		

105	1.4.1.12	Transit time for shipment	
106	1.4.1.13	Clear the cargo from customs	
107	1.4.1.14	land transport	
108	1.4.1.15	Deliver machines at plant site	
109	**1.4.2**	**Relocation of Existing Machines**	
110	1.4.2.1	Planning of partial shut down	
111	1.4.2.2	De-Erection of machines	
112	1.4.2.3	Shifting of Machines to new locations	
113	1.4.2.4	Erection of Machines at new location	
114	1.4.2.5	Trial Run	
115	**1.4.3**	**Commissioning**	
116	1.4.3.1	Unloading of Machines	
117	1.4.3.2	Arrange visas & Travelling of the commissioning team	
118	1.4.3.3	Erect machines in position	
119	1.4.3.4	Setup machines for trial runs	
120	1.4.3.5	Perform trial runs	
121	1.4.3.6	Mark adherance to specifications	
122	1.4.3.7	Obtain production team approvals	
123	1.4.3.8	Hand over to production team	
124	**1.4.4**	**Training**	
125	1.4.4.1	Perform need assessment	
126	1.4.4.2	Design a training process	
127	1.4.4.3	Perform training tasks	
128	1.5	End	



Project: BMS Plant Upgradation
Date: Thu 09-06-16

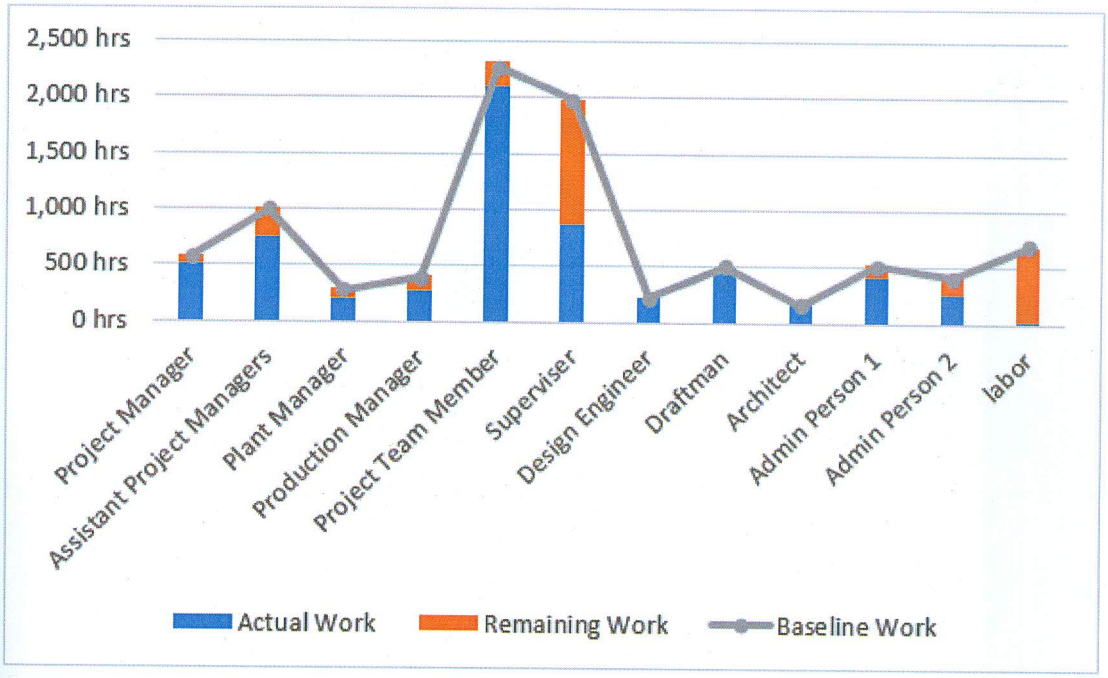
Task	Project Summary	Manual Task	Start-only	Deadline	Baseline Milestone		
Split	Inactive Task	Duration-only	Finish-only	Critical	Baseline Summary		
Milestone	Inactive Milestone	Manual Summary Rollup	External Tasks	Critical Split	Progress		
Summary	Inactive Summary	Manual Summary	External Milestone	Baseline	Manual Progress		

4.10 Network Diagram

4.11 Resource over View

RESOURCE STATS

Work status for all work resources.



RESOURCE STATUS

Remaing work for all work resources.

Name	Start	Finish	Remaining Work
Project Manager	Tue 01-12-15	Wed 05-10-16	76 hrs
Assistant Project Managers	Tue 01-12-15	Sat 08-10-16	244 hrs
Plant Manager	Tue 01-12-15	Wed 05-10-16	82 hrs
Production Manager	Tue 01-12-15	Sat 08-10-16	138 hrs
Project Team Member	Fri 04-12-15	Sat 08-10-16	224 hrs
Superviser	Fri 04-12-15	Thu 08-09-16	1,112 hrs
Design Engineer	Tue 01-12-15	Thu 12-05-16	0 hrs
Draftman	Fri 04-03-16	Thu 12-05-16	0 hrs
Architect	Tue 01-12-15	Tue 22-03-16	0 hrs
Admin Person 1	Tue 01-12-15	Sat 20-08-16	128 hrs
Admin Person 2	Tue 01-12-15	Sat 20-08-16	160 hrs
labor	Fri 08-04-16	Sat 03-09-16	664 hrs

4.12 Cash Flows

CASH FLOW

Actual Cost	Baseline Cost	Remaining Cost	Cost Variance
Rs67,492,830	Rs95,465,545	Rs25,026,865	(Rs2,945,850)

The chart shows the project's cumulative cost and the cost per quater.
To see the costs for a different time period, select the Edit option from the Field List.

The table below shows cost information for all top-level tasks.
To see cost starts for all tasks, set the Outline Level in the Field List

Name	Remaining Cost	Actual Cost	Cost	ACWP	BCWP	BCWS
BMS Plant Up Gradation	Rs25,026,865	Rs67,492,830	Rs92,519,695	Rs65,991,180	Rs68,938,680	Rs68,954,870

PROJECT OVERVIEW

TUE 01-12-15 - SAT 08-10-16

% COMPLETE

63%

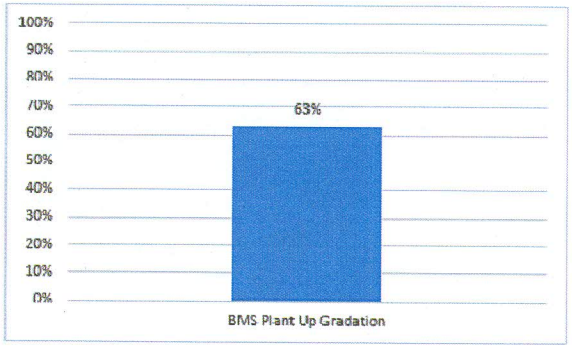
MILESTONES DUE

Milestones that are coming soon.

Name	Finish
Completion of Plant Building	Wed 20-07-16
Construction Completion	Mon 22-08-16
Shipment of Equipment	Tue 28-06-16
Deliver machines at plant site	Sat 20-08-16
Hand over to production team	Wed 05-10-16
End	Sat 08-10-16

% COMPLETE

Status for all top-level tasks. To see the status for subtasks, click on the chart and update the outline level in the Field List.



LATE TASKS

Tasks that are past due.

Name	Start	Finish	Duration	% Complete	Resource Names
Fabrication & Erection of Framing	Fri 20-05-16	Wed 29-06-16	30 days	50%	Sub Contractor Steel Buildings[Rs3,000,000]
Fabrication of cladding systems	Tue 05-04-16	Mon 18-04-16	10 days	0%	Sub Contractor Steel Buildings[Rs200,000]
Manufacturing Lead time	Fri 29-04-16	Tue 28-06-16	45 days	60%	

4.15 EVM Report

ID	Task Name	Planned Value - PV (BCWS)	Earned Value - EV (BCWP)	AC (ACWP)	SV	CV	EAC	BAC	VAC
0	**BMS Plant Upgradation**	**Rs68,962,745**	**Rs68,938,680**	**Rs65,992,830**	**(Rs24,065)**	**Rs2,945,850**	**Rs91,386,381**	**Rs95,465,545**	**Rs4,079,164**
1	**BMS Plant Up Gradation**	**Rs68,962,745**	**Rs68,938,680**	**Rs65,992,830**	**(Rs24,065)**	**Rs2,945,850**	**Rs91,386,381**	**Rs95,465,545**	**Rs4,079,164**
2	Start	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0
3	**Process Design**	**Rs1,774,200**	**Rs1,774,200**	**Rs1,834,350**	**Rs0**	**(Rs60,150)**	**Rs2,112,602**	**Rs2,043,325**	**(Rs69,277)**
4	**As Is Process study**	**Rs682,400**	**Rs682,400**	**Rs724,400**	**Rs0**	**(Rs42,000)**	**Rs801,362**	**Rs754,900**	**(Rs46,462)**
5	Hold Kick off meetin	Rs45,520	Rs45,520	Rs45,520	Rs0	Rs0	Rs60,520	Rs60,520	Rs0
6	Finalization of Team	Rs82,720	Rs82,720	Rs82,720	Rs0	Rs0	Rs82,720	Rs82,720	Rs0
7	Team Meeting s	Rs152,160	Rs152,160	Rs152,160	Rs0	Rs0	Rs187,160	Rs187,160	Rs0
8	Finalization of methodology	Rs63,200	Rs63,200	Rs94,800	Rs0	(Rs31,600)	Rs96,300	Rs64,200	(Rs32,100)
9	Meetings with Production Key	Rs28,400	Rs28,400	Rs28,400	Rs0	Rs0	Rs38,400	Rs38,400	Rs0
10	Plant Surveys	Rs124,000	Rs124,000	Rs128,650	Rs0	(Rs4,650)	Rs129,169	Rs124,500	(Rs4,669)
11	Identification of Bottlenecks	Rs52,800	Rs52,800	Rs55,350	Rs0	(Rs2,550)	Rs65,833	Rs62,800	(Rs3,033)
12	Identification of major contributors	Rs25,600	Rs25,600	Rs28,800	Rs0	(Rs3,200)	Rs28,800	Rs25,600	(Rs3,200)
13	Finalization of repor	Rs108,000	Rs108,000	Rs108,000	Rs0	Rs0	Rs109,000	Rs109,000	Rs0
14	**Market Research**	**Rs301,400**	**Rs301,400**	**Rs309,800**	**Rs0**	**(Rs8,400)**	**Rs511,906**	**Rs498,025**	**(Rs13,881)**
15	Identify Industry Exp	Rs5,400	Rs5,400	Rs5,400	Rs0	Rs0	Rs6,025	Rs6,025	Rs0
16	Bench Marks Major competitors	Rs11,000	Rs11,000	Rs11,000	Rs0	Rs0	Rs11,000	Rs11,000	Rs0
17	Obtain insights about competitors	Rs120,000	Rs120,000	Rs120,000	Rs0	Rs0	Rs175,000	Rs175,000	Rs0
18	Perform trend analysis (Last 10	Rs21,000	Rs21,000	Rs21,000	Rs0	Rs0	Rs21,000	Rs21,000	Rs0
19	Meet with SME`s	Rs60,000	Rs60,000	Rs60,000	Rs0	Rs0	Rs200,000	Rs200,000	Rs0
20	Finalize the report	Rs84,000	Rs84,000	Rs92,400	Rs0	(Rs8,400)	Rs93,500	Rs85,000	(Rs8,500)
21	Market Study Comp	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0
22	**Proposed Process**	**Rs790,400**	**Rs790,400**	**Rs800,150**	**Rs0**	**(Rs9,750)**	**Rs800,150**	**Rs790,400**	**(Rs9,750)**
23	Design new process	Rs206,000	Rs206,000	Rs206,000	Rs0	Rs0	Rs206,000	Rs206,000	Rs0
24	Discussion and Fine	Rs129,600	Rs129,600	Rs129,600	Rs0	Rs0	Rs129,600	Rs129,600	Rs0
25	Finalize new process	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0
26	Draft required capat	Rs100,000	Rs100,000	Rs100,000	Rs0	Rs0	Rs100,000	Rs100,000	Rs0
27	Draft specifications of required	Rs130,000	Rs130,000	Rs139,750	Rs0	(Rs9,750)	Rs139,750	Rs130,000	(Rs9,750)
28	Share the process with key	Rs17,600	Rs17,600	Rs17,600	Rs0	Rs0	Rs17,600	Rs17,600	Rs0
29	Obtain approval of the Proposed	Rs57,000	Rs57,000	Rs57,000	Rs0	Rs0	Rs57,000	Rs57,000	Rs0
30	Obtain feedback	Rs8,600	Rs8,600	Rs8,600	Rs0	Rs0	Rs8,600	Rs8,600	Rs0
31	Finalize Proposed Pr	Rs141,600	Rs141,600	Rs141,600	Rs0	Rs0	Rs141,600	Rs141,600	Rs0
32	New Requirements I	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0

ID	Task Name	Planned Value - PV (BCWS)	Earned Value - EV (BCWP)	AC (ACWP)	SV	CV	EAC	BAC	VAC
33	**Infra Structure**	**Rs51,599,545**	**Rs51,575,480**	**Rs48,569,480**	**(Rs24,065)**	**Rs3,006,000**	**Rs70,233,400**	**Rs74,580,180**	**Rs4,346,780**
34	**Land Acquisitin & Utili**	**Rs45,102,000**	**Rs45,102,000**	**Rs42,091,600**	**Rs0**	**Rs3,010,400**	**Rs43,398,155**	**Rs46,502,000**	**Rs3,103,845**
35	Acquire Land	Rs45,020,400	Rs45,020,400	Rs42,010,000	Rs0	Rs3,010,400	Rs42,010,000	Rs45,020,400	Rs3,010,400
36	Updrade Power Con	Rs20,400	Rs20,400	Rs20,400	Rs0	Rs0	Rs220,402	Rs220,400	(Rs2)
37	Upgrade Gas Conne	Rs20,400	Rs20,400	Rs20,400	Rs0	Rs0	Rs320,403	Rs320,400	(Rs3)
38	Re-route high tensio	Rs20,400	Rs20,400	Rs20,400	Rs0	Rs0	Rs620,406	Rs620,400	(Rs6)
39	Obtain Relevant App	Rs20,400	Rs20,400	Rs20,400	Rs0	Rs0	Rs320,403	Rs320,400	(Rs3)
40	**Extended Fabrication I**	**Rs6,205,670**	**Rs6,216,120**	**Rs6,220,520**	**Rs10,450**	**(Rs4,400)**	**Rs14,281,103**	**Rs14,270,980**	**(Rs10,123)**
41	**Equipment Foundat**	**Rs48,000**	**Rs48,000**	**Rs48,000**	**Rs0**	**Rs0**	**Rs2,848,960**	**Rs2,848,960**	**Rs0**
42	Preparation of Foundation	Rs32,000	Rs32,000	Rs32,000	Rs0	Rs0	Rs33,000	Rs33,000	Rs0
43	Approval from Ma	Rs16,000	Rs16,000	Rs16,000	Rs0	Rs0	Rs16,000	Rs16,000	Rs0
44	Marking & Layout	Rs0	Rs0	Rs0	Rs0	Rs0	Rs9,440	Rs9,440	Rs0
45	Cutting of existing	Rs0	Rs0	Rs0	Rs0	Rs0	Rs16,600	Rs16,600	Rs0
46	Construction of Fo	Rs0	Rs0	Rs0	Rs0	Rs0	Rs2,516,000	Rs2,516,000	Rs0
47	Inspection of levels and	Rs0	Rs0	Rs0	Rs0	Rs0	Rs21,920	Rs21,920	Rs0
48	Fixing of bolts and Grouting of	Rs0	Rs0	Rs0	Rs0	Rs0	Rs236,000	Rs236,000	Rs0
49	**Plant Building**	**Rs6,157,670**	**Rs6,168,120**	**Rs6,172,520**	**Rs10,450**	**(Rs4,400)**	**Rs11,430,206**	**Rs11,422,020**	**(Rs8,186)**
50	**Civil Works**	**Rs365,270**	**Rs375,720**	**Rs380,120**	**Rs10,450**	**(Rs4,400)**	**Rs1,900,223**	**Rs1,878,220**	**(Rs22,003)**
51	Preparation of Architectural	Rs28,800	Rs28,800	Rs28,800	Rs0	Rs0	Rs30,300	Rs30,300	Rs0
52	Preparation of structural	Rs32,000	Rs32,000	Rs32,000	Rs0	Rs0	Rs33,000	Rs33,000	Rs0
53	Finalization of (	Rs112,000	Rs112,000	Rs112,000	Rs0	Rs0	Rs112,000	Rs112,000	Rs0
54	Marking & Layo	Rs4,920	Rs4,920	Rs4,920	Rs0	Rs0	Rs4,920	Rs4,920	Rs0
55	Ground Breaking	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0
56	Construction Actvities by	Rs187,550	Rs198,000	Rs202,400	Rs10,450	(Rs4,400)	Rs1,735,735	Rs1,698,000	(Rs37,735)
57	**Steel Structure W**	**Rs5,792,400**	**Rs5,792,400**	**Rs5,792,400**	**Rs0**	**Rs0**	**Rs9,543,800**	**Rs9,543,800**	**Rs0**
58	Preparation of Proposal	Rs4,000	Rs4,000	Rs4,000	Rs0	Rs0	Rs4,500	Rs4,500	Rs0
59	Structural Desig	Rs16,000	Rs16,000	Rs16,000	Rs0	Rs0	Rs16,000	Rs16,000	Rs0
60	BIM Modeling	Rs30,000	Rs30,000	Rs30,000	Rs0	Rs0	Rs30,000	Rs30,000	Rs0
61	Generation of fabrication	Rs16,000	Rs16,000	Rs16,000	Rs0	Rs0	Rs16,500	Rs16,500	Rs0
62	Finalization of Execution	Rs62,400	Rs62,400	Rs62,400	Rs0	Rs0	Rs62,400	Rs62,400	Rs0
63	Procurement of Steel Raw	Rs5,664,000	Rs5,664,000	Rs5,664,000	Rs0	Rs0	Rs5,664,000	Rs5,664,000	Rs0

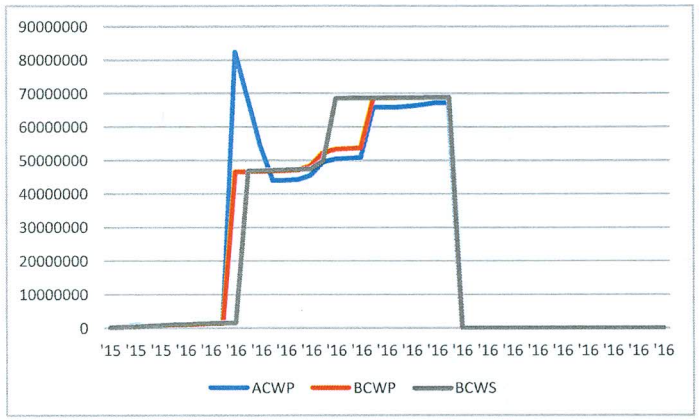
ID	Task Name	Planned Value - PV (BCWS)	Earned Value - EV (BCWP)	AC (ACWP)	SV	CV	EAC	BAC	VAC
64	Fabrication & Erection of	Rs0	Rs0	Rs0	Rs0	Rs0	Rs3,000,000	Rs3,000,000	Rs0
65	Leveling, alignment and	Rs0	Rs0	Rs0	Rs0	Rs0	Rs437,600	Rs437,600	Rs0
66	Fabrication of c	Rs0	Rs0	Rs0	Rs0	Rs0	Rs200,000	Rs200,000	Rs0
67	Installation of C	Rs0	Rs0	Rs0	Rs0	Rs0	Rs112,800	Rs112,800	Rs0
68	Completion of	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0
69	**Offices & residences**	**Rs291,875**	**Rs257,360**	**Rs257,360**	**(Rs34,515)**	**Rs0**	**Rs13,807,200**	**Rs13,807,200**	**Rs0**
70	**Designing**	**Rs106,400**	**Rs106,400**	**Rs106,400**	**Rs0**	**Rs0**	**Rs107,400**	**Rs107,400**	**Rs0**
71	Calculate office & Residence	Rs13,200	Rs13,200	Rs13,200	Rs0	Rs0	Rs13,200	Rs13,200	Rs0
72	Design Space requ	Rs5,600	Rs5,600	Rs5,600	Rs0	Rs0	Rs5,600	Rs5,600	Rs0
73	Prepare architect	Rs14,000	Rs14,000	Rs14,000	Rs0	Rs0	Rs15,000	Rs15,000	Rs0
74	Involve key users and obtain	Rs19,200	Rs19,200	Rs19,200	Rs0	Rs0	Rs19,200	Rs19,200	Rs0
75	Finalize architectu	Rs28,800	Rs28,800	Rs28,800	Rs0	Rs0	Rs28,800	Rs28,800	Rs0
76	Prepare structura	Rs25,600	Rs25,600	Rs25,600	Rs0	Rs0	Rs25,600	Rs25,600	Rs0
77	Finalize execution	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0
78	**Construction**	**Rs185,475**	**Rs150,960**	**Rs150,960**	**(Rs34,515)**	**Rs0**	**Rs9,768,600**	**Rs9,768,600**	**Rs0**
79	Perform foundati	Rs90,000	Rs90,000	Rs90,000	Rs0	Rs0	Rs2,090,000	Rs2,090,000	Rs0
80	Complete Ground	Rs60,000	Rs60,000	Rs60,000	Rs0	Rs0	Rs4,060,000	Rs4,060,000	Rs0
81	Curing time	Rs9,600	Rs960	Rs960	(Rs8,640)	Rs0	Rs10,600	Rs10,600	Rs0
82	Complete first floor	Rs16,875	Rs0	Rs0	(Rs16,875)	Rs0	Rs3,060,000	Rs3,060,000	Rs0
83	Build partitions	Rs9,000	Rs0	Rs0	(Rs9,000)	Rs0	Rs548,000	Rs548,000	Rs0
84	**Finishes & Renovati**	**Rs0**	**Rs0**	**Rs0**	**Rs0**	**Rs0**	**Rs3,931,200**	**Rs3,931,200**	**Rs0**
85	Complete electric	Rs0	Rs0	Rs0	Rs0	Rs0	Rs162,000	Rs162,000	Rs0
86	Complete plumbi	Rs0	Rs0	Rs0	Rs0	Rs0	Rs374,000	Rs374,000	Rs0
87	Perform false ceil	Rs0	Rs0	Rs0	Rs0	Rs0	Rs308,000	Rs308,000	Rs0
88	Install doors and	Rs0	Rs0	Rs0	Rs0	Rs0	Rs404,000	Rs404,000	Rs0
89	Complete paint w	Rs0	Rs0	Rs0	Rs0	Rs0	Rs2,158,000	Rs2,158,000	Rs0
90	Install Fixtures	Rs0	Rs0	Rs0	Rs0	Rs0	Rs525,200	Rs525,200	Rs0
91	Construction Com	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0
92	**Machinery**	**Rs15,589,000**	**Rs15,589,000**	**Rs15,589,000**	**Rs0**	**Rs0**	**Rs18,842,040**	**Rs18,842,040**	**Rs0**
93	**Procurement**	**Rs15,589,000**	**Rs15,589,000**	**Rs15,589,000**	**Rs0**	**Rs0**	**Rs17,410,760**	**Rs17,410,760**	**Rs0**
94	Identify potential su	Rs134,400	Rs134,400	Rs134,400	Rs0	Rs0	Rs134,400	Rs134,400	Rs0
95	Obtain proposals	Rs32,000	Rs32,000	Rs32,000	Rs0	Rs0	Rs32,000	Rs32,000	Rs0
96	Evaluate proposals	Rs56,400	Rs56,400	Rs56,400	Rs0	Rs0	Rs56,400	Rs56,400	Rs0
97	Obtain user approva	Rs30,000	Rs30,000	Rs30,000	Rs0	Rs0	Rs30,000	Rs30,000	Rs0
98	Shortlist potential su	Rs100,000	Rs100,000	Rs100,000	Rs0	Rs0	Rs100,000	Rs100,000	Rs0
99	Visit vendor facility and qualify the	Rs160,000	Rs160,000	Rs160,000	Rs0	Rs0	Rs1,660,000	Rs1,660,000	Rs0

ID	Task Name	Planned Value - PV (BCWS)	Earned Value - EV (BCWP)	AC (ACWP)	SV	CV	EAC	BAC	VAC
100	Fine tune requirements &	Rs55,200	Rs55,200	Rs55,200	Rs0	Rs0	Rs55,200	Rs55,200	Rs0
101	Negotiate with the s	Rs21,000	Rs21,000	Rs21,000	Rs0	Rs0	Rs21,000	Rs21,000	Rs0
102	Finalize the Contract	Rs15,000,000	Rs15,000,000	Rs15,000,000	Rs0	Rs0	Rs15,000,000	Rs15,000,000	Rs0
103	Maufacturing Lead t	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0
104	Shipment of Equipm	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0
105	Transit time for ship	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0
106	Clear the cargo from	Rs0	Rs0	Rs0	Rs0	Rs0	Rs10,880	Rs10,880	Rs0
107	land transport	Rs0	Rs0	Rs0	Rs0	Rs0	Rs310,880	Rs310,880	Rs0
108	Deliver machines at	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0
109	**Relocation of Existing**	**Rs0**	**Rs0**	**Rs0**	**Rs0**	**Rs0**	**Rs200,840**	**Rs200,840**	**Rs0**
110	Planning of partial sl	Rs0	Rs0	Rs0	Rs0	Rs0	Rs49,600	Rs49,600	Rs0
111	De-Erection of mach	Rs0	Rs0	Rs0	Rs0	Rs0	Rs60,160	Rs60,160	Rs0
112	Shifting of Machines to new	Rs0	Rs0	Rs0	Rs0	Rs0	Rs7,440	Rs7,440	Rs0
113	Erection of Machines at new	Rs0	Rs0	Rs0	Rs0	Rs0	Rs55,440	Rs55,440	Rs0
114	Trial Run	Rs0	Rs0	Rs0	Rs0	Rs0	Rs28,200	Rs28,200	Rs0
115	**Commissioning**	**Rs0**	**Rs0**	**Rs0**	**Rs0**	**Rs0**	**Rs1,040,240**	**Rs1,040,240**	**Rs0**
116	Unloading of Machir	Rs0	Rs0	Rs0	Rs0	Rs0	Rs11,040	Rs11,040	Rs0
117	Arrange visas & Travelling of the	Rs0	Rs0	Rs0	Rs0	Rs0	Rs477,200	Rs477,200	Rs0
118	Erect machines in pc	Rs0	Rs0	Rs0	Rs0	Rs0	Rs225,600	Rs225,600	Rs0
119	Setup machines for	Rs0	Rs0	Rs0	Rs0	Rs0	Rs4,800	Rs4,800	Rs0
120	Perform trial runs	Rs0	Rs0	Rs0	Rs0	Rs0	Rs222,000	Rs222,000	Rs0
121	Mark adherance to s	Rs0	Rs0	Rs0	Rs0	Rs0	Rs58,000	Rs58,000	Rs0
122	Obtain production te	Rs0	Rs0	Rs0	Rs0	Rs0	Rs41,600	Rs41,600	Rs0
123	Hand over to produc	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0
124	**Training**	**Rs0**	**Rs0**	**Rs0**	**Rs0**	**Rs0**	**Rs190,200**	**Rs190,200**	**Rs0**
125	Perform need assess	Rs0	Rs0	Rs0	Rs0	Rs0	Rs68,200	Rs68,200	Rs0
126	Design a training pro	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0
127	Perform training tas	Rs0	Rs0	Rs0	Rs0	Rs0	Rs122,000	Rs122,000	Rs0
128	End	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0	Rs0

ned value management helps you quantify the performance of a ect. It compares costs and schedules to a baseline to determine if project is on track.

e charts don't look right, make sure you have set a baseline, gned costs to tasks or resources, and entered progress.

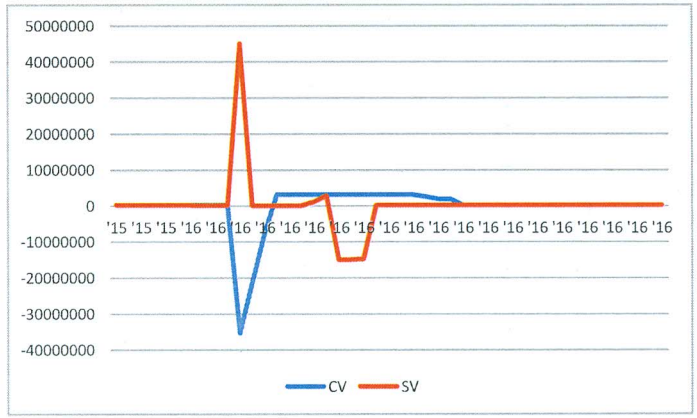
Rs91,386,381 Rs65,992,830 Rs68,938,680



EARNED VALUE OVER TIME

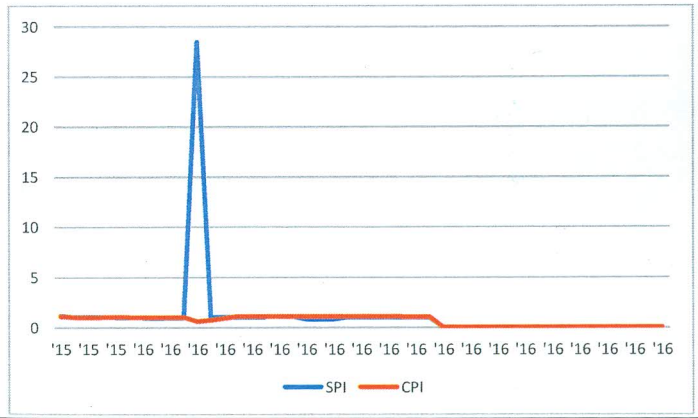
The project's earned value based on the status date. If actual cost (ACWP) is higher than earned value (BCWP), then the project is over budget. If planned value (BCWS) is higher than earned value, then the project is behind schedule.

Learn more about earned value



VARIANCE OVER TIME

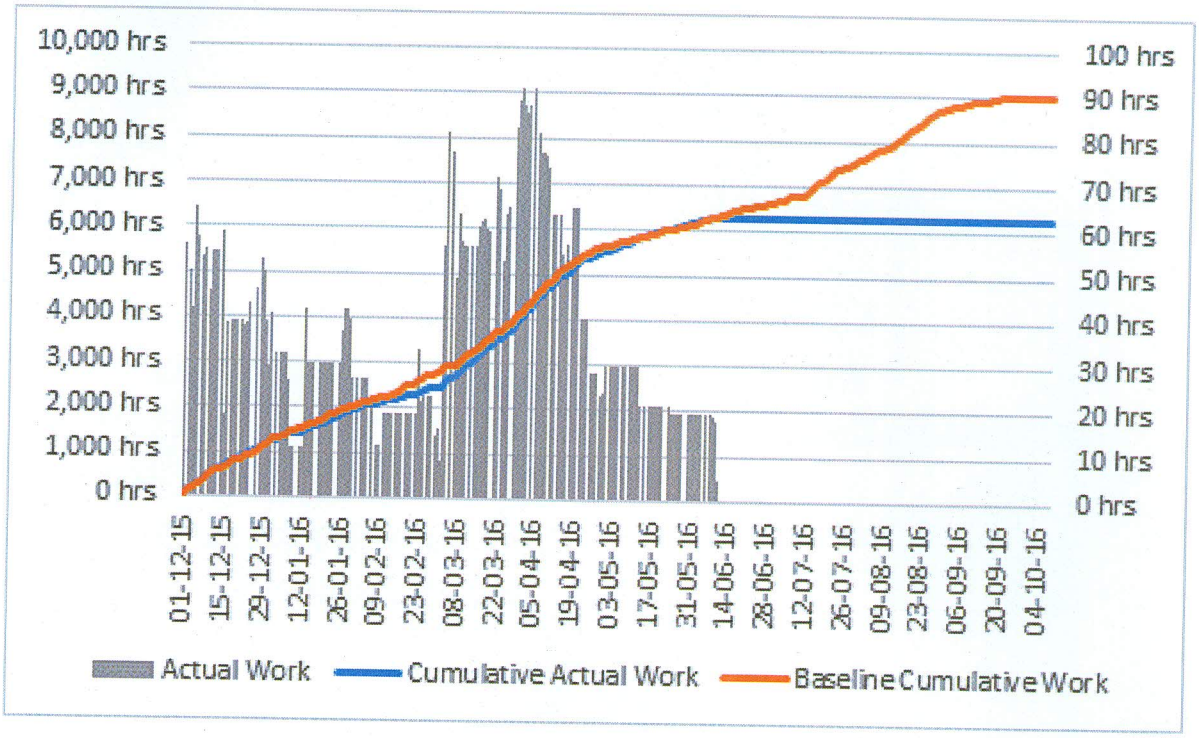
Cost and schedule variances for the project based on status date. If CV is negative then, the project is over budget. If SV is positive then the project is behind schedule.



INDICES OVER TIME

Cost and schedule performance indices for the project based on status date. The greater the performance index, the more on schedule and cost saving the project.

4.16 S-Curve (Works)



5 – References

- www.banumukhtar.com
- Project Management Body of Knowledge (PM BoK) 5th edition
- http://www.pmi.org/
- http://projectriskcoach.com/
- https://en.wikipedia.org/wiki/Project_management_office
- http://www.slideshare.net/anandsubramaniam/project-management-office-pmo
- http://www.projectmanagement.com
- https://www.projectsmart.co.uk/

Project Charter (Template)

Project Title: Project Name

Project Sponsor: Mr. AAAAAA

Location: Lahore

Date: xx-xx-xxxx

Scope of Project

Describe High level Scope.

Project Objectives / Success Criteria

Describe Project success criteria.

Project Time

Mention estimated completion time.

Summary Budget

Mention high level tentative summary budget.

Summary Milestone

Mention milestones required internally or externally.

High Level Project Risks

Mention high level project risks.

Project Stakeholders

Enlist important and key Project stakeholders

Roles & Responsibility

Enlist key project team members with roles and name of project manager with his authority.

Approved By:

Signature:

_____

Project Scope Statement

Version History

Version	Date	Prepared By	Approved By

Scope

Describe detailed scope in as much detail as possible.

Deliverable

Enlist the deliverable (s) required in full detail along with the required features.

Success/Acceptance Criteria:

Mention acceptance criteria which will be used as reference while validating scope.

Assumptions:

Enlist all assumptions made and include assumption analysis such that if those are not validated, how project scope will change.

Exclusions:

Clearly mention the project exclusions which are not included in project scope.

Approved By:

1-The End User

2- The Sponsor

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