

## **The Essence of the PMBOK (Project Management is the way of life)**

By Dr. TD Jainendrakumar

Through this article I am striving to drive the basic project concepts mentioned in the PMBOK through the project process flow in an Industry as well as in a person's life and want to emphasize that the Project management Knowledge is not only the requirement of the project managers to acquire but this knowledge is also needed for the common person to lead a normal and a cheerful life. That is project management is the way of life.

### **Basic Project Concepts defined in PMBOK**

Project is defined in PMBOK as a temporary endeavour undertaken to create a unique product, service or result. A project has a definite beginning and a definite end, it does not mean that it is a short duration; it can be short or long. A project produces a product or artefact, quantifiable, an end item or a component item. Project has a capability to perform a service, such as call center. Project produces a result, such as research results or documents. Each project is unique in nature for example a contractor who is constructing villas for his customers are building unique villas for his each customer as each individual customer's interest will be different and hence each villa will be unique. Project also improves the functionalities of the product or service in step by step over a period of time in consultation with the stakeholders, which is usually referred as Progressive Elaboration.

If a project is large it can be divided into sub Projects and make manageable component of a project may be performed by a separate organization it could be a project phase or sub projects. A program is a group of related project or sub-projects, and program activities managed in a coordinated way by a program manager.

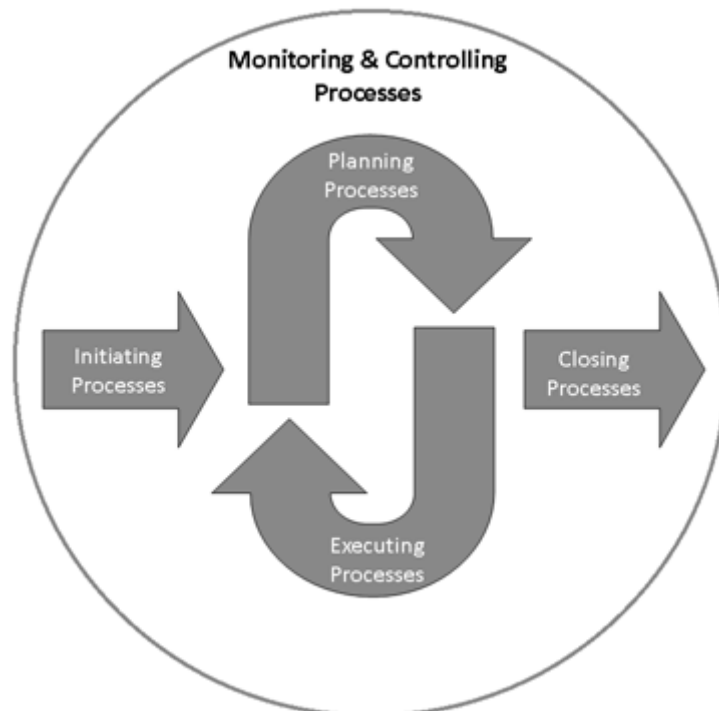
Project has a life cycle called Project life cycle, Project life cycle is the series of Phases broken-down based on objectives, results & deliverables. What is a deliverable? Deliverable are a unique and verifiable product, result, or capability to perform a service that is required to be produced to complete a process, phase or project. A deliverable often marks the end of a phase of the project or a major milestone. At the end of each phase a review will be performed to decide whether the project has met its objectives or not and continue to enter into the next phase or not that is why it is called Phase end, Phase exit, stage gates, or kill points.

Projects start as a result of Market demand, Strategic opportunity and business need, Environmental consideration, Customer request, Technological Advancement, Legal requirements and Social needs etc.

Now what is Project Management, according to PMBOK it is the application of knowledge, skills, tools, & techniques to project activities to meet project requirements. Project management is accomplished through the appropriate application and integration of the 47 logically grouped project management processes categorized into 5 process groups: Initiation, Planning, Execution, Monitoring and Controlling, Closure which are grouped into 10 knowledge areas.

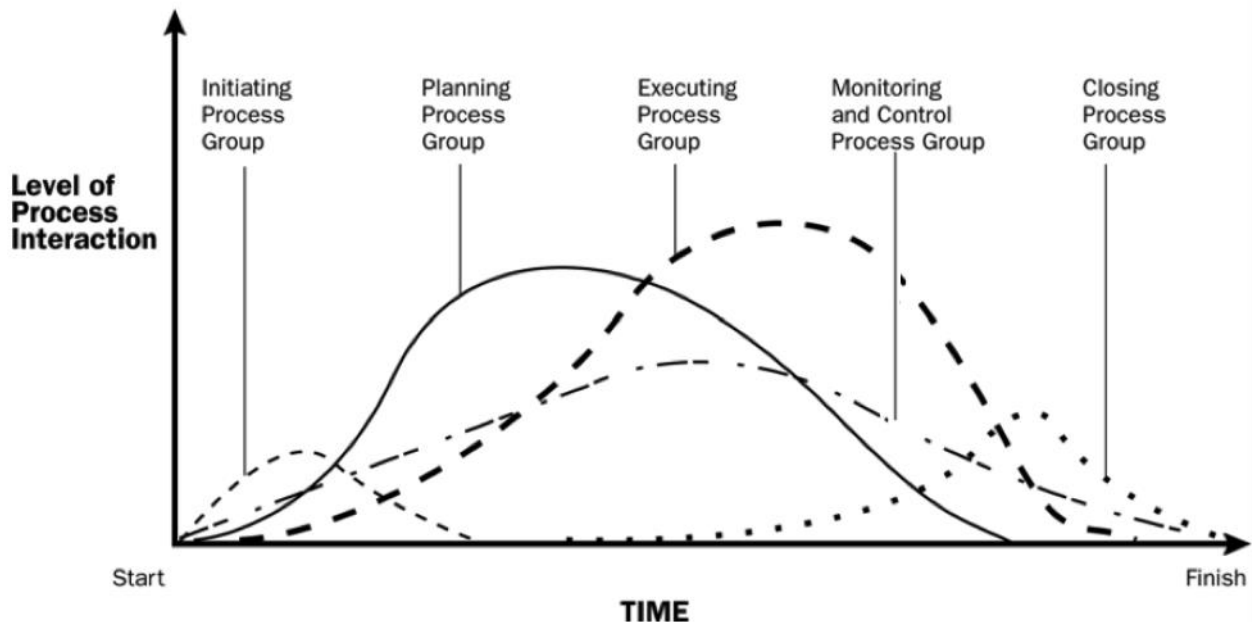
**The Five process groups are**

1. Initiating Process Group: Defines and authorizes the project or a project phase.
2. Planning Process Group: Defines and refines objectives, and plans the course of action required to attain the objectives and scope that the project was undertaken to address
3. Executing Process Group: Integrates people and other resources to carry out the project management plan for the project
4. Monitoring and Controlling Process Group: Regularly measures and monitors progress to identify variances from the project management plan so that corrective action can be taken as and when necessary to meet project objectives



5. Closing Process Group: Formalizes acceptance of the product, services or the result and brings the project or a project phase to an orderly end.

The following diagram shows the level of process interaction over a period of time until closing. Please note that the monitoring and control process is done from the beginning of the project to the end of the project. In the execution process the maximum money and resources are spend to do the project.



### Ten Project knowledge Areas

1. **Project Integration Management:** Ensure that various elements of the project are properly coordinated and integrated. The Processes are: Develop Project Charter, Project Development plan, Direct and control project work, Monitor and control Project work, Perform Integrated Change Control, Close project or Phase.
2. **Project Scope Management :** Ensure that the project includes all the work required, and only work required, to complete the project successfully. The Processes are: Plan Scope Management, Collect Requirements, Define Scope, Create WBS, Control Scope, and Validate Scope.
3. **Project Time Management :** Ensure timely completion of the project. The Processes are: Plan schedule management, define activities, Sequence activities, estimate activity resources, estimate activity durations, develop schedule, control schedule.
4. **Project Cost Management :** Ensure that the project is complete within the approved budget. The Processes are: Plan cost management, Estimate Cost, Determine Budget, Control cost

5. **Project Quality Management:** Ensure that the project will satisfy the requirements. The Processes are: Plan Quality Management, Perform Quality Assurance, Control Quality
6. **Project Human Resources Management** Make the most effective use of people involved with the project. The Processes are: Plan HR Management, Acquire Project Team, Develop Project Team, and Manage Project Team.
7. **Project Communication Management** Ensure timely and appropriate generation, collection, storage, and ultimate disposition of project information. The Processes are: Plan Communications Management, Manage Communications, Control Communications
8. **Project Risk Management** : Concerned with identifying, analyzing, and responding to project risk, maximizing the results of positive events , minimizing the consequences of negative events. The Processes are: Plan Risk Management, Identify Risk, Perform Qualitative risk analysis, Perform Quantitative risk analysis, Plan Risk responses, Control Risk.
9. **Project Procurement Management** : Acquire goods and services from outside the performing organization. The Processes are: Plan Procurement, Conduct Procurements, Control Procurements, Close Procurements
10. **Project Stakeholder management:** Bring all the project stakeholder in the same boat. The Processes are: Identifying stakeholder, Plan Stakeholder Management, Manage Stakeholder Engagement, Control Stakeholder Engagement

Thus total 47 processes as described above, a process is a series of actions directed toward a particular result. There are Project Management Processes and product oriented processes, project oriented processes are concerned with describing and organizing the work of the project and focused to complete the project scope within budget and on time. Product-oriented processes are concerned with specifying and creating the project products and meeting its specifications and functionalities. The figure below shows the knowledge areas process mapping with the process groups.

Knowledge Areas	Project Management Process Groups				
	Initiating Process Group	Planning Process Group	Executing Process Group	Monitoring and Controlling Process Group	Closing Process Group
4. Project Integration Management	4.1 Develop Project Charter	4.2 Develop Project Management Plan	4.3 Direct and Manage Project Work	4.4 Monitor and Control Project Work 4.5 Perform Integrated Change Control	4.6 Close Project or Phase
5. Project Scope Management		5.1 Plan Scope Management 5.2 Collect Requirements 5.3 Define Scope 5.4 Create WBS		5.5 Validate Scope 5.6 Control Scope	
6. Project Time Management		6.1 Plan Schedule Management 6.2 Define Activities 6.3 Sequence Activities 6.4 Estimate Activity Resources 6.5 Estimate Activity Durations 6.6 Develop Schedule		6.7 Control Schedule	
7. Project Cost Management		7.1 Plan Cost Management 7.2 Estimate Costs 7.3 Determine Budget		7.4 Control Costs	
8. Project Quality Management		8.1 Plan Quality Management	8.2 Perform Quality Assurance	8.3 Control Quality	
9. Project Human Resource Management		9.1 Plan Human Resource Management	9.2 Acquire Project Team 9.3 Develop Project Team 9.4 Manage Project Team		
10. Project Communications Management		10.1 Plan Communications Management	10.2 Manage Communications	10.3 Control Communications	
11. Project Risk Management		11.1 Plan Risk Management 11.2 Identify Risks 11.3 Perform Qualitative Risk Analysis 11.4 Perform Quantitative Risk Analysis 11.5 Plan Risk Responses		11.6 Control Risks	
12. Project Procurement Management		12.1 Plan Procurement Management	12.2 Conduct Procurements	12.3 Control Procurements	12.4 Close Procurements
13. Project Stakeholder Management	13.1 Identify Stakeholders	13.2 Plan Stakeholder Management	13.3 Manage Stakeholder Engagement	13.4 Control Stakeholder Engagement	

**Roles of Project manager:** -The project manager is responsible to satisfy needs: task needs, team needs and individual needs to achieve project goals.

Project managers need interpersonal skills such as :- Leadership, Team Building, Motivation, Communication, Decision making, Influencing, Political and Cultural awareness, Negotiation, Trust Building, Conflict Management , Coaching etc.

**Project Governance:** Aligning the project with the stakeholder's needs or objectives is known as project governance. It enables to manage project consistently and maximise the value of outcomes and align the project with business strategy. Project Governance has to be carried out across the Project Life Cycle by establishing a Phase-to-Phase Relationship and divides the project into phases that provide better management control and the appropriate links to the operations of the organization.

For a project to be successful, the project team should select appropriate processes required to meet the project objectives this is called Project Tailoring. The team should use a defined approach that can be adapted to meet requirements. They have to establish and maintain appropriate communication and engagement with stakeholders and Comply with requirements to meet stakeholder needs and expectations also balance the competing constraints of scope, schedule, budget, quality, resources, and risk to produce the specified product, service, or result.

Then what is Program management and portfolio management:- Program management is the Management of group of Projects that are related through common outcome or collective capability. And focus on managing project interdependencies such as Resource constrains, Resolving issues, change management and help to determine the optimal approach for managing them and aligning them in an organizational strategic direction. A group of programs, projects and other related works grouped together to achieve the strategic objective of the organization is called portfolio. Portfolio management is done by the senior management.

### **Organizational Influence on project life cycle depends on five major factors**

#### I. Organizational Culture and style: -

1. Shared vision mission and values of the organization: how the stakeholders are impressed with the culture and style and brand of the organization.
2. Risk Tolerance: how much risk can be taken by the organisation without damaging its image in the market?
3. Code of contact: Code of contacts followed by the employees and other stakeholders in the organization.
4. Work Ethics and work hours: The ethics followed to avoid the conflict of interest and how the work life balance is maintained in the organization.
5. Operating Environment is hygienic and how the facilities are distributed to carry out the job.

#### II. Organizational Communications:

How well the communications are managed very critical to project management. Stake holders and project team can use electronic communications to communicate with project manager either through formal or informal mode.

### III. Organizational Structures:

Whether the organization is structured as Functional, Weak Matrix, Balanced matrix, Strong Matrix, Projectized or Composite, the organizational structure gives power to the Project manager. For example in the functional structure and weak matrix structure power is vested with the functional manager, Budget is managed by functional manager, project manager and his team are working on part-time basis and the project manager doesn't have any power in the functional organization. Whereas in the weak matrix structure sometimes project managers are called project coordinators with little power as shown below:-

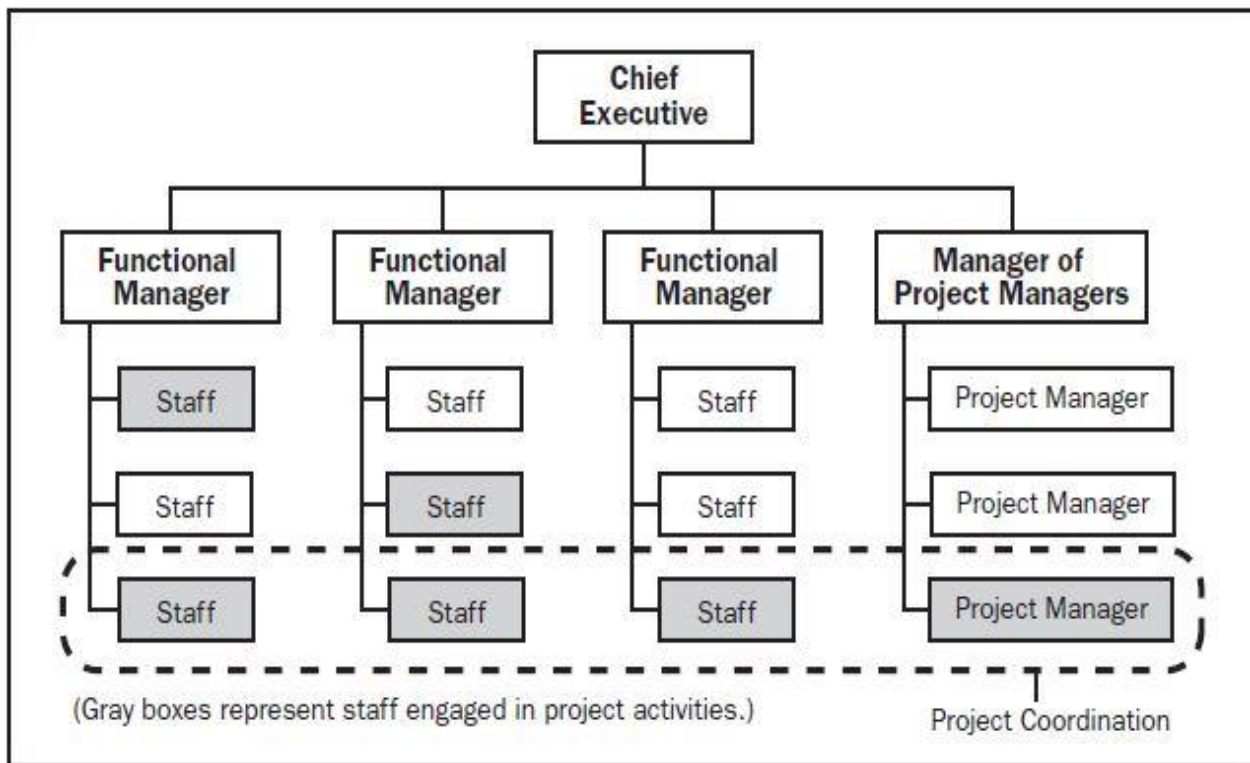


In a balanced matrix, the project manager is working full time for the project but the staff members are part-time employees. Here project manager and Functional manager have got equal powers as far as the project is concerned as shown in the figure below:-





But in Strong Matrix and Projectized organization, project Manager and his staff members are full time employees and project manager have full power, only difference is in the matrix organisation employees can go back to their home department after finishing the project.



Whereas in the projectized organizational structure, employees have to wait until they get another project, they don't have a home to go back.

Comparisons between different organizational structures are given below:-



Project Characteristics \ Organization Structure	Functional	Matrix			Projectized
		Weak Matrix	Balanced Matrix	Strong Matrix	
Project Manager's Authority	Little or None	Limited	Low to Moderate	Moderate to High	High to Almost Total
Resource Availability	Little or None	Limited	Low to Moderate	Moderate to High	High to Almost Total
Who controls the project budget	Functional Manager	Functional Manager	Mixed	Project Manager	Project Manager
Project Manager's Role	Part-time	Part-time	Full-time	Full-time	Full-time
Project Management Administrative Staff	Part-time	Part-time	Part-time	Full-time	Full-time

Composite organization is the organization will adopt weak, balanced or strong matrix structure depending upon the importance of the project.

**IV. Organizational Process Assets (OPA):**

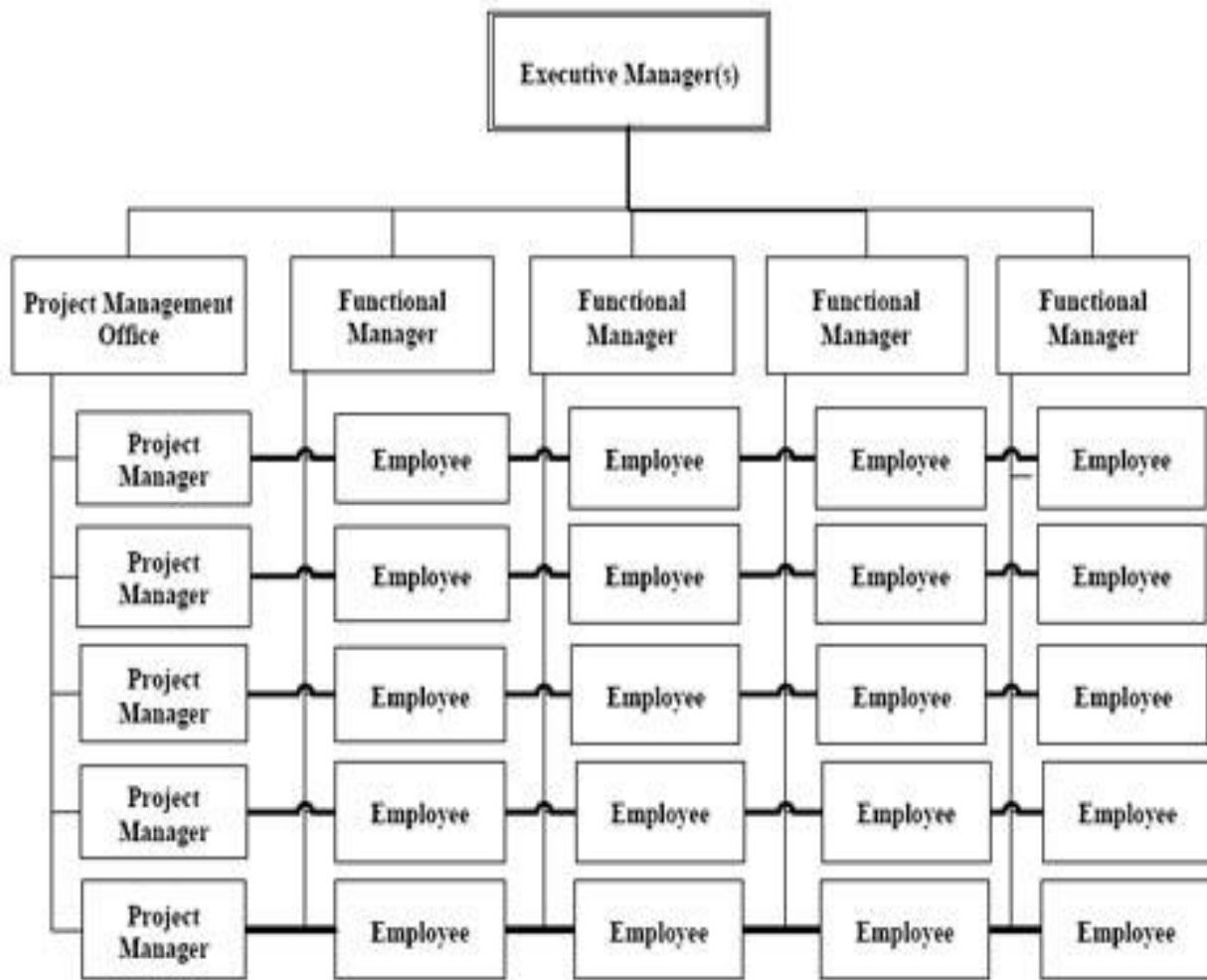
OPA are the knowledge base achieved in the organization such as lessons learned, templates and forms used to carry out different processes, technology adopted by the organization, policies and procedures followed in the organization. Best Practises followed to carry out projects and programs.

**V. Enterprise Environmental Factors (EEF):**

EEF are the internal and external factors effecting the organization such as internal politics for power and authority and external political changes may have good or bad effects to the organization, foreign exchange will be decisive factor for the projects undertaken through out-sourcing from foreign countries. Economic Stability of the organisation and the country, example recession may affect the business and so on.

**Project Management Office (PMO)**

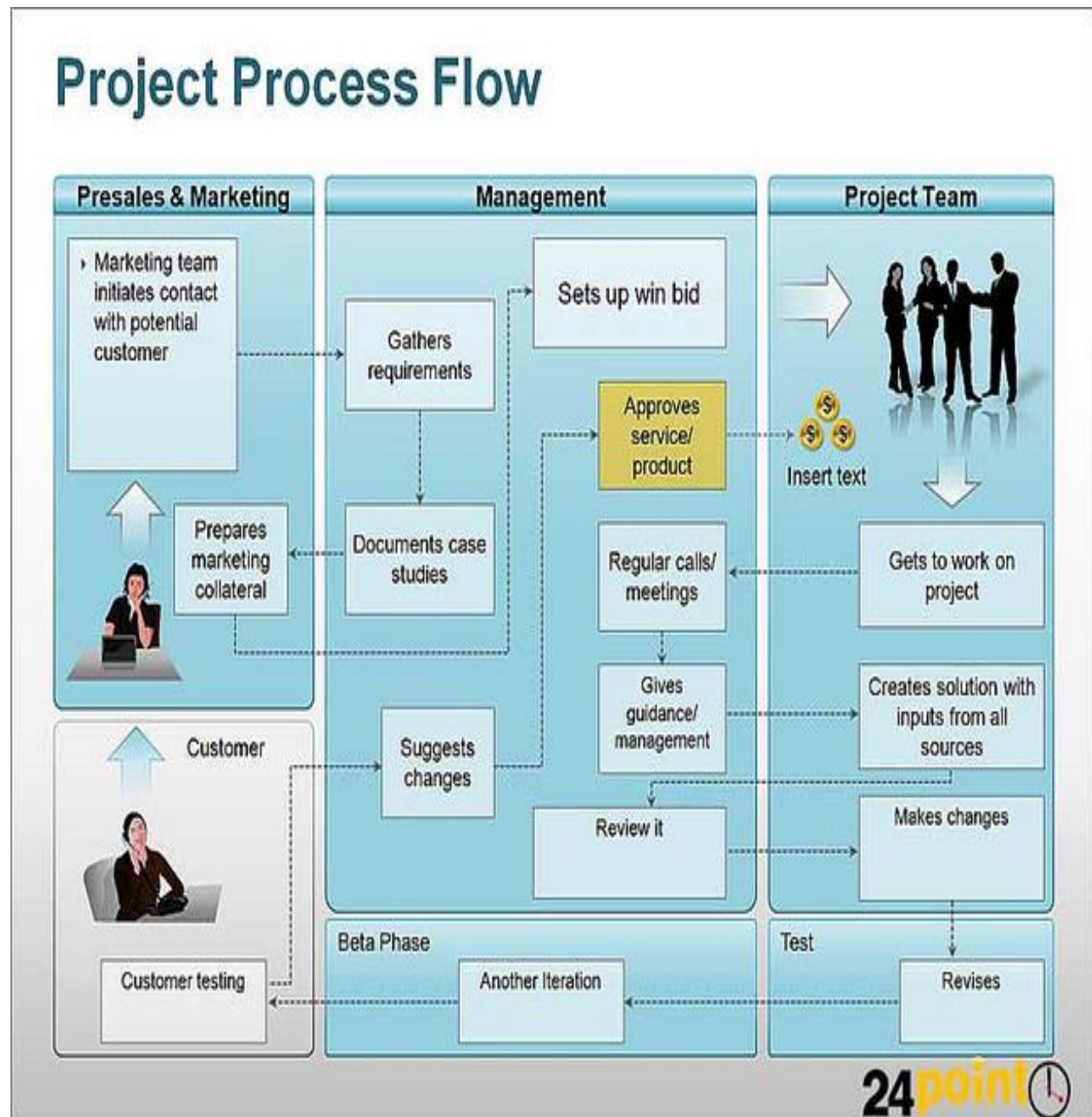
PMO is a management structure that standardizes the project-related governance processes and facilitates the sharing of resources, methodologies, tools and techniques. PMO Provides dedicated training, enterprise-wide project management software, and Coordinates overall project quality standards. PMO may have the authority to act as an integral stakeholder and a key decision maker through the life of the project.



Thus the essence of PMBOK is the sum of knowledge comprising of five process groups, ten knowledge areas and 47 processes including its input, tools and technique and output to be performed to do a project successfully and to meet the customer satisfaction.

**Project Management Knowledge process flow in a Typical Organization**

A project process flow in a typical organization is as depicted below:



Presales and marketing team contact the potential customer and convincing the customer regarding the product or service. Or customer contacts the Presales team or marketing department for a product or service requirement. Then the busyness analyst or a management team gathers overall requirement from the customer and documents the details of service or product required by the customer and forward to the customer, and after several reviews by the customer and management team the customer approves the proposal and a sponsor from the management team prepare the project charter and given to the project manager (or the sponsor can entrust the project manager to prepare the project charter).

The project manager identifies all the stake holder and understand the power and influence of each stake holder involved in the project and the project manager has to integrate all the work

related to scope ( like collect requirement, create scope statement create WBS and WBS dictionary), similarly time (schedule), cost (Budgeting), quality (meeting the requirement), human resource(acquire, build and engage team), communication (to bridge communication gap), risk (to increase opportunity and reduce threat) , and procurement (buy the resources) etc. and integrating all the planning process related to the above listed knowledge areas to the project management plan.

Thus project management plan is developed; after the above project plan is approved by the stakeholders the project will be executed as per the plan. If the things are going as per the plan deliverables are produced and forwarded as input to internal checking that is the quality control process. Once the deliverables are verified through this process and found correct (QC Passed), the verified deliverables will go as the input to scope validation (customer testing ) process by the customer, or else raise a change request by the quality control department. If the deliverables are accepted by the customer, in the scope validation process, then these accepted deliverables will be passed as input to closing process for the systematic closing of the project or project phase, else customer will suggest changes.

All these change requests have to be passed through integrated change control processes for approval or rejection. If the execution is not going as per the plan then also the change request has to be raised, (there are 17 processes out of 47 processes which are raising such change requests in PMBOK). Once the changes are approved, these accepted change requests will again go as the input to the execution process and deliverables are produced, or some corrective/preventive or defect repairing is done on the deliverables. These deliverables will be again forwarded as input to the quality control process. If it is OK, that is QC Passed, then the verified deliverables will be forwarded as input to the scope validation (customer testing). And if the customer is satisfied with those deliverables, then these accepted deliverables will be passed as input to the closing process. This process will be repeated until all the deliverables are accepted by the customer and the full payment given to the performing organization. This is considered as a happy ending of the project.

### **Project management Knowledge for a person to lead a normal and cheerful life**

Projects and there management are not something strange from each one of us. It is not for project managers alone, it is the way of our life; it is with us, we are doing lot of project management, program management during our life cycle for simply living on this earth...

Let us take the example starting from our birth; it's the best example of a project taken up by our parents. It has duration of approximately ten months and finally produces a wonderful unique product in the form of a baby. Thus we all came into existence. Definitely our existence has a duty to do or an objective to full fill during the lifecycle period of every human being. And we are in operation to full fill our obligations to this mother earth.

In this operation we in turn take up lots of projects knowingly or unknowingly throughout our life. For example finishing our academic curriculum each year is a subproject of the main project of becoming a graduate or post graduate. Conducting our own marriage, son's or daughter's marriage and so on and everything is a project. Acquiring the knowledge of project management in our life is a minimum need in every one's life to acquire and experience, to lead a happy and prosperous life.

All worries and failures in our life are due to ignorance or mismanagement, our incapability to think proactively or lack of integration or vision. Failure in managing and reducing the risk to increase the quality of life, failure in timely setting up of scope (scope management), failure in understanding the importance of timeliness (time Management), failure in understanding the people around us (stakeholder management), failure in understanding the value of money (cost management), failure in communicating at right times to right people (communication management), failure in managing people around you (human resource management), failure in knowing how to buy or what to buy for our use (procurement management). It would be wonderful if everyone on this earth had an awareness of project management at least to lead a successful life.

God has not given any freedom on our body or physique, as time goes we all get older and older and we cannot do anything significantly to prevent that process. But god has given all the freedom to think positively, and he has given us the ability to divert our thoughts of worries to thoughts of happiness or liberation. For that we need to acquire knowledge, that knowledge will help all of us to get rid of worries by practicing and applying that knowledge at least in our day-to-day life. At least our children all over the world should learn this as an academic subject to create a unique generation to lead the world of tomorrow. PMBOK delivers that type of knowledge that can be used to manage our own life, manage projects, manage an organization and manage even a country. This knowledge is for all, not just for project managers alone.

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## About the Author



### **Dr. T D Jainendrakumar**



Dr. TD Jainendrakumar, PhD, MCA, PMP is an international PMP trainer, EX-Scientist/Principal Scientist/Joint Director, N.I.C, Ministry of Information and Communication Technology, Government of India, Madhyapradesh. He has over 25 years' of extensive experience in the areas of IT Project management in e-governance at Ernakulam District Collectorate, District Courts of Kerala, Central Administrative Tribunal Ernakulam, Rajeev Gandhi National Drinking Water Mission (400 crore project), New Delhi and Principal Systems Analyst in National Informatics Centre, Madhya Pradesh State Centre especially in the following areas of specialization: IT practice management (Project Management Methodologies, Tools and techniques, Standards & Knowledge); IT Infrastructure Management (Project Governance, Assessment, Organisational Instructions & Facilities and Equipments); IT-Resource Integration Management (Resource Management, Training & Education, Career Development & Team Development); IT-Technical Support (Project Mentoring, Project Planning, Project Auditing and Project Recovery); and Business Alignment Management (Project Portfolio management, Customer Relationship Management, Vendor Management & Business performance management).

Teaching Project Management & ICT Subjects for professionals and post graduates. Master of Computer Applications (MCA), a 3 year post graduate course dealing with software Engineering and Project Management from a premier institute Anna University Campus. He is a PMP of PMI USA since 2008. Resource person of PMI, you can see his name in the PMBOK 4th edition and 5th edition published by PMI, USA under the list of contributors for project management. Scored 4.11 out of 5 in the project management (2005) examination conducted by brainbench.com, secured a Masters Certificate in Project Management, and is one among the top scorers (First in India and 3rd position in the world in the experienced category).

Published many international journal papers in PM World Today having cumulative index factors more than 2 in the areas of specialization of Project Management & Information Technology.

Holding a Hon' Doctorate from Cosmopolitan University, USA in Project Management & Information Technology. Presently working as an independent project management consultant and an International Project management (PMP) trainer. Provided PMP training to the senior officials of big MNCs like M/S. Earnest & Young and He is a visiting professor and sharing his knowledge and experience and to handle classes in Management Information Systems, Quality Management, Project Management and Software Engineering to some of the big universities. He can be contacted at [jainendrakumard@gmail.com](mailto:jainendrakumard@gmail.com).