

Unit- 2

Project Management

Contents:-

2.1 Project

Definition of Project

2.2 Project Management

Why Project Management? , Project Life Cycle, Project Maturity Model, Project Selection and Criteria of Choice, The Nature of Project Selection Models, Types of Project Selection Models, Project Portfolio Process, Project Proposals

2.3 The Project Manager

Qualities of a Project Manager, Project Manager's Role, Project Management and Project Manager, Special Demands on Project Manager

2.4 Problems of Cultural Differences

Dimensions of Culture, Cultural Influences, Organisational Cultures and Style

2.5 Impact of Institutional Environments

2.6 Project Organisation

The Project as a Part of the Functional Organisation, Organisation Structures, Pure Project-based Organisation, Matrix Organisation, Choosing the Organisational Form

2.7 The Project Team

Project Team Members, Criteria for Selection of Project Team Members

Project

Definition of Project

Project's a great opportunity for organisations and individuals to achieve their business and non-business objectives more efficiently through implementing change. Projects help us make desired changes in an organised manner and with reduced probability of failure. Projects differ from other types of work (eg. process, task, procedure).

Meanwhile, in the broadest sense a project is defined as a specific finite activity that produces an observable and measurable result under certain preset requirements. (It usually includes a series of interrelated tasks that are planned for execution over a fixed period of time and within certain requirements and limitations such as cost, quality, performance, etc.).

A project is temporary in the sense that it has a clear beginning and end in time, hence defining scope and resources. A project is unique in the sense that it is not a regular operation, but a definite set of operations intended to achieve a singular goal. So, a project team often includes people who generally don't work together - at times from different organisations and across multiple geographies.

The PMBOK (Project Management Body of Knowledge) is a standard that has been internationally accepted, this body has defined "Project" as "A project is a temporary endeavour undertaken to create a unique product or service"

Examples of Project

- Engineering projects: construction, software development.
- Industrial projects: factory expansion, new business.
- Infrastructure projects: toll way, sky train.
- Organisational projects: ISO9000, Six Sigma (MM).
- Development projects: drug eradication, administrative reform.
- Small and personal projects: MBA study, wedding party.

Project Management

Project management is the process of planning and controlling the development of a system within a specified time frame at a minimum cost with the right functionality. It provides an organisation with powerful tools that improve its ability to plan, implement and control its activities to utilise its resources and people in the most efficient way. It also facilitates co-ordination of resources and labour activities in a meaningful way. such as to meet the requirements of quality, time and money. Project management techniques were mostly used by Military, however nowadays it is commonly used in construction firms automotive companies, and it's also been used in shoes and ship manufacturing companies. It finds its use also in service industry such as advertising companies, etc. PMBOK* defines project management as 'The application of knowledge, skills, tools, and techniques to project activities in order to meet stakeholders needs and expectations from a project. Its importance is felt when a change occurs in a project that may lead to conflicts and upset the project. So in other words we can say that project management helps preparedness for change. The change can be due to:

1. Requirements change that impact on time, cost, and team configuration.
2. Budget changes.
3. Team changes: unexpected departures; realigning work: additions or dismissals.

Why Project Management?

The Need for Project Management therefore is based on following factors

1. Today's Business Environment:

- Global competitiveness
- Strong focus on time and on reduced project costs
- Integration of technology

2. Complexity of project and their needs for coordination:

- Multiple people
- Multiple resources (tasks, equipment etc.)
- Multiple tasks — some must precede others
- Multiple decision points — approvals

- Phased expenditure or funds
- Matching of people/resources to tasks

3. Accelerating Trend:

- Corporate globalisation
- Massive mergers and reorganisations
- Flatter organisations
- Drive for faster results
- Multinational projects

4. We can therefore say that? Project Management” provides:

- Disciplined framework of methods, processes, monitoring and change control
- A focal point for effective communication, coordination and control
- Emphasis on time and cost performance
- A plan to assess progress

Project Life Cycle

With reference to PMBOK any project will require following aspects of business, they

1. Scope of the project
2. Time required for completion of project
3. Cost involved in a project
4. Human resource — requirements of human resource for the project
5. Procurement of materials &
6. Quality standards for the project
7. Risk involved
8. Communication plan

Once the above are considered, the entire plan needs to be integrated into one plan. Each of these business aspects are further broadly classified into five processes.

They are:

1. Initiating Process Group: Concept development and feasibility. Processes performed to define a new project or a new phase of an existing project by obtaining authorization to start the project or phase. The key benefit of this

process group is to define the strategy and tactics as well as the course of action or path for successful completion of the project own phase.

2. Planning Process Group - Design and Development Those processes required to establish the scope of the project refine the objectives, and define the course of action required to attain the objectives that the project was undertaken to achieve.

3. Execution Process Group - Implementation Phase: Those processes performed to complete the work defined in the project management plan to satisfy the project specifications.

4. Controlling Process Group: Monitoring, Reviewing and Control,

5. Closing Process Group: Compiling project assets

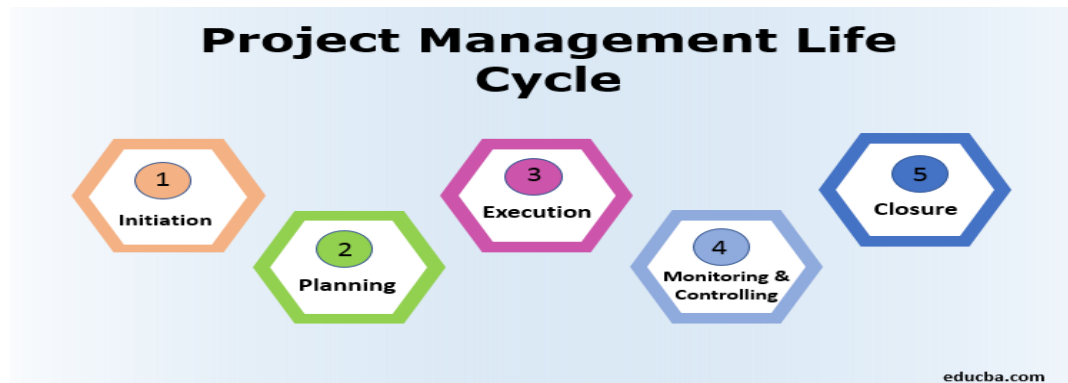


Fig. Project Life Cycle

During the initiation phase, the activities that are carried out are:

1. Concept development
2. Creation of designs, drawings etc.
3. Creation of test plans.
4. Creation of training plans — especially if there are technological changes and the team does not possess compatible skills.
5. Creation of deployment plans.
6. Creation of draft operations and maintenance plan.
7. Creating feasibility reports on knowledge availability and risk.
8. Schedule the tasks, account for known vacations, holidays and busy times.
9. Update risks.

Project Maturity Model

Organisations that deal in multiple projects in order to achieve their objectives, it becomes natural for the senior managers to understand if the organisations have the competency for managing multiple projects. For managing the large complex projects the organisations develop process and follow them religiously. Such projects are said to have developed maturity for managing the project. Such systems of operations are called as project maturity models. Such systems are also called as capability maturity models.

One of the methods to measure this is the project maturity model as described by R Rainy the model describes the 5 levels namely

1. Level 1: Disorganized, accidental success and failure
2. Level 2; Some process exists, with inconsistent management and with unpredictable results.
3. Level 3; gained standardized processes, more predictable results
4. Level 4; Managed (controlled) measured process, results more in line with plans.
5. Level 5: Adaptive, continuous improvement in process, success is normal, performance keep improving. Another industry standard for measuring the process maturity is Commit's — Capability

Maturity Model Integrated. The levels are defined as follows

1. **Level 1** - Initial

- Processes are usually ad hoc and the organisation usually does not provide a stable environment In spite of this ad hoc, chaotic environment maturity level 1 organisations often produce products and services that work; however, they frequently exceed the budget and schedule of their project Such organisations are characterised by a tendency to over commit, abandon processes in the time of crisis and not be able to repeat their past successes again.

2. **Level 2- Repeatable**

- Process discipline helps ensure that existing practices are retained during times of stress. When these practices are in place, projects are performed and managed according to the documented plans.

- Project status and the delivery of services are visible to management at defined points (for example, at major milestones and at the completion of major tasks),

3. Level 3 - Defined

- The organization's set of standard processes, which is the basis for level 3, is established and improved over time. These standard processes are used to establish consistency across the organisation.
- The organization's management establishes process objectives based on the organization's set of standard processes and ensures that these objectives are appropriately addressed.
- A critical distinction between level 2 and level 3 is the scope of standards, process descriptions, and procedures. At level 2, the standards, process descriptions, and procedures may be quite different in each specific instance of the process (for example, on a particular project). At level 3, the standards, process descriptions, and procedures for a project are tailored from the organization's set of standard processes to suit a particular project or organizational unit.

4. Level 4 - Managed

- Using precise measurements, management can effectively control the project development effort. In particular, management can identify ways to adjust and adapt the process to particular projects without measurable losses of quality or deviations from specifications.
- Sub-processes are selected that significantly contribute to overall process performance. These selected sub-processes are controlled using statistical and other quantitative techniques.
- A critical distinction between maturity level 3 and maturity level 4 is the predictability of process performance. At maturity level 4, the performance of processes controlled using statistical and other quantitative techniques, and is quantitatively predictable. At maturity level 3, processes are only qualitatively predictable.

5. Level 5 - Optimizing

- Focusing on continually improving process performance through both incremental and innovative technological improvements.

Project Selection and Criteria of Choice

When the organizations have multiple projects in hand and have shortage of resources or need to go through planning for scheduling the available resources to get maximum benefit Organisations use a method called project selection criteria matrix. The matrix is prepared by considering total benefits from the projects, value of risks involved, completion time, considerations for funds requirements etc. Each such criterion is then measured against a scale or a grade. The project with maximum grade is then given priority for start.

Example of project selection matrix is given below:

Project selection criteria template is shown below as an example

Criteria's	Weighting	Project 1	Project 2	Project 3	Project 4	Project 5
Benefits (Higher is better)						
Positive financial impact (ROI)	5					
Alignment with strategic direction	5					
Increases standardisation/improves quality	5					
Subtotals						
Risks (Higher is better)						
Appropriate backup plans are in place	5					
Likelihood of project success	5					
Well understood project scope and objectives	5					
Likely willingness of organisation to adopt project	5					
Understanding of project's impact on organisation	5					
Use of standard well understood technologies	5					
Availability of expert resources for assistance	5					
Low time to realise benefits	5					
Low cost to completion	5					
Other prominent aspect	5					
Subtotals						
Total Weighted Score						
Cost Estimate						

The Nature of Project Selection Models

Basically there are two types of project selection models, they are:

1. Numeric
2. Non numeric

A model of some kind is implied by any business decision. The choice among two more alternative courses of action is based on some objective(s), and the choice is thus made in accordance with some, perhaps subjective model. Project selection decisions are mainly on the degree to which the financial objectives of the organisation are met.

When the list of objectives has been developed an extra refinement is suggested. The elements in the list should be subjective. Each item is added to the list since it represents a continuation to the achievement of the organisation. The weights reveal different degrees of continuation, each element makes in achieving a set of goals. Once the list of goals has been developed the probable contribution of each project to each of the goals should be estimated. In general, the kind of information required to calculate a pre-cut can be listed under production marketing, financial, personnel, administrative, etc.

Factors for project selection

1. Financial Factors:

- Profitability, net present value of the investment
- Impact on cash flows
- Payout period
- Cash requirements
- time until break even
- Size of investment required
- Impact on seasonal and cyclical fluctuations

2. Marketing Factors:

- Size of potential market for the product
- Probable market share for the product
- Time until market share is acquired
- Impact on current product line
- Consumer acceptance

- Impact on consumer safety
- Estimated life of the product
- Spin-off perfect possibilities

3. Production Factors:

- Time until ready to install
- Length of disruption during installation
- Learning's till full functionality is achieved
- Effects on waste and rejects
- Energy requirements
- Facility and other equipment requirements
- Safety of processes
- Other applications of technology
- Change is cost of production
- Change i raw material usage
- Availability of raw materials
- Required development time and cost
- Impact on current suppliers
- Change in quality of product

4 Human Resource Factors:

- Training requirements
- Labor skill requirements
- Availability of required labor skills
- Level of resistance from current work force
- Change in size of labor force
- Inter and intra group communication requirements
- Impact on working conditions

5. Administrative and miscellaneous factors:

- Meet statutory safety and environmental standards
- Impact on information system
- Reaction of stock holders and securities markets
- Patent and trade secret protection

- Impact on image with customers, suppliers and competitors
- Level of acceptance for new Tec biology
- Project handling capabilities

Type of Project Selection Models

1. Non Numeric Models:

Influential Decision In this case the project is suggested by a senior and powerful official in the organization. The immediate result of this ordinary statement is the creation of the project to be investigated. The project is sacred in the sense that it will be maintained until successfully concluded or terminated by the boss.

- **The operating Necessity:** If a flood is threatening the plant the project to build a protective barrier does not require much formal evaluation. The system is worth saving at the estimated cost of the project. If the answer is yes the project cost will be examined to make sure they are kept as low as is consistent with project success. But the project will be funded.

The Competitive Necessity A business unit may have started a project some years ago, it becomes apparent that the business may require modification if the firm wanted to maintain the competitive position in the market. Such desire to maintain the market position is the competitive necessity for the firm.

- **The Product Line Extension:** In this case, a project to develop and distribute new products would be judged on the degree to which it fits the firm's existing product line, fills a gap, strengthens a weak link or extends the line in a new, desirable direction. Sometimes careful calculations of profitability are not required. Decision makers can act on their beliefs about what will be the likely impact on the total system performance if the new product is added to the line.
- **Comparative Benefit Model:** When the organisation has multiple projects to fulfill the goals a comparative model is considered for selection of the project. The difficulty may be encountered as the projects base for measurements may not be the same. However, generally financial benefit of the organisation is kept as basic priority.

2. Numeric Models: Profit/Profitability

A large majority of all firms using project evaluation and selection models use profitability as the sole measure of acceptability.

Following are the models used:

- Payback Period: The payback period for a project is the initial fixed investment in the project divided by the estimated annual net cash inflows from the project.
- Average Rate of Return: The average rate of return is the ratio of the average annual profit to the initial or average investment in the project.
- Discounted Cash Flow: The discounted cash flow method determines the next present value of all cash flows by discounting them by the required rate of return known as the hurdle rate, cut off rate
- Profitability Index: Also known as the benefit — cost ratio the profitability index is the net present value of all future expected cash flows divided by the initial cash investment.

Both the model should have

- Realism: The actual information and not just hypothetical considerations.
- Capability: It should be practical and implementable.
- Flexibility: It should have inbuilt flexibility so that when changes occur they can be easily accommodated.
- Ease of use: They should be simple to use. Complex model tends to defuse the accuracy of results.
- Cost Effectiveness: The implementation of such models should be economically viable.
- Comparability: The expected results should be compatible for comparison. If they are comparable they will ease decision-making for use of such models.

Project Portfolio Process

A portfolio refers to projects programs, sub-portfolios, and operations managed as a group to achieve strategic objectives. The projects or programs of the portfolio may not necessarily be interdependent or directly related. For example, an infrastructure firm that has the strategic objective of maximising the return on its investment of may put together a portfolio that includes a mix of projects in oil and gas, power, water, roads, rail, and airports.

From this n the firm may choose to manage related projects as one program All of the power projects may be grouped together as a power program. Similarly, all of the water projects may be grouped together as a water program. Thus, the power program and the water program become niegral components of the enterprise portfolio of the infrastructure. Project Portfolio management process, is the centralised management of the processes, methods, and technologies used by project managers and project management offices (PMO5) to analyses and jointly handle current or proposed projects based on several key characteristics, It is used for the following purposes

- ✓ To identify profitable projects and priorities the list of such perfects.
- ✓ To intentionally limit the number of overall projects being managed so the important projects get the resources and attention they need.
- ✓ To identify project's that are best suited to achieve multiple organisations goals and objectives.
- ✓ To eliminate projects that incur excessive risk or cost
- ✓ To keep from overloading organisations resource availability.
- ✓ To balance short, medium and long term rectums.

Project portfolio process attempts to link the organisations projects directly to the goals and strategies. This occurs not only in the initiation and planning phases but also throughout the life cycle of the projects. Project portfolio process is also a means for monitoring and controlling the organisations strategic projects,

Project Proposals

The project proposal is the document prepared related to the execution of the project. The project proposal mainly forms the outline of the project and depicts the results of the project. It describes the identified work to be done, explains why this work needs to be done, informs that the team is qualified for the work, has a plausible management plan and technical approach, and has the resources needed to complete the task within the stated time and cost constraints.

It is generally used for giving clarity to the investors and project owners. It is also mainly used for getting funding from financial institutions. In short, the set of documents being evaluated is called a project proposal, whether it is brief or extensive, and regardless of the formats used for presentation.

The project proposals generally include the following:-

- 1. The Technical Approach:** The proposal commences with a basic description of the problem to be addressed or project to be taken on. If the problem is difficult, the major sub-systems of the problem or project are noted collectively with an organization's approach to each. The presentation is in sufficient detail that a familiar reader can understand what the proposer aims to do. Additionally, any special client requirements are listed along with proposed ways of meeting them. All tests and inspection procedures to guarantee performance, value, reliability, and compliance with specifications are noted.
- 2. Implementation Plan:** The implementation plan for the project contains estimates of the time required, the cost, and the material used. Every major subsystem of the project is planned along with estimates of its cost. These costs are cumulated collectively for the entire project and totals are shown for each cost category. Hours of work and quantities of material utilized are shown (along with the wage rate and unit material costs). A record of all equipment costs is added, as is a list of all overhead and administrative costs.

3. The Plan for Logistic Support and Administration: The proposal contains a description of the knock of the proposed to acquire facilities, equipment and skills required in any project. A crucial issue that needs to be addressed is a reasonably detailed description of how alteration will be handled and how their costs will be estimated.

Components of project proposal:-

1. Cover Page
2. Introduction
3. Objectives
4. Intervention design and strategy
5. Activities and timeline
6. Budget
7. Evaluation indicators
8. Bibliography
9. Annex

The project manager is the person assigned by the performing organisation to lead the team that is responsible for achieving the project objectives. They are the people who have overall responsibility for the successful initiation, planning, design, execution, monitoring, controlling and closure of a project. They are organised, passionate and goal-oriented who understand what projects have in common, and their strategic role in how organisations succeed, learn and change. Project managers are change agents: they make project goals their own and use their skills and expertise to inspire a sense of shared purpose within the project team. They enjoy the organised adrenaline of new challenges and the responsibility of driving business results. They work well under pressure and are comfortable with change and complexity in dynamic environments, They can shift readily between the •big picture and the small-but-crucial details, knowing when to concentrate on each. Project managers cultivate the people skill needed to develop trust and communication among all of a project's stakeholders: its sponsors, those who will make use of the project's results, those who command the resources needed, and the project team members. They have a broad and flexible toolkit of techniques. resolving completely interdependent activities into tasks and sub-tasks that are documented, monitored and controlled. They adapt their approach to the context and constraints of each project. knowing that no "one size" can fit all the variety of projects. And they are always improving their

own and their teams skills through lessons-learned reviews at project completion. Project managers are found in every kind of organisation - as employees, managers, contractors and independent consultants.

Qualities of a Project Manager

1. Personal Effectiveness. Personal effectiveness encompasses attitudes, core personality characteristics, and cadetship, which provides the ability to guide the project team while achieving project objectives and balancing the project constraints.

2. Knowledg. and Performance Domain expertise and project management knowledge is one of the key factor, whereas performance indicates how the project manager applies the knowledge during the process.

3. Ethical, Interpersonal and Conceptual Skills: Effective project managers require a balance of ethical, interpersonal, and conceptual skills that help them analyse situations and interact appropriately. Interpersonal Skills describes important interpersonal skills, such as:

- Leadership
- Analytical skills and decision-making
- Team and trust building
- Conflict management
- Motivating and influencing
- Coaching
- Negotiation
- Political and cultural awareness

Project Management and Project Manager

The unique role of a project manager is in contrast with the functional managers who are in charge of functional departments such as marketing, sales, finance etc. These functional heads are the specialists in the areas they manage. Being specialist they are aware of the details of each operation for which they are responsible. They are decision makers for how a task is to be carried out whom the task is to be assigned and what are the resources that might be required to accomplish that task. The project manager must see each of the functional areas each with its own specialist. The project manager should therefore be skilled at synthesis whereas the functional managers should be skilled at analysis. The functional manager uses analytical approach whereas the project manager uses systems approach.

The five stages of project life cycle namely initiation, planning, executing, controlling and closing. These are the responsibility areas for a project manager. However, he also is required to communicate and co-ordinate with other functional areas at different times in the whole project life cycle. The project manager should be identified and assigned as early as possible in the project. As stated earlier, the project manager is responsible for organising, staffing, budgeting, directing, planning and controlling the project, but the functional managers may affect the choice of technology to be used by the project and the specific individuals who will do the work.

1. Responsibilities towards the Parent Organisation:

Responsibilities to the firm itself include proper conservation of resources, timely and accurate project communications and the careful, competent management of the project. It is very important to keep senior management of the parent organisation informed about the project's status, cost, timing, prospects and outcomes. Senior managers should be warned about likely future problems. The project manager should note the chances of running over budget or being late, as well as methods available to reduce the likelihood of these dreaded events. Reports must be accurate and timely if the project manager is to maintain credibility.

protect the organisation from high risk and allow the senior management to intercede where needed. Above all, the project manager should never allow senior management to be surprised.

2. Responsibility towards the Client

- Customer Satisfaction: Understanding, managing and influencing needs so that the customer expectations are met or exceeded This requires combination of conformance to specifications (the product must produce what it said it would produce) and fitness for the use (the product or service produced must satisfy real needs).
- Preserve integrity of project and client
- Resolve conflict among interested parties.
- Ensure performance, budgets, and deadlines are met

3. Responsibility to project team members

- Fairness, consistency. respect. honesty
- Concern for members' future after project

4. Prevention over Inspection

- The cost of avoiding mistakes is always much less than the cost of correcting them,

Special Demands on Project Manager

A lot of demands are exclusive to the management of projects and the success of the PM to a huge extent depends on how skilfully they are handled. These special demands can be categorised under the following headings:

- Acquiring sufficient resources
- Acquiring and inspiring personnel
- Finding sources of internal motivation
- Dealing with obstacles
- Making project goal tradeoffs
- Dealing with risk and failure (perceived or otherwise)
- Maintaining multiple channels of communication

- **Acquiring Sufficient Resources:** Project manager needs to do planning for getting necessary resources for the project. In case of human resource, the project manager needs to identify how many people will be needed, when would they be required in the project what type of skills set would be required, what cost would they be available. In case of material requirements, the project manager needs to plan for procurement such as identification of suppliers. quality and quantity requirements. payment terms and conditions etc

2. Acquiring and Inspiring Personnel: Project manager functions as the leader and has to keep his team motivated to perform and deliver results Not all motivation comes from financial offerings. Project manager needs to identify different sources of motivation for his team.

- **Finding Sources** of Internal Motivation Changes and conflicts are an integral part of projects They do occur and at times the frustration level of the project manager crosses the stress limits. Therefore the first motivator is project manager himself and needs to find sources of internal motivation or motivation from his near and dear ones.
- **Dealing with Obstacles :**The project manager should work on processes to avoid occurrence of problems in the projects.

4. Making Project Goal Trade-offs Project manager needs to constantly work to keep check on the implementation/execution. He needs to constantly make adjustments that is, tradeoffs and keep the process in line with the project management plans.

5. Dealing with Risk and Failure (Perceived or otherwise); Project manager works on three levels

- He keeps vigilance on risks that might occur and avoid them at early stage.
- He tries to mitigate the risk in case it occurs.

- He accepts the risk and moves ahead with the project. Here many times if the risk is not identified in the beginning and is of a large value it may result in total project failure

7. Maintaining Multiple Channels of Communication: He works on communication plan and keeps track to understand that the team and the stakeholders are using the multiple communication channels for clarity and avoid problems arising from miscommunication.

Problems of Cultural Differences

Major complication for project managers is in managing projects that are being carried out in a multicultural environment. It is not merely the differences in cultures that matter but it is the differences between the environment within which the projects are conducted such as economic, political legal and socio-technical environments that require understanding of specific cultural requirements of the region.

While the impacts of these dissimilarities are greatest and most visible in the case of international projects, they exist to some extent in all organisations (including the different parts of the same organisation).

The salient features of the team culture in context of project management are as follows:

1. The term "culture" refers to the entire way of life for a group of people. It encompasses every aspect of living and has four elements that are common to all cultures, technology, institutions, language and arts.
2. The technology of a culture includes such things as the tools used by people, the material things they produce and use, the way they prepare food, their skills and their attitude towards work, It considers all aspects of their material lives.
3. Institutions of a culture make up the structure of the society. This category contains the organisation of the government, the nature of the family, the way in which the religion is organised as well as the content of the religious doctrine, the division of labour, the kind of economic system adopted. the system of education and the way in which voluntary associations are formed and maintained.

Impact of institutional Environments

In a general systems theory, the environment of a system is defined as everything external to the system that receives system outputs from it or delivers inputs to it. This is also called as Business or Work Climate. The project management team should understand that present existing conditions and trends in this area may have an important effect on their projects. A minute change can translate, usually with a pause, into disruption in the project itself. Apart from the many potential socioeconomic influences, some major categories that regularly affect projects are described below.

1. Socio-economic Environment The need to interact with government and representatives of governments is one of the primary concerns for the project manager! The project managers or the senior management can expect to deal with bureaucracy at several different levels (that is, local, regional, and national government functionaries). Any project manager should include responsibility for acquiring working knowledge of the culture of any country in which to conduct a project. An unwelcome truth is that the cultures of many countries will not offer a female project manager the same level of respect shown to a male project manager. There are antisocial elements that are to be dealt with by the project manager and they often are the cause of delays and unsafe environment.

2. Legal Environment: The impact that different cultures have on the process of negotiation, with special attention paid to the society's institutional structure and patterns of communication. Failure to understand the culture of a nation in which negotiations are taking place puts the ignorant party at a severe disadvantage. Law results from the attempt to reduce conflict by regularised process, because the conflicts in a country are in part, a reflection of its unique culture: it follows that the laws of a nation will also be unique. The project manager and senior management should, if proprietary knowledge is valuable, make adequate provision for its protection by using the country's law.

3. Business Cycle as an Environment: The project manager should be aware of the general level of business conditions in the nation hosting the project. In times of relatively high unemployment, most nations will erect institutional barriers in order to slow or prevent projects that might negatively affect their balances of trade. These barriers may take the form of mandated delays, failure to approve investments, unwillingness to allow repatriation of earnings, inability to locate necessary raw resources, local officials to grant required permissions, lack of needed capital and equipment and great many other forms. The project managers can earn valuable goodwill by purchasing goods and services from vendors in the host country and by employing qualified nationals. Project managers should be sensitive to economic problems in the host country and be willing to adapt as far as possible to local commercial customs.

2.6 Project Organisation

Most organisations when they grow generally are found to add resources and people. Managing the communication and reporting an organisational structure is created and is pictorially depicted; such diagram is called as organisation structure diagram. Whether the organisation is conducting a few occasional projects or is fully project oriented and comes on scores of projects, any time a project is initiated, three organizational issues immediately arise

1. A decision must be made about how to tie the project to the parent firm.
 2. A decision must be made about how to organise the project itself.
 3. A decision must be made about how to organise activities that are common to other projects. TNS is also called as resource pooling Organisational Systems
- Project based organisations are those whose operations consist primarily of projects.

These organisations fall in to following categories

1. Organisations that derive their revenue primarily from performing project for others— architectural firms, engineering firms, consultants, construction contractors, government contractors etc.

2. Organisations that have adopted management by project. These organisations tend to have management systems in place to facilitate project management. For example, their financial systems are often specifically designed for accounting, tracking and reporting on multiple simultaneous projects. Non-project based organisations: Manufacturing companies, financial service firms, etc. seldom have management systems designed to support project needs efficiently and effectively. The absence of the project — oriented systems usually make project management more difficult. In some cases, non — project - based organisations will have departments or other sub units that operate as project based organisation with systems to match.

The Project as a Part of the Functional Organisation

For functionally organised projects, the project is assigned to the functional unit that has the utmost interest in ensuring its successes or can be most helpful in implementing it.

Organisational Structure Influences on Project:

Project Characteristics	Functional	Matrix			Project based
		Weak Matrix	Balanced Matrix	Strong Matrix	
Project Manager's Authority	Little or none	Limited	Low to Moderate	Moderate to High	High to Almost Total
Percent of Performing Organisations Personnel Assigned Full-time to Project Work	Virtually None	0-25%	15-60%	50-95%	85-100%
Project Manager's Role	Part-time	Part-time	Full-time	Full-time	Full-time
Common Titles for Project Manager's Role	Project Co-ordinator / Project Leader	Project Co-ordinator / Project Leader	Project Manager / Project Officer	Project Manager / Program Manager	Project Manager / Program Manager
Project Management Administrative Staffing	Part-time	Part-time	Part-time	Full-time	Full-time

The table is taken as reference from PMBOK®.

The project management team should be acutely aware of how the organisation's systems affect the project. For example, if the organisation rewards its functional managers for charging staff time to projects, the project management team may need to implement controls to ensure that assigned staff are being used effectively on the project.

Matrix Organisation

Matrix organisations are a blend of functional and project-based characteristics. Weak matrices maintain many of the characteristics of a functional organisation and project manager role is more that of a co-ordinator or expeditor than that of a manager. In similar manner, strong matrices have many of the characteristics of the project-based organisation full-time project managers with considerable authority and full-time project administrative staff. Any organisational structure in which the project manager shares responsibility with the functional managers for assigning priorities and for directing the work of individuals assigned to the project. Matrix organisations are a combination of a pure project organisation and a project co-ordination. Responsibility and authority are shared among the project manager and the line bodies. Dividing and working depends on the project in question which again can vary significantly. A matrix organisational structure demands clear agreement concerning the duties of line team and the duties of project team, There must also be high awareness of roles. All this increases the likelihood of conflict hence there should be good communication to resolve issues and reach agreements (Fig 2.7)



Fig. 2.7: Matrix Organisational Structure

A matrix organisation can take on a wider form:

Project or strong matrix organisations most closely resemble the pure project organisation. The project manager chooses work and personnel-progress, the line manager offers resources and consult the project manager as an expert. 'the co-ordination' or functional or weak matrix most directly resembles the functional form. The project manager only co-ordinates the assistance of different departments, the authority stays with the department-directors. The balance of matrix lies in between the others. Project and line managers roughly have equal competence and agree upon a common decision.

Choosing the Organisational Form

The first and most important key to success for project management is choosing the right project organisation. As a result consideration should be given to the decision about formation, preparation and initiation of the project organisation. Even experienced practitioners find it difficult to explain how one should proceed when choosing the organisational interface between project and firm, There are few accepted principles of design, and no step-by-step procedures that give detailed instructions for determining what kind of structure is needed and how it can be built All we can do is consider the nature of the potential project, the characteristics of the various organisational options, the advantages and disadvantages of each, the cultural preferences of the parent organisation, and take the best compromise.

A firm that handles large number of similar projects simultaneously for example, construction project, the pure project form of organisation is preferred. The same form would generally be used for one time, highly specific unique task that require careful control and are not appropriate for a single functional area.

Additional matters to be considered are the individuals (or small groups) who will do the work their personalities, the technology to be employed, the clients to be served, the political relationships of the functional units involved and the culture of the parent organisation. Environmental factors inside and outside the parent organisation must also be taken into account, by understanding various structures, their advantages and disadvantages. a firm can select the

organisational structure that seems to offer the most effective and efficient choice. In order to define the goals and implications of the project in the current organizational structure a step-wise approach is advisable

Step 1: Definition of the project. with a statement that reveals the major outcomes from all different points of view (top management shareholder, stakeholder etc.)

Standardised decision matrixes are accessible in a wide range with experienced project managers However, the following points already will give a hint of what should be considered:

- Size of project

- Strategic importance how important is the project to the firm's successes?
- e Novelty and need for innovation e Lntegration requirements (departments involved)
- Complexity (number of external interfaces)
- Budget and time constraints

e What level of resources (human and physical) is available?

- Stability of resource requirements

Step 2: Determination of the key tasks related to subgoal or objective and identification of the specialist / individuals in the parent organisation and their home- departments.

Step 3: Breaking down the project into tasks and deciding which organizational units are necessary to carry out the work packages and which units will work closely with one another.

Step 4: list of any special characteristic or obstructing factor associated with the project

Step 5: With the findings gained from steps 1-4 and the knowledge of all advantages and disadvantages choice of structural organisation form.