Project Management

Prof. A. Ramesh

Department of Management Studies

Indian Institute of Technology Roorkee

Week: 2

Lecture 06: Project Manager

Dear students, in this lecture, we are going to discuss about the topic called project manager. In the last class, we discussed about examples of project selection model up to this. Today, we are going to discuss about the project manager. So, the agenda for this lecture is comparing project manager versus functional manager. Next, major questions facing project managers. Then what are the responsibilities of a project manager? Then what is the career path for a project manager? Next, we will discuss about special demand on the project manager.

Agenda

- · Project Manager & Functional Manager
- Major Questions Facing Project Managers
- Project Manager Responsibilities
- · Project Manager Career Paths
- · Special Demands on the Project Manager
 - Characteristics for Team Members
 - Tuckman Ladder
 - Scope Creep
 - Other special demands



There we will study about characteristics of team members. Then forming the teams, the Tuckman Ladder model we will discuss. Then we talk about the scope creep and other special demands of a project manager. So, project manager can be chosen and installed as soon as the project is selected for funding.

Project Manager

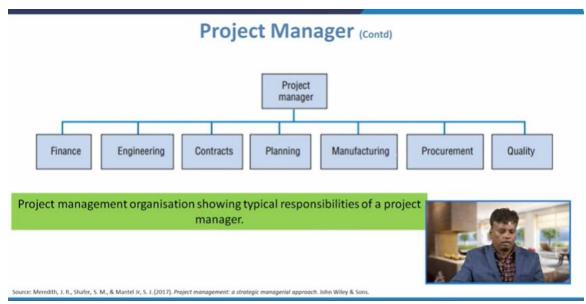
- The project manager can be chosen and installed as soon as the project is selected for funding
 - This simplifies several start-up activities
- The project manager can be chosen later
 - This makes things difficult
- · Senior management briefs the project manager
- The project manager begins with a budget and schedule
 - As people are added, these are refined



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This simplifies several start-up activities. Project manager can be chosen later also, but this will make things very difficult because a project manager has to take initiation for the project. So, he has to do multiple activities. Senior management brief the project manager as soon as the project manager is selected. So, the senior management will say about the expectation of an organization from the project manager.

Then the project manager begins with a budget and schedule. As people are added, these are refined, but the first two important activities the budget and schedule. In a project organization, you can see the role of project manager. You see the project manager is responsible for finance, engineering, contracts, planning, manufacturing, procurement and quality. In contrast with functional manager, in a functional organization there will be a separate division for finance, separate division for production, separate division for marketing and IT and HR.



But your project manager will have the functional component also and the project component also because the role of project manager is a system that he will cover certain elements of functions also and other elements of the project also. So, the project manager is a holistic person who think in a system perspective. So, project manager are usually generalist. It would be very unusual for a project manager to have all the technical skills that are used in their projects. So, project managers rarely decides who perform each task.

Project Manager (contd)

- Project managers are usually generalists
- It would be very unusual for a project manager to have all the technical skills that are used in their projects
- Project managers:
 - Rarely decide who performs each task
 - Lack the technical skills to evaluate much of the work performed on a particular project
 - Exercise control very little over most aspects of the work that gets performed on the project

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But in a functional organization, for example, an operations manager, what work he has to be doing. And for the project manager, lack the technical skills to evaluate much of the work performed on a particular project. Even though he is lacking on technical skills, whenever it is required, he can have some expert from the technical area to assess that project component. Then the project manager exercise control very little over most

aspect of the work that gets performed on the project. So, the project manager will have a less control.

Functional Manager

- Department heads are usually functional specialists
- They have the required technical skills to evaluate all members of their organisation
- Functional managers:

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- Decide who performs each task
- Decide how the task is performed
- Exercise a great deal of control over every aspect of the work that gets performed within their area





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The expectation of the project manager is only the outcome. Now, we will discuss about the functional manager, then you will understand the difference between in terms of roles for functional manager and the project manager. Traditionally, the department heads are usually functional specialist. They have the required technical skills to evaluate all members of their organization. Functional managers decide who perform each task, decides how the task is performed, exercise a great deal of control over every aspect of the work that gets performed within their area.

| Comparing Functional & Project Managers | | | | |
|--|------------------|--|--|--|
| Functional managers | Project managers | | | |
| | | | | |

| i directional managers | | 1 Tojece managers | |
|------------------------|--------------------------------------|-------------------|-------------------------------------|
| • | Need technical skills | ٠ | Need negotiation skills |
| • | Should be more skilled at analysis | • | Should be more skilled at synthesis |
| • | Use the analytic approach | • | Use systems approach |
| • | Responsible for a small area | • | Responsible for the big picture |
| • | Act as managers | • | Act as facilitators |
| • | Responsible for a small area | • | Responsible for the big picture |
| • | Act as direct, technical supervisors | • | Act as facilitators and generalists |



Now, we will see a kind of a comparison between functional manager and the project manager. So, the functional manager need technical skill, but the project manager need negotiation skill. Functional manager should be more skilled at analysis, project manager should be more skilled at synthesis. Synthesis is combining everything. Functional manager use analytical approach, project manager use systems approach.

Functional managers responsible for a small area, project manager responsible for big picture. Functional manager act as a manager but project manager act as a facilitator. Functional manager act as a direct technical supervisors, but the project manager act as a facilitators and generalist. These are the comparison between functional and project managers. Now, what are the three major questions which are faced by project managers? The three question is what needs to be done? When must it be done? How are the resources required to do the job to be obtained? These are the three important questions a manager has to address.

Three Major Questions Facing Project Managers

- What needs to be done?
- When must it be done?
- How are the resources required to do the job to be obtained?



The next one is what are the responsibilities of a project manager? He is responsible for the parent organization, he is responsible for the project and the client and also he is responsible for the project team members. Now, we will discuss about these responsibilities. For example, how he is responsible for parent organization? One is the proper usage of resources. Generally, project manager get all the resources from the parent organization that resources has to be properly utilized. That is the responsibility of a project manager.

Project Manager Responsibilities

- The parent organization
- The project and the client
- The project team





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Project Manager Responsibilities

The Parent Organization

- Proper usage of resources /
- Timely and accurate reports
 - Covered in detail later /
- · Keep project sponsor informed





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Then timely and accurate report covered in detail so that the parent organization is expecting from a project manager and the key project sponsor informed. So, the project manager should inform about the progress of the project to the sponsors. Then how he is responsible for project and the client? Preserve the integrity of the project. This may be difficult with all sides wanting changes. Then keep the client informed of major changes because client is a very important stakeholder here.

Project Manager Responsibilities

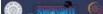
The Project and the client

- Preserve the integrity of the project
 - This may be difficult with all sides wanting changes
- Keep the client informed of major changes









So, he should be known, he should be informed about what are the changes which are taking place in the project. The third responsibility is the project manager is responsible for project team. Very few people will work for the project managers. The team will disband at the end of the project. But the project manager must look out the team members future.

Project Manager Responsibilities

The Project Team

- Very few people will work for the project manager
- The "team" will disband at the end of the project
- The project manager must look out for everyone's future
 - This is in the best interest of the project otherwise as the project winds down, everyone will be looking after themselves





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This is in the best interest of the project. Otherwise, as the project winds down, everyone will be looking after themselves. So, he has to take the responsibility of the project team members. Next, we will discuss about career path for a project manager. A project manager might work on several projects simultaneously.

Career Paths for Project Manager

- Might work on several projects simultaneously
- Small short-term projects train new project managers
- · Start on small projects and work up to large projects
- Experience as a project manager is often seen as a desirable step on the corporate ladder



ource: Meredith, J. R., Shafer, S. M., & Mantel Jr, S. J. (2017). Project management: a strategic managerial approach. John Wiley & Sons.

Small short term projects train new project managers. Suppose if you want to train new project manager, we can ask a small short term projects. Start on small projects and work up to large projects. Then experience as a project manager is often seen as the desirable step on the corporate ladder. If you have experience as a project manager, there are more chances for your promotion and success in the corporate.

Career Paths for Project Manager

- · Trainee:
 - a six-month position to learn about project management
- Cost Analysis/Schedule Engineer:
 - a 6–18-month team position reporting to a project manager
- · Site Manager:
 - a 6–12-month position responsible for a large site and reporting to a program manager

Next, suppose a typical example you may join as a trainee, a typical example of career path for of a project manager, you may join as a trainee. It is a six month position to learn about the project management. Next, you can go to as a cost analysis or schedule engineer. This may be six to eighteen month team position reporting to your project manager. Next, you become a site manager.

Career Paths for Project Manager

- Small Project Manager:
 - sole responsibility for a \$1M to \$3M revenue project
- · Project Manager:
 - responsible for \$3M to \$25M projects
- Program Manager:
 - responsible for multiyear projects and programs over \$25M



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This may be six to twelve months position responsible for a large site and reported to your program manager. The next is you may become a small project manager. You are solely responsible for a one million dollar to three million dollar revenue project. This value of the project is only for the illustration.

This may differ. Then you become a project manager responsible for three million to twenty five million projects. Finally, you may become a program manager that is a highest level. So responsible for multi-layer projects and programs over twenty five million dollar. These are the small example of a project manager how his career path will go in the organization. Next, we will discuss about special demand on the project manager.

Special Demands on the Project Manager

- Acquiring adequate resources
- Acquiring and motivating personnel
- · Dealing with obstacles
 - Scope creep
- Making project goal trade-offs



What we are expecting from the project manager? The first expectation is acquiring adequate resources. We will study in detail about this each point. Next, we will discuss about acquiring motivating personnel. Then dealing with obstacles. One of the biggest

problem is scope creep. That we will discuss. Then making project goals trade-off. Like this, there are many special demands that we will discuss now.

Special Demands on the Project Manager

- Maintaining a balanced outlook
- · Breadth of communication
- Negotiation



Source: Meredith, J. R., Shafer, S. M., & Mantel Jr, S. J. (2017). Project management: a strategic managerial approach. John Wiley & Sons.

The other demands are like maintaining a balanced outlook, then having a breadth of communication, then negotiation. These are the skills. These are the expectations from your project manager.

Special Demands on the Project Manager

Acquiring Adequate Resources

- · Project budgets are usually inadequate
- Resource trade-offs must be considered
- Crises occur that require special resources
- Availability of resources is seen as a "win-lose" proposition



So, first we will discuss about acquiring adequate resources. This is an first demand on the project manager. Project budgets are usually inadequate. Resource trade-off must be considered. So, the important task is acquiring resources, money, manpower and other equipment, other resources. So, crisis occurs that require special resources. There may be some projects that may require unique resources. Obtaining that resource may be a challenging task. So, a project manager should have a very good skills on acquiring resources. Then availability of resources is seen as a win-lose proposition.

In an organization, there are two, three projects, multiple projects. All the projects are fighting for the same resources. So, what will happen? This conflict arises. Then it is seen as a win-lose. If one project manager wins something, we assume that the other person is losing.

Special Demands on the Project Manager

Acquiring and Motivating Personnel

- Most project workers are borrowed from functional managers
- · The project manager negotiates for the desired worker but
 - the project manager wants the best qualified individual
 - the functional manager decides who to assign



So, availability of resource is seen as win-lose proposition that will create more conflicts in the organization. The second expectation from a project manager is acquiring and motivating personnel. Most project workers are borrowed from functional manager. The project manager negotiate for the desired worker. But the project manager want the best qualified individual. But the final authority is with the functional manager. So, the functional manager decides who to assign. This is the second expectation of a project manager that is acquiring and getting motivating personnel for the project. We are continuing with that point that is acquiring and motivating personnel. The functional managers also decides the skill level to be assigned to the project and the pay and promotion of the worker.

Acquiring and Motivating Personnel

- · The functional manager also decides:
 - the skill level to assign
 - the pay and promotion of the worker
- Worker will most likely return to the functional manager once the project is finished
- Once workers are assigned to a project, the project manager must motivate them
 - The project manager has little or no control over pay and promotion

Source: Meredith, J. R., Shafer, S. M., & Mantel Jr. S. J. (2017). Project management: a strategic managerial approach, John Wiley & Sons.

Many times this lies with the functional manager, because we assume here in this course that the project is part of a functional organization. So, the project managers need permissions, resources, everything from the parent organization. The workers are so allotted by the parent organization that is a functional organization. So, workers will most likely to return to the functional manager once the project is finished. Once the workers are assigned to a project, the project manager must motivate them.

The project manager has the little or no control over pay and promotion. So, motivating the project team members is a challenging task for a project manager. Now, we will discuss about some important characteristics for your team members. Here the team members need high quality technical skills. Previously, I am discussing about project manager need not have technical skills, but the team members need to have the technical skill.

Important Characteristics for Team Members

- High-quality technical skills
- Political and general sensitivity
- Strong problem orientation
- · Strong goal orientation
- High self-esteem



ource: Meredith, J. R., Shafer, S. M., & Mantel Jr, S. J. (2017). Project management: a strategic managerial approach. John Wiley & Sons.

And team members should have your political and general sensitivity, is not about the politics in the organization, what is happening, how a work has to be executed. Then team members should have a strong problem orientation, then strong goal orientation, most importantly, the team member should have a high self-esteem about the project. Now, we will discuss about the essential characteristics of team members. The project manager should expect conflict with the creation of new project team, where the individual team members do not know one another. What will happen? Generally, the project manager will find a kind of a conflict among the team members, because they do not know each other.

Essential Characteristics for Team Members

- The PM should expect conflict with the creation of a new project team where the individual team members do not know one another
- To help navigate the conflict, it is helpful if the PM understands the way teams tend to develop
- One of the more popular classic models of team development is one referred to as the "Tuckman ladder."

To help navigate the conflict, it is helpful if the project manager understand the way the team tends to develop. One of the more popular classic models of team development is one referred to as the Tuckman ladder. What is this Tuckman ladder? Tuckman's is a

professor Tuckman's five stages of group development. These five stages are forming, storming, norming, performing, adjourning.

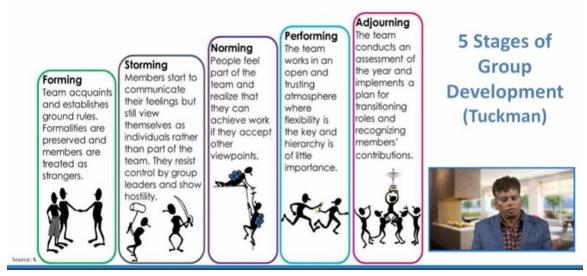
Tuckman's Five Stages of Group Development (Tuckman Ladder)

- Teams progress through four development phases:
 - 1. Forming
 - 2. Storming
 - 3. Norming
 - 4. Performing
 - Adjourning



Source: Meredith, J. R., Shafer, S. M., & Mantel Jr, S. J. (2017). Project management: a strategic managerial approach. John Wiley & Sons.

In the picture form, you see the pre-group. Now, it is independent, independence forming is there, storming is there, then see the dependence and interdependence level is increasing, the norming, performing and finally adjourning. I will discuss about these five stages in detail. The first stage is forming. In this stage, team acquits and establishes ground rules. Formalities are preserved and members are treated as strangers.



That is the first stage. The second stage is storming. Members start to communicate their feelings, but still view themselves as individuals rather than part of the team. They resist control by group leaders and show hostility. The third stage is norming. People feel part of the team and realize that they can achieve work if they accept other viewpoint.

The fourth stage is performing. The team work in an open and trusting atmosphere where the flexibility is the key and the hierarchy is of little importance. The last stage is adjourning. The team conduct an assessment of the year and implement a plan for transitioning roles and recognizing members contribution. These are the five stages of group development.

So, group members will undergo these changes. Now, we will come back to the special demands on the project manager. The another demand is dealing with obstacles. Every project is unique, you may come across with unique obstacles. So, the project manager should be ready to face a series crisis.

Special Demands on the Project Manager

Dealing with Obstacles

- · Every project is unique
- · The project manager should be ready to face a series of crises
- · A big problem is "scope creep."
- · Good project managers are fire preventers hopefully, but also firefighters



Source: Meredith, J. R., Shafer, S. M., & Mantel Jr, S. J. (2017). Project management: a strategic managerial approach. John Wiley & Sons.

One of the big problem is scope creep. Good project managers are the fire preventers hopefully, but also fire fighters. Now, we will discuss about one big problem in your project is scope creep. So, about the scope creep, we will discuss in detail. What is the scope creep? Scope creep happens when changes are made to the project scope without any control procedure like change request. Those changes also affect the project schedule, budget, cost and resource allocation and might compromise the completion of milestones and goals.

Scope Creep

- Scope creep happens when changes are made to the project scope without any control procedure like change requests.
- Those changes also affect the project schedule, budget, costs, and resource allocation and might compromise the completion of milestones and goals.
- Scope creep is one of the most common project management risks.



ource: Meredith, J. R., Shafer, S. M., & Mantel Jr, S. J. (2017). Project management: a strategic managerial approach. John Wiley & Sons.

So, scope creep is one of the most common project management risk. A project manager should know how to manage this scope creep that is very important problem almost in every projects. Some of the reasons for this scope creep is the first reason may be ambiguous scope definition. The scope is not properly defined. So, what are the solutions? Suppose a sponsors how they can contribute to solve this problem.

Ambiguous Scope Definition - Solutions

- Sponsors:
 - Develop charters with specific product features
- Project managers
 - Create tight scope statements, with features in and out of scope
 - Decompose deliverables into work packages using a WBS
- Business analysts:
 - Create scope models to align the project team's mental models
 - Define detailed and complete

requirements



So, develop charters with specific product features. Then the project managers create tight scope statement with the features in and out of the scope. Decompose deliverables into work packages using a work breakdown structure. Then how a business analyst can help to solve this ambiguous scope definition. Create scope models to align the project teams mental models.

Define detailed and complete requirements. Here the what is the project teams mental model in the sense what will be the final outcome. Then we have to compare with the requirement of the project. Whether the requirement of the project and the final

outcomes it is matching or not. The second reason for the scope creep is scope and requirement not managed. What are the solutions? As a project manager include a change management process in the scope management plan and follow them both.

Scope and Requirements Not Managed- Solutions

- Project managers
 - Include a change management process in the scope management plan and follow them both
- Business analysts
 - Create a requirements management plan to be included in the overall scope management plan and follow it, including requirements traceability.
- Both
 - Formally communicate, review, and approve all requirements; use traceability to manage the process.



Source: Meredith, J. R., Shafer, S. M., & Mantel Jr, S. J. (2017). Project management: a strategic managerial approach. John Wiley & Sons

So, we have to have a change management process. Then in the perspective of business analyst how he can help for scope creep that is occurred due to scope and requirements not being managed. So, the business analyst can create a requirement management plan to be included in the overall scope management plan and follow it including requirements traceability. Then both how they can help so formally communicate, review and approve all requirements and use traceability to manage the process. The next reason for the scope creep is inconsistent process for collecting product requirement. What kind of solutions can help this as a project manager and business analyst? Define requirement process related to the scope analysis, prioritization, traceability

and

new

request.

Lack of Sponsorship and Stakeholder Involvement: Solutions

- Sponsors:
 - Develop Charters that communicate desired product features, emphasising project benefits
- Project managers
 - Provide project status that engages sponsors, focusing on how deliverables are being realised
- Both
 - Use tools like RACI to get a commitment for approvals and for providing input, review, testing, etc.





As a business analyst use both context diagram use context diagram to clarify scope stakeholders early. What are the context diagram like support, supplier, input, process, outcome and customers. You should know who are our suppliers, you should know what are the inputs, then what is the process and what is the outcome and who are your consumers. Then context diagram add detail in layers as appropriate. So, how now how both business analyst and project manager can help define scope and requirement iteratively in layers throughout the requirement analysis.

The next reason for the scope creep is lack of sponsorship and stakeholder involvement. Then what is the solution for this? As a sponsor develop charters that communicate desired product features emphasizing project benefits. Then the project manager how he can contribute provide project status that engages sponsors focusing on how deliverables are being realized. How these both people can help to solve this problem? Use tools like RACI, we will discuss about this one to get a commitment for approval and for providing input review testing and so on. So, what is this matrix RACI? So, R means responsible Α accountable \mathbf{C} is consulted I informed. is

This is the commitment matrix, we will study about this RACI matrix in detail. But here they can use RACI matrix to get the commitment for approval and providing input review testing etcetera. So, this will help you to solve the problem of lack of sponsoring and stakeholder involvement. The another reason for scope creep is project linked. What are the solutions? How the sponsors can help? Keep projects as short as possible and focused.

Project Length-Solutions

- Sponsors:
 - Keep projects as short as possible and focused.
- Project managers:
 - Decompose projects into smaller subprojects
 - Close out sub-projects to maintain momentum and show results

So, the perspective project managers decompose projects into smaller sub projects, close out sub projects to maintain momentum and show result. So far we discussed about what is the scope creep and what are the five reasons, how that can be, and what are the solution for reducing the scope creep problem. Now we will continue with the special demand on the project manager. The next demand from a project manager is dealing with obstacles. Early problems are associated with resources, it should be because as I discussed the first role of a project manager is obtaining resources.

Dealing with Obstacles

- Early problems are associated with resources
- Later problems are associated with:
 - Last-minute schedule and technical changes
 - The happenings to a team when the project is completed



So, later problems are associated with last minute schedule and technical changes and this happening to a team when the project is completed. So, these are the problems. So, a project manager should have the skills to solve these obstacles. The next demand on the project manager is making project goal trade-off. Here trade-off because so many projects we talked about three constraint also initially, time cost scope.

Special Demands on the Project Manager

Making Project Goal Trade-Offs

- Project managers must make trade-offs between the project goals of:
 - Cost
 - Time
 - Scope
 - Ancillary goals
- Multiple projects
- · Project goals and organizational goals



So, a important role of a project manager is making goal trade-off. Project manager must make trade-off between project goals of cost, time, scope, ancillary goals. There may be a multiple projects. What will happen? Every projects may require different resources. So, we need to have a trade-off to manage multiple projects. So, project goals and organizational goals has to be aligned and it has to be achieved.

Maintaining a Balanced Outlook- success or failures

- · Hard to tell where a project is headed
- · Outlook can change over the life of a project
- Technical problems cause waves of pessimism and optimism
- Mood swings can hurt performance
- Maintaining a positive outlook is a delicate job



urce: Meredith, J. R., Shafer, S. M., & Mantel Jr, S. J. (2017). Project management: a strategic managerial approach. John Wiley & Sons.

To achieve that you need to go for certain trade-off. That is an important skill or expectation from your project manager. Then maintaining a balanced outlook. Many time there may be some projects are success, some projects are failures. For example, say Chandrayaan 2 and Chandrayaan 3.

Chandrayaan 2 was we are not able to reach the target smooth landing in the last minute, but that was overcome by Chandrayaan 3. So, there may be a so many up and down when you are working as a project manager, but you should have a balanced outlook. It is hard to tell where the project is headed. Outlook can change over the life of the project.

So, technical problems cause waves of pessimism and optimism. Mood swing can hurt the performance. Maintaining a positive outlook is a delicate job of a project manager. The next demand from the project manager is breadth of communication. Most of the project manager's time is spent on communication only. In order to properly communicate, the project manager must deal with or understand why the project is existing, why some projects are failing.

Breadth of Communication

- Most of a project manager's time is spent communicating
- In order to properly communicate, the PM must deal with or understand:
 - why the project exists
 - that some projects fail
 - that support of the top management is needed
 - a strong information network is needed
 - they must be flexible



Source: Meredith, J. R., Shafer, S. M., & Mantel Jr, S. J. (2017). Project management: a strategic managerial approach. John Wiley & Sons.

The support of top management is very much required to handle this. Then a strong information network is needed to know when the project is, and how it is progressed and the project manager must be very flexible. The another important skill demand on the project manager is negotiation. In order to meet the demand of the job of a project manager as mentioned before, the project manager must be highly skilled negotiator. There is almost no aspect of the project manager's job that does not depend on directly on the skill. So, everywhere you need to have the negotiation skill because obtaining resources, managing the obstacles, managing the scope creep, everywhere you need to have the important skill called negotiation.

Summary

- Project Manager & Functional Manager
- Major Questions Facing Project Managers
- Project Manager Responsibilities
- Project Manager Career Paths
- Special Demands on the Project Manager
 - Characteristics for Team Members
 - Tuckman Ladder
 - Scope Creep
 - Other special demands



Dear students, in this lecture I have discussed about the project manager, unfunctional manager, what are the differences, what are the pros and cons. Then I have discussed about major questions faced by the project manager. Then I discussed about the

responsibilities of a project manager. Then what will be the career path for a project manager. Then I have discussed in detail about special demand on the project manager like characteristics of team members, Tuckman-Lorder I have discussed, then scope creep, how to solve the scope creep, then talk about other special demands. Thank you.