Project Management

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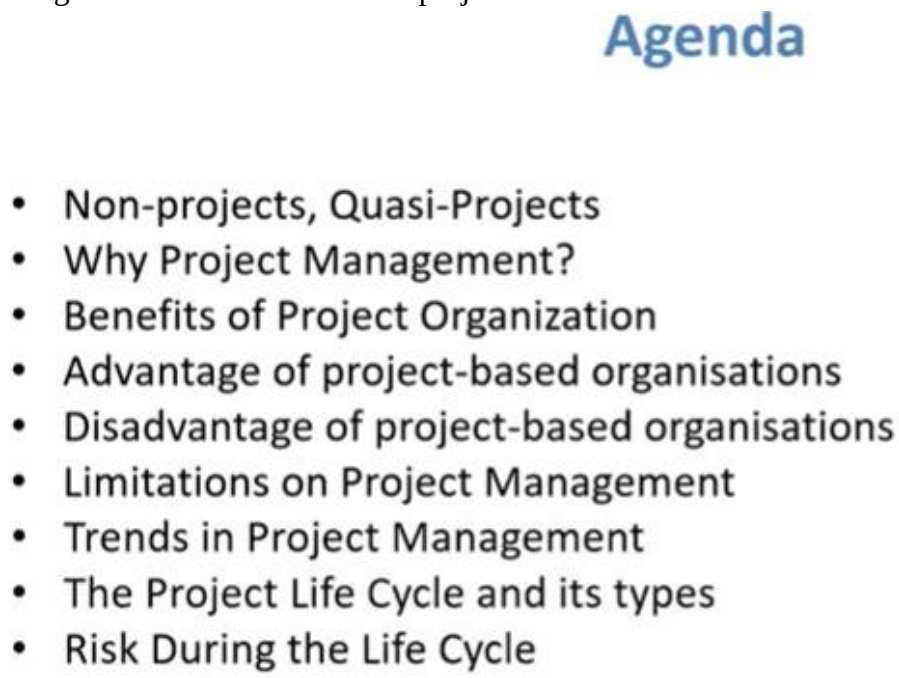
Week: 1

Lecture 02 : Introduction to Project Management – II

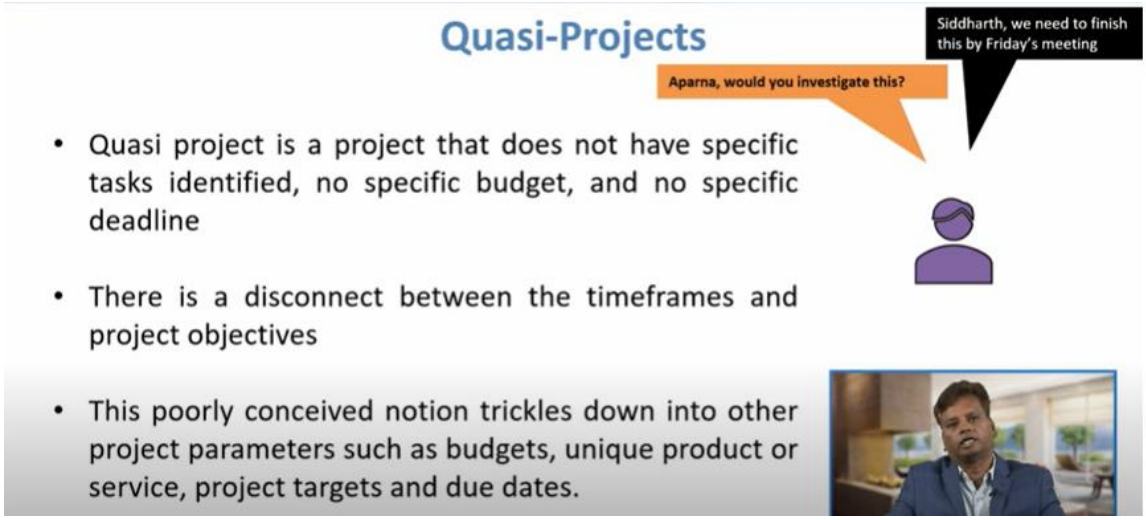
Dear students, we talked about introduction to project management. In the previous lecture, we will continue with the same heading that is introduction to project management lecture number 2. As I discussed in the previous lecture, we are discussing, we are in the first phase of project management that is a project initiation. Previously I covered introduction to project management 1. Now, I am going to cover introduction to project management 2. The agenda for this lecture is, I am going to discuss about what is non project and quasi project, then why project management is required, what are the benefits of project organization and advantages of project based organization and disadvantage of project based organizations.



Then I will discuss about limitation on project management, then trends in project management and project life cycle and its types and what are the risk during the project life cycle. These are the points which I am going to discuss in this lecture. First, we will

discuss about non projects. Non projects refers to all activities or task that are ongoing and do not stop when the project completes.

Because these activities are routine activities. For example, use of a manufacturing line to produce flow of standard product is an example of non projects. Other examples are production of weekly employment reports, preparation of school lunches, delivery of mail, checking your email, these are very routine activities because there is no time limit for that. So these are the example of non projects. What are the characteristics of a non projects are? They are all these whatever discussed so far all are routine in nature and they are the tasks that performed repeatedly.



So anything which we are routine in nature, we do it repeatedly that are the example of non projects. Next, we will discuss about quasi projects. Quasi project is a project that does not have specific task identified, no specific budget and no specific deadlines. There is a disconnect between the time frames and the project objectives. This poorly conceived notion trickles down into other project parameters such as budgets, unique

product or services, project targets and due dates.

Managing Quasi-Projects

- How can you plan a project when you don't know the scope requirements?
- The project is determining the scope requirements
- Set the determination of resources, budget, deadline, capabilities, personnel, and any other matters as the first milestone

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

So there is no clarity on the project cost, project time and project deliverables. Then how to manage the quasi projects? So how can you plan a project when you do not know the scope requirements? The project is whenever there is a quasi project is there, the project is determining the scope requirements, that itself your project. What are the other activities we do in the quasi project for example, set the determination of resources, budget, deadlines, capabilities, personnel and any other matters as the first milestone. We will discuss about why project management. Contemporary society demands the development of new methods and management.

Why Project Management?

- Contemporary society demands the development of new methods of management
- Three forces are paramount:
  - Exponential expansion of human knowledge
  - Growing demand for a broad range of complex, sophisticated, customised goods and services
  - Evolution of worldwide competitive markets for the production and consumption of goods and services

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Now there are three forces which are paramount. One is exponential expansion of human knowledge. Second one is a growing demand for a broad range of complex, sophisticated, customized goods and services. Then the evolution of worldwide competitive markets for the production and consumption of goods and services. The

primary purpose for initiative project is to accomplish specific goals.

The reason for organizing the task as a project is to focus the responsibility and authority for the attainment of goals on the individuals and small groups. So when you do any activity in the form of project, you can easily allocate responsibility and authority. We have discussed about three forces. So that forces combine to mandate the use of teams to solve the problem that are used to solve by the individuals. As we have talked about complicated very big projects, these three forces which I discussed earlier seek for to do any activity in the form of team instead of doing it individual.

So combining also increases the complexity of goods and services produced plus complexity of the process used to produce them. That leads to the need for more sophisticated system to control both outcomes and processes. That sophisticated system is to do all activities in the form of projects. Then what are the benefits of project organization? Project form of organization allows the managers to be responsive to the client and environment. When you do an activity, later we will study about functional organization versus project organization.

Benefits of Project Organization

Project form of organisation allows the manager to be responsive to

- The client and the environment
- Identify and correct problems at an early date
- Make timely decisions about trade-offs between conflicting project goals
- Ensure that managers of the separate tasks that comprise the project do not optimise the performance of their tasks at the expense of the total project

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

When you are having in a project organization, you are forced to be very responsive to the client and the environment and it is easy to identify and correct the problems at the early date because everybody is each and every activity is responsible for someone because it is allocated to that person. Then we can make timely decision about the trade-off between conflicting project goals and it ensures that the managers of the separate task that complete the project do not optimize the performance of their task at the expense of the total project. So here the concept of system view will come to play. When you do any activity in the form of project in the project organization, there would not be any chance for local optimization. Always we can achieve the global optimization that means that we can achieve the overall organizational objectives.

Advantage of project-based organizations

- Experience better control and better customer relations
- Increase in their project's return on investment
- Shorter development times, lower costs, higher quality and reliability, and higher profit margins
- Sharper orientation toward results, better interdepartmental coordination, and higher worker morale.

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What are the advantages of project based organization? Experience better control and better customer relations. When you run organization in the form of project, it can increase the project's return on investment. Then shorter development times, lower cost,

higher quality and reliability and higher profit margins and sharper orientation towards result, better interdepartmental coordination and higher work morale. Then we will discuss about some of the disadvantages of project based organization. The project based organization result in a greater organizational complexity because if an organization have many projects that may compete for the same resources, same scarce resources that lead to the competition, that lead to the conflicts, finally we have to go for negotiation to solve the conflict.

And another disadvantage is increases the likelihood that organizational policy will be violated and there is a chance higher cost, more management difficulties and low personal utilization and there is a chance also of conflict among the project teams. Then what are the limitation on project management? The creation of your project may be an admission that the parent organization and its managers cannot accomplish the desired outcome through the functional organization and conflict seems to be necessary side effect of project management. Project manager often lacks the authority of position that is consistent with the assigned level of responsibility because a project manager has to play a multiple roles, sometime their authority of the position may be inconsistent. So the project manager must depend on the goodwill of the managers in the parent organization for some of the necessary resources. Now I will discuss about trends in project management.

Limitations on Project Management

- PM often lacks the authority of a position that is consistent with the assigned level of responsibility
- PM must depend on the goodwill of managers in the parent organisation for some of the necessary resources

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The first trend is the project management is helping to achieve strategic goals. Now there has been a greater push to use projects to achieve more strategic goals and filter existing significant projects to make sure that their objectives support the organization's strategy and mission. So now the trend is the project management is used to achieve strategic goals. If any goals, if any projects which are not meeting to achieve the strategic goals then we have to modify that projects. So the ultimate aim is that all the project should help to achieve the strategic goals.

Trends in Project Management

Achieving Strategic Goals

- There has been a greater push to use projects to achieve more strategic goals and filter existing significant projects to make sure that their objectives support the organization's strategy and mission
- Projects that do not have clear ties to the strategy and mission are terminated, and their resources are redirected to those that do.

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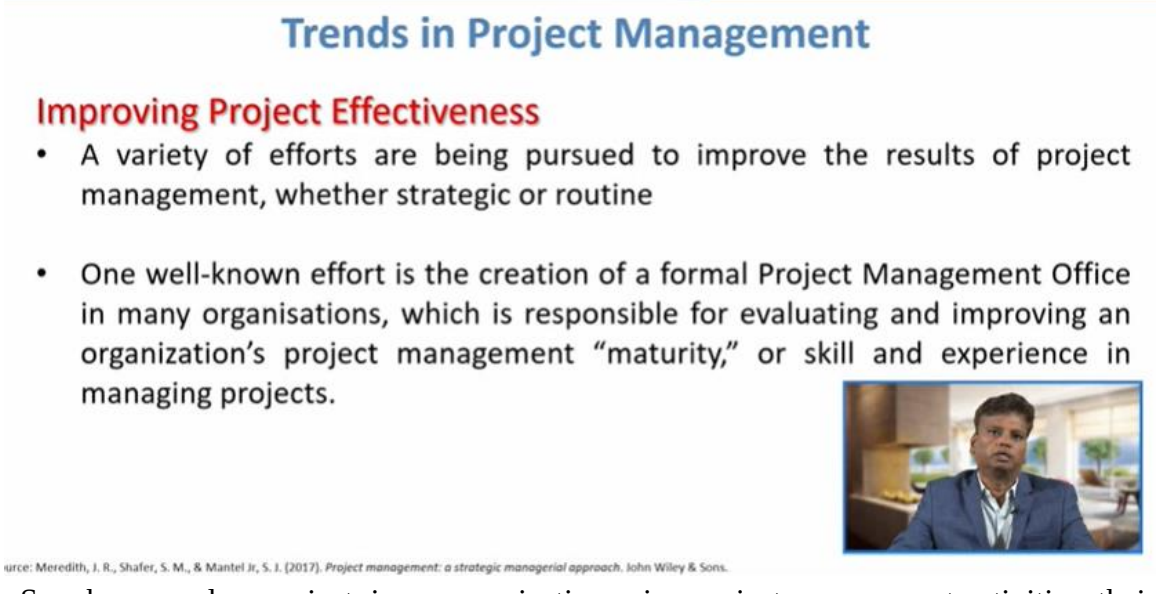
So the project that do not have clear ties to the strategy and mission are terminated and their resources are redirected to those that helps to achieve the strategic goals. On the other hand, there has also been a push to use project management to accomplish routine departmental task that would previously have been handled as a functional effort. This is because lower level management has become aware that the project accomplished their scope and objectives within their budget and deadline and hope to employ the new tool

to improve the management of their functions. So the point here is even though it is functional activities, routine activities that also now plan to do in the form of project. The advantage is we can achieve the project scopes with limited time and budgets.

We create an artificial deadlines and budgets to accomplish routine task within the functional department. So this process of creating an artificial deadlines and budgets to achieve the routine activities is called projectizing. Another trends in the project management is improving project effectiveness. A variety of efforts are being pursued to improve the result of project management, whether strategic or routine. One well-known effort is the creation of formal project management office in many organizations, which is responsible for evaluating and improving the organization's project management maturity or skill and experience in managing projects.



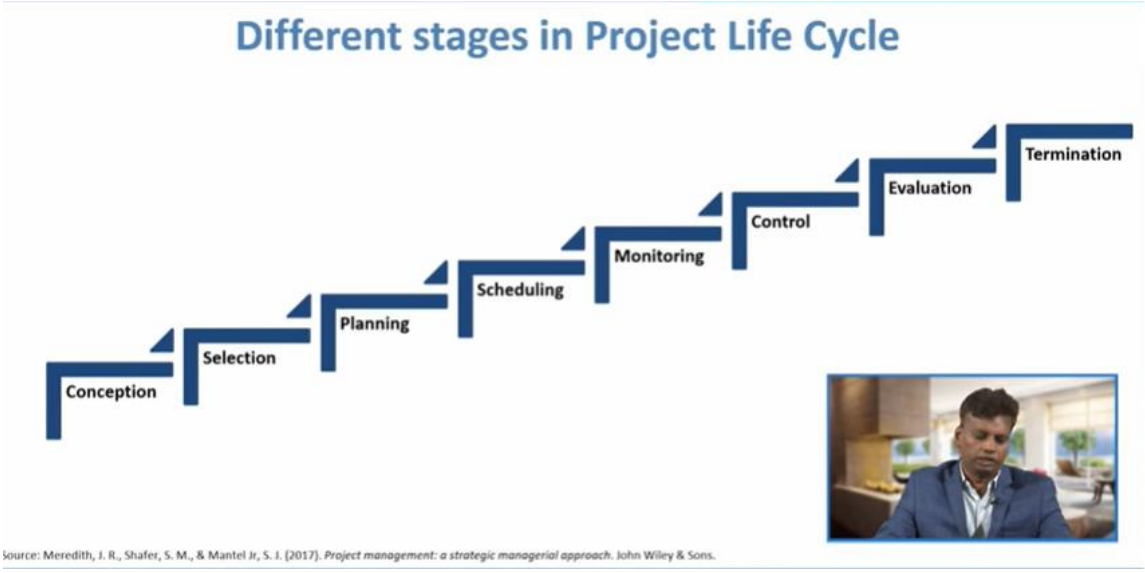
So when you do a project, in an organization using project management activities, their efficiency for doing the project will increase and their effectiveness also will increase

that is called project management maturity. In coming lectures, we will discuss in detail about this project management maturity model. But at this point, what we are learning that when you do projects that will help to increase your project maturity and project effectiveness. Another trend is virtual projects. With the rapid increase in globalization, many projects now involve global teams with the team members operating in different physical geographic location and time zones, each bringing a unique set of talents to the projects.

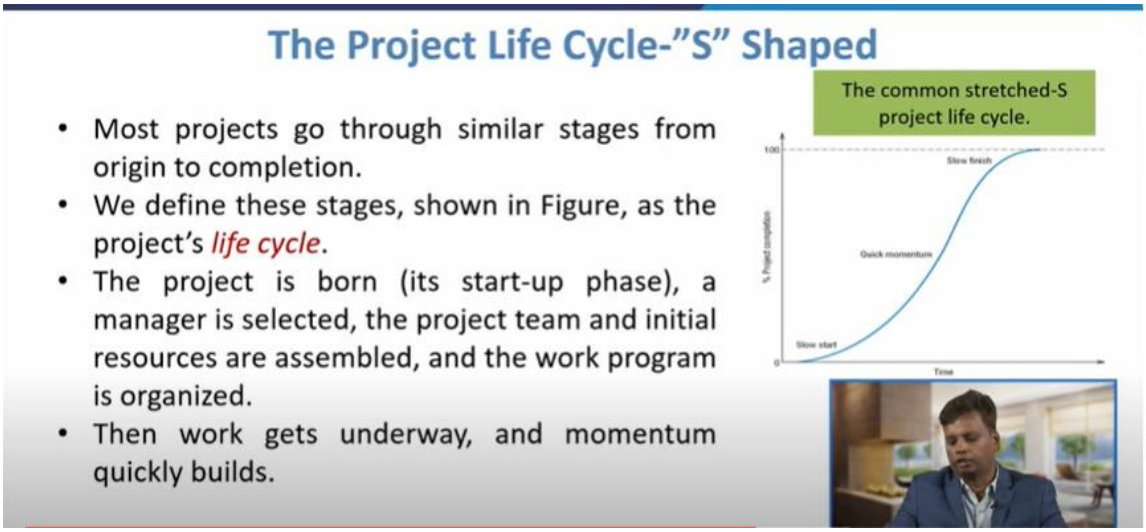
These are virtual projects because the team members may never physically meet before the team is disbanded and another team is reconstituted. Because of internet, the virtual project is now possible. Especially during COVID time, you might have realized that many projects are done virtually because the project members, they might have never met in person. So advanced telecommunication and computer technologies allow such virtual projects to be created, conduct their work and complete their project successfully. Another trends in the project management is called dynamic projects.

That is agile project management is one of the example of dynamic projects. Why we call it the dynamic projects? Here, in the agile project management, we can easily accommodate any changes in the scope, any changes in the project requirement at any stage of the projects. So that is called agile project management. So agile project management is an iterative approach to manage software development projects focusing on continuous releases and incorporating customer feedback with every iteration. It is also implied that minimal product development activities, project documents, there is a minimal project documents, minimal meeting and their administrative activities also minimal.

The next trend in the project management is called quasi projects. Already I have defined what is a quasi projects. So project management is now being extended into areas where the final scope requirements may not be understood, the deadline is unknown and the budget is undetermined. When any one or all the three primary project objectives are ill-defined, we call it as a quasi project. Quasi projects are extremely difficult to manage that are often initiated by setting an artificial due date and budget then completed by de-scoping the required deliverables as the project progress to meet those limits.

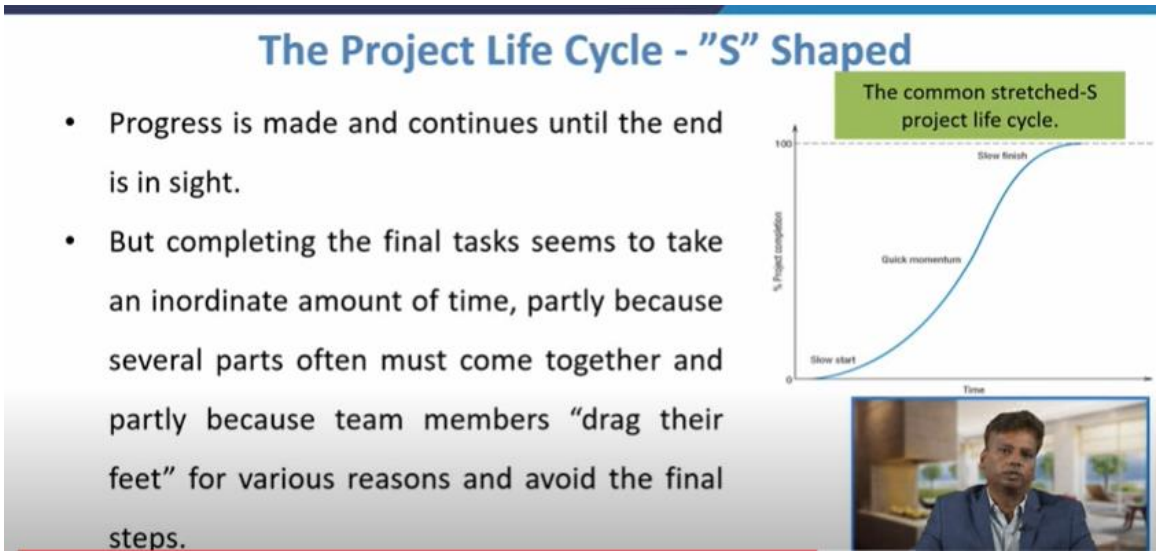


Now we will discuss about project life cycle. There are different stages for completing a project. The first stage is project conception. Next one is project selection, then project planning, then project scheduling, then monitoring, control, evaluation and termination. First we will discuss about project life cycle which is S shaped project life cycle.



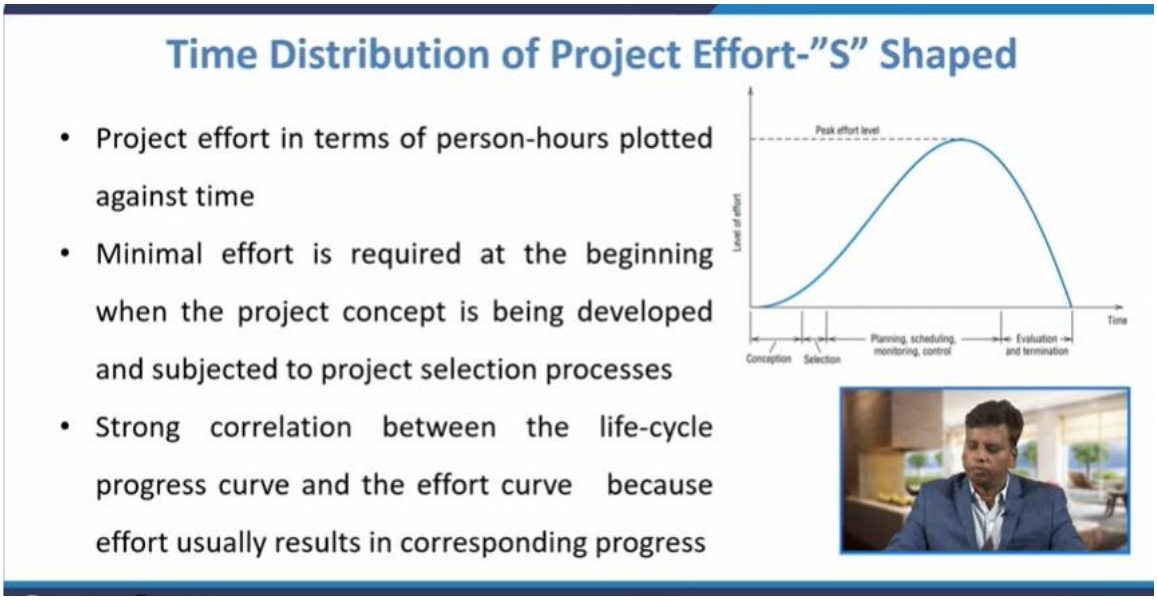
Most projects go through the similar stages from origin to completion. Please look at the picture on the right hand side. In X axis there is a time, in Y axis percentage of project completion. So there is a slow start, quick momentum and slow finish.

So this looks like a "S". So it is called S shaped project life cycle. So we define these stages shown in the figure as the project life cycle. The project is born that is a start-up phase, then a manager is selected, the project team and initial resources are assembled and the work program is organized. Then work gets underway and the momentum quickly builds. Then the progress is made and continues until the end is in sight.



But the completing the final task seems to take an inordinate amount of time partly because several parts often must come together and partly because team members drag their feet for various reasons to avoid the final steps. So this is an example of S shaped project life cycle. Many projects will come under this stage. Construction of a house, construction of a highway, initially it will be very slow. Then during the main stage of the project the things will work very well.

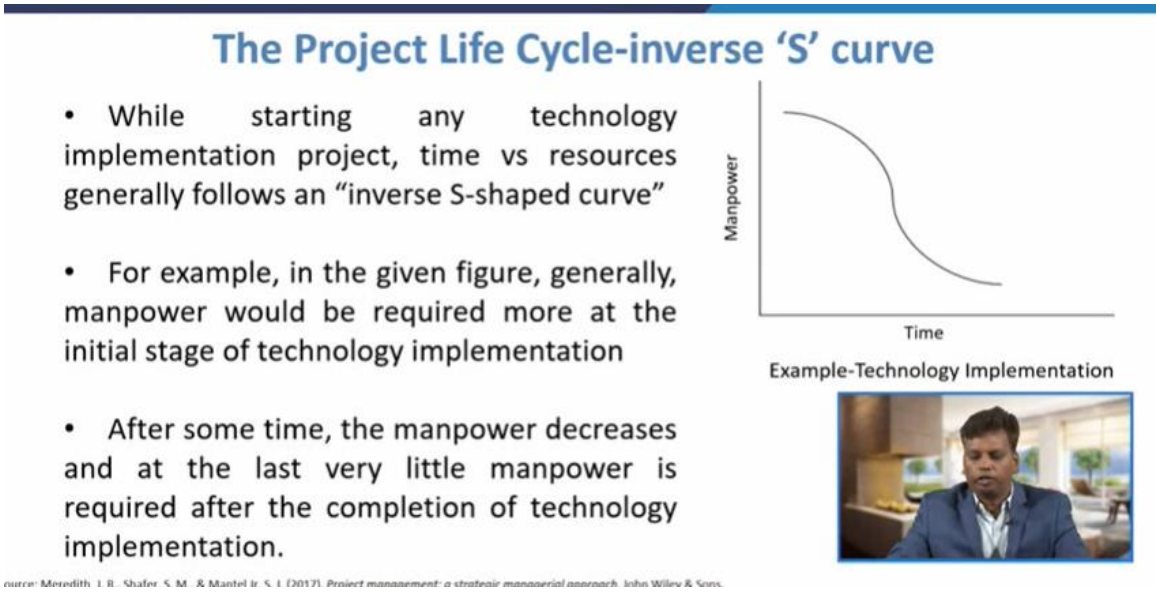
Even at the completion time then the project work will go very slowly. This is an example of S shaped project curve. Now we will see the time distribution of project effort for the S shaped project life cycle. Look at the X axis, there are different stages of the product life cycle, conception, selection, planning, scheduling, monitoring, control, evaluation, termination.



In Y axis level of effort. So during the conceptual stage the effort is very less. During

the planning, scheduling, monitoring and control then the level of effort is very high. So the project effort in terms of persons are plotted against time to our right hand side of this slide. So minimal effort is required at the beginning when the project concept is being developed and subjected to project selection process. Strong correlation between the life cycle progress curve and the effort curve because effort usually result in corresponding progress.

So when there is a more effort there is a more project progress. Activity increases as planning is completed and the execution of the project gets underway. This rises to a peak and then begins to taper off as the project nears completion. Finally ceasing when the evolution is complete and the project is terminated. There is no particular pattern that seems to typify all projects nor any reasons for the slowdown at the end of the projects to resemble the build up at its beginning.

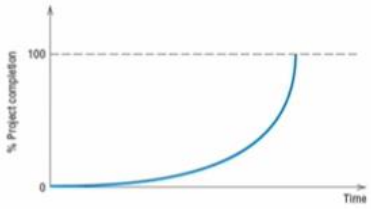


Now we will see the another type of project life cycle that is inverse S-curve. Look at the picture on the right hand side. In the X axis the time is there, in Y axis the manpower requirement. While starting a new technology implementation project, time versus resources generally follows an inverse S-shaped curve. For example, in the given figure generally manpower would be required more at the initial stage of technology implementation.

After sometime the manpower decreases and at the last very little manpower is required after the completion of technology implementation. Now we will see the third type of project life cycle that is stretched J-curve. Look at the picture on the right hand side. It is a time in Y axis the percentage of project completion. The analogy of baking a cake can capture an essential alternative life cycle that is stretched J-curve.

Project Life Cycle-Stretched J curve

- The analogy of baking a cake can capture an essential alternative life-cycle shape.
- Once the ingredients are mixed, we are instructed to bake the cake in a 350° (F) oven for 35 minutes.



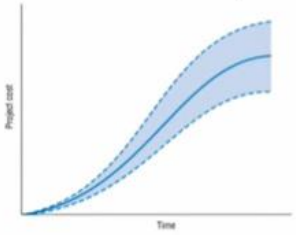
Once the ingredients are mixed we are instructed to bake the cake in a 360 degree Fahrenheit over for 35 minutes. Experienced bakers know that the mixer changes rapidly from goop to cake in the last few minutes of the baking process. The life cycle of this process looks like the stretched J-curve as shown in the figure. While actual projects have a similar life cycle that is initially the progress, project completion will be very less. When the time progress then the project completion will be done very quickly.

Now we will see some of the risk during the life cycle. Only about our ability to meet project goals due to various factors is called risk in the project life cycle. Look at the picture in the left hand side. In X axis is the time, in Y axis it is the project cost.

Risk During the Life Cycle

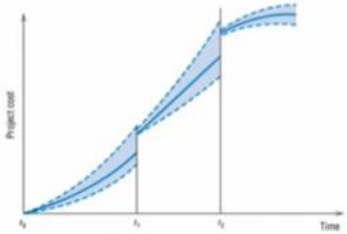
- Uncertainty about our ability to meet project goals due to various factors in the project life cycle

Risk During at the Start of the Life Cycle



Estimate of project cost: estimate made at project start

Risk During the Life Cycle



Estimates of project cost: made at time t0 , t1 & t2 .

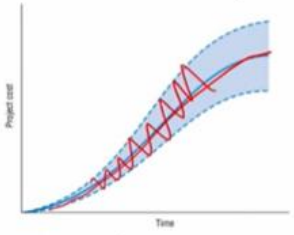
There are three line is there. The middle line is this is the actual project cost. So what is happening here? There is a more variation in the project cost as the project progress. In the right side picture, assume that the project is done in different phases that is a t0, t1,

t2. Every time in the beginning of the project, the project cost will have a lesser variation. When the time increases, the variation of the cost also increases because there is a more uncertainty about the cost.

Risk During the Life Cycle

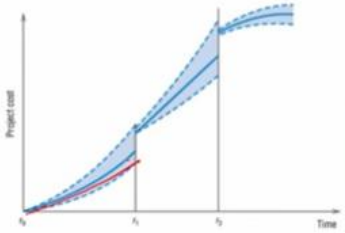
- Uncertainty about our ability to meet project goals due to various factors in the project life cycle

Risk During at the Start of the Life Cycle



Estimate of project cost: estimate made at project start

Risk During the Life Cycle



Estimates of project cost: made at time t0 , t1 & t2 .

So whenever you are using your project life cycle, then you have to see how much variations, how much fluctuation is there in that project life cycle. So that is the way of managing the risk during the project life cycle. In this lecture, we discussed about non-projects and quasi-projects. Then I discussed about why project management is required. Then I discussed about the benefits of project organization, advantage of project based organization and disadvantage of project based organization.

Summary

- Non-projects, Quasi-Projects
- Why Project Management?
- Benefits of Project Organization
- Advantage of project-based organisations
- Disadvantage of project-based organisations
- Limitations on Project Management
- Trends in Project Management
- The Project Life Cycle and its types
- Risk During the Life Cycle

Also I discussed about limitation of project management, trends in project management. Then I have explained three types of project life cycle, S-shaped curve, inverse S-shaped curve and J-shaped curve. Finally I have concluded that what is the nature of risk during the project life cycle. Thank you. 1