Project Management: Planning, Execution, Evaluation And Control

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Week- 01

Lecture- 02

Welcome to the course Project Management Planning, Execution, Evolution and Control. I am Professor Sanjeev Choudhury from Indian Institute of Technology Kharagpur. This is the module 1, we are continuing. In the lecture 1, we have covered the basic concepts and introductions of project management. In this lecture, we will be covering drivers, current drivers of project management. The concepts that will be covered here are the difference between traditional and agile project management, then current drivers of project management, project management - a socio-technical approach, all these we will be covering in this lecture.

So, what is the difference between traditional and agile project management? We will be mainly doing in this course is the traditional project management. The traditional project management, here your scope of work are tangible, specific and measurable. But in agile project management, mostly you will find it software projects and all, which are mostly delayed and this traditional project management is not always very successful in that. What happens here? In agile project management, your scope of work is unstable.

You do not know what will be the end design or the end that is not fixed upfront at the define phase. So, how it goes? It goes like this. The project initiation, it follows an incremental iterations. The project's phases are, say define phase is, also divided into incremental iterations and it goes like this and it is also referred to as rolling waves. So, here the teams are divided, teams, maximum it goes from 4 to 8 team members and they jointly do these iterations and from each iteration some outcome comes, that outcome subsumes the input for the iteration 2.

And this is done along with your customers, like the client side also and the contractor side, both of them sit together and to evolve your specification, designs. So, this is the agile project management. These are here your specifications or the final design, final scope, it is not known upfront at the define phase. So, what you do incrementally you go through to define it. So, this is the main thing, but again here the approach is not the

traditional way, there the project manager directs, control, integrates and all.

Instead of that here project manager acts as a facilitator. So, to the teams, he is a facilitator and a coach and that is his role. So, this agile project management is not just either or, or you require both traditional and agile project management at the same time. In the sense when the unstability scope is evolving and is not stable. So, you are doing these iteration processes, these rolling waves processes to find out the final design.

But when it is done, the other phases like your execution, then your delivery, closing, then your planning, execution and closing out, those phases are done in traditional way. So, these are the difference between the traditional project management and agile project management. So, we move from here. Then what are the current drivers of project management? What are the factors that lead to the increased use of project management in today's business world? So, these factors we will be discussing. First is the compression of project life cycle.

You know, 20, 30 years back, every product you know, its product life cycle was much longer. Any product used to live for say 10 years or 5 years or this thing. But nowadays what happens with these competitions and the customer satisfaction competitions, the product life cycle has, shrunk, has reduced to considerable extent. If you take the high tech industries or consumer electronics industries, previously, the product life cycle was much higher, but today obsolescence is very fast. So, the need for bringing out the new product is very essential for survival of the companies, of the businesses.

So, this has put the pressure for developing the new products and that follows a project management approach. Take the case of like study says thumb rule says, nowadays for consumer electronics or the software projects or the high tech projects and all, if you are delayed by, to bring your, your product by 6 months, your market revenue, market share reduces by 33 percent. So, no companies will want to lose their market share or the revenue by 33 or 35 percent. So, they bring out a new product, maybe the beta version, maybe product version 1.

1, 1.2, 1.3, that way. So, this has led to the compressions of product life cycle, which is one of the drivers for the growth of project management. The next is the knowledge explosion. You will find that in every spares of today's business, there is a growth of knowledge, in everything, like say maybe the electronics, artificial intelligence, big data, machine learning or the microchips, RFID. So, this knowledge explosion has come.

So, it has created an atmosphere, the product should also incorporate those in enhanced knowledges. So, take the case of say 20, 30 years back, making a road, was a simple

thing. There were not that stringent rules, complexities, but today to make a road, there are so many things you have to comply and the rules you have to follow. It must have a specification - a rigid specification, you have to follow that. Building codes you have to follow, aesthetics of the road, then the pollution should not be there, use of equipments, use of materials, everything is specified, you have to follow that.

These are the knowledge explosions. And also if you find, every electronic products and all or many other products, nowadays got a microchip because these are available. So, microchips are embedded, this is due to the knowledge explosions. So, it has increased the growth of the project management. Then there are triple bottom line.

What is triple bottom line? Previously the business was mostly for profit maximization, that is your economic profitability you look at, but today the business has to follow triple bottom line like environment, then the economics, then the social things, the society. That is also called planet, people and profit. Planet is your environment, you have to look at it, you have to reduce the carbon footprint, you have to reduce the pollution part of it, then it is for the people, you have to look for the society, societal requirements and of course, there is economic point of view, that is profit maximization. So, this triple bottom line will give you the sustainability of the project. So, this has also triggered the drivers for project management.

Then corporate downsizing, what is corporate downsizing? You know in 1960s, 70s and all, in the corporate world, the diversification was the mode for growth of the businesses. Every company used to have different drivers fields and all, you know, shipping or electronics or the automobile or the breweries, everything, they used to go in the diversification, but of late for last one or two decades. What happens? It is the consolidation, it is the core competence, companies are going for the core competence. So, what happens? The middle management, previous middle management which used to look after many jobs and all, those things are getting downsized and who is doing those, those middle management job? It is done by the project management office. A project management office manned by 4-5 people can look after those hundreds of projects or 5-6 dozens of projects.

So, this corporate downsizing also has led to the growth of the project management. Then increased customer focus, like nowadays, you know, the generic products are not preferred, customers do not want that generic product, they want the specific requirements of the product. So, in order to have the customer satisfaction, many companies has come, the market has been fragmented and everyone wants some niche markets, therefore, their customers and all. So, this increased customer focus, suppose, you know, few decades back, 10-15 years back, if you wanted to buy a golf club, then

what? Your choices were limited, you go to the sports shop, pick up a golf club, according to your height or the cost and all, that is all. But nowadays you will get golf club for a, for a tall player, for a short player, for a player who tends to hook the ball, for a player who tends to slice the ball, then the, those who want the advanced metallurgical, the advancement in the golf club and so, all these options are available now.

So, it has also increased the customer focus and that led to the drivers for project management. The lastly is the small projects represent big problems, like if you go for the big companies, you will find there are thousands of projects going at any point of time. Say for example, for Apple, Google, Sony or the General Electric or any other big companies like ONGC, Oil India, BHEL, there are thousands of projects, but the top management cannot look at all these projects. They go for a critical or the high value projects and all, few dozens project they can look after, but there are many small projects, and those are the hidden costs, you know, those project lacks the attentions for monitoring and because people perceive it as not important and inefficient and all this way, but small projects, hundreds of small projects, when they group together, what happened? That blocks millions of dollars and also the customers, the projects are for the customer, those customers lose their confidence and that is shown in the culture of the organization. So, it is not a good thing.

So, the small projects should have a different portfolio, small project portfolio or directorate, so that these are also looked at, because that will improve the savings of millions of dollar, that will improve the efficiency of executing the project, that will also improve the customer's confidence. So, these are the current drivers of project management. So, next we will discuss about the technical and socio-cultural dimensions of project management process. In project management, the project managers, have basically two roles, major two jobs to do. One is the, technical job, you know, technical jobs are what, those are logical, that follows scientific set of mind and scientific reasoning and also engineering in nature.

So, these are called the technical dimensions of the project management process, like developing the scope of the work, that has to be measurable, specific, tangible. Then developing the work breakdown structure, the project has to be broken down to its elemental breakdown. So, those are the activities, those activities are linked with different management levels. So, then you have to do the scheduling of the project, like the time, durations for each stages, each activities, then resource allocations for the project. What is this resource allocation? Resource allocation is, you have to, have to put your manpower, your experts, your equipment, your materials, these are the resource allocation, because any project will require your, all those resources, that and resources are scared.

So, these you have to optimize and allocate in an optimal manner. Then you have to develop a baseline budgets, the budgets must have a time phase and a baseline. Against that baseline you compare whether your project is going as per your plan or not. Then you have to develop status reports, the how the project is progressing. So, these are the technical dimensions of a project and mostly the project managers are obsessed with this, because, because they mostly these are done nowadays in the project management software's and all.

They, so, so this is one part is the technical dimensions of project management process. But the another dimension is the socio-cultural dimension. This is somewhat murky or it is a, it is not as defined as technical. Technical things are more scientific reasoning part, but for the socio-cultural you have to do the negotiation part, you have to interact or interface with different groups. The project manager has to lead the team.

So, leadership requires handling of human beings, handling of people, of handling of different group of people like and projects is always a demanding task and it has a problem you have to, the project managers has to be a good problem solver. So, and he has to do the teamwork like he has to make a cohesive group of his own project team who will be doing it and he has to negotiate with different stakeholders like project manager has to negotiate, he is the interface of your customer negotiations, what will be how the project is evolving that negotiation, the specifications. Then he has to negotiate with his peers, other functional managers to get their support for the resources to get their resources from say engineering resources, logistic resources, finance resources. So, he have to keep them with interact with them, then you have to keep the top management in good humor to get their support. Then there are always organization politics because resources are scarce.

So, there are always fighting among different project manager to get the best resource. So, those organizations politics go on. So, he has to manage those politics and these politics are not only good for the project but also required for your organizational growth, also, these politics are not for the dysfunctional, but for the making it functional. And there are customer expectations. These are all the man management things, these are the political things.

So, these are the socio-cultural. So, a good project manager must balance between the technical and the socio-cultural aspect. If the technical aspects is called science of project management, then the socio-cultural aspect is called the art of project management, it requires the skill of leaderships. So, these are the two sides technical and socio-cultural dimensions of project management process. A project manager must be

adept in both. Next, this is the stakeholders control over project manage or over project parameters.

What is the relationship between project parameters? What you need? You need resources for completing your project, then the cost that is the budget and the time that is your schedule and at the center, there are project scope and quality. This is your specifications of the project and all these are important parameters for a project. Now, how to manage it? Like can you tell now, this is the cost, this is the resource level. Who is responsible for this? These are given by management, management allocates the resources because there are hundreds or thousands of project go in a multi project environment. So, management has the resources and those are scarce.

So, management allocates the resources and also the budget for the project that is the cost. This is done by the management. Then resource level and schedule, who does this one? Resource level and schedule is done by the project manager. Project managers when they get the resource, he has to plan the time schedule. Then who does this scope quality and delivery date? Who determines this? This is determined by your clients, your customers.

They give, what should be the scope, what should be the quality, that is specification and what should be your delivery date. So, these are the stakeholders positions for the resource management. So, I will write this, this is done by management or allocated by management. This resource part is by the project manager. He determines it and scope quality delivery is given by the client or customer.

Now this is the last slide, these are the factors constraining the project success. In other words you can say these are the factors if you emphasize on it, if you do a good things then your project will be a successful project. Like first you need a project to have a good and sound scope that is the deliverables and the specifications and all are very specifically given. Then the quality, quality in fact is the specification given by the client that you have to abide by. Then schedule a project duration schedule - what should be the different deliverables that will be given or will be completed within which time line.

So, you make a schedule and then the budget, you have to make a very very accurate budget, cost estimates. So, within the budget you have to complete it, then resource requirement like your equipment requirement, your material requirement, your manpower requirement, experts requirement this you have to estimate. And the risk analysis - when you are doing a project first thing you must do a risk analysis. You identify the risk and try to mitigate those risks. Then the customer satisfaction, customer satisfaction is like you have to be the customer's expectation is something, but you have

and the when he gets the project the delivery then his perceived expectation may be something else.

So, you have to close the gap between the expectation of the customer and perceived perceived value or the expectation he has got. So, all these things are the important dimensions for success of the project and all these we will be covering it in different chapters in this course. We have a chapter for each of these constraining factors. So, you will be learning it in the future future chapters of the modules. To sum up today's this lecture we can conclude that that further to previous lecture that is the lecture 1 in this class discusses the difference between traditional and agile project management.

We have seen that agile project management employs an incremental iterative process which is referred to as rolling waves. Then instead of trying to plan for everything upfront, the scope of project evolves because in agile project management the scope of the work is not fixed upfront. Then agile methods are used upfront in defining phase to establish specifications and requirements. The traditional methods are used to plan execute and close the project.

This we have discussed. Then we have further discussed what are the current drivers of project management. Then we have also elucidated the socio technical approach of project management and also the stakeholders control of project parameters and factors constraining those project success. This is the sum up of the lecture 2. So, the references you can go through. These are the books we have also shown it in the first lecture, these are the references books you can go through.

And finally, thank you very much for attending this class.