

**Course Name -Project Management: Planning, Execution, Evaluation and Control**

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**Lecture - 27**

Welcome to the course Project Management Planning, Information, Evaluation and Control. I am Professor Sanjeev Choudhury from Indian Institute of Technology, Kharagpur. Today we will start a new module, it is module 10 that deals with Project Progress and Performance Measurement. In this lecture we will be covering project monitoring and control process, its overview. The concepts that will be covered in this lecture are project monitoring information system and project control process. And the rest of the topics of this chapter we will be covering in the subsequent lectures.

Now to start with the for-project progress evolution and measurement, you must have a project management information system. So, how does the project management information system look like? This schematic diagram will show you that what are the steps to be taken for making an information system. Say to start with every project must have a project scope of work, with that scope of work it comes it is listed the deliverables are listed. The deliverables you have to do work breakdown structure for each deliverable and it will come to the lowest level as the work packages.

Now we have to create a database for these work packages. These work packages are captured in this database and what are the what are the basic contents of this work package, it contains the durations of the activities, then the resource required for the activities or allocated for the activities such as labor, materials, then equipment and other support efforts what you put in. Then the cost allocated to it say budgets, then the responsibility assigned who will do this work package either individual or in department or the group and the performance standard. And this database also is integrated with the organization breakdown structure that way you can fix the responsibilities with certain group, department and the individual as well as the costs and all can be integrated. Then while you are having it next step, what do you create a plan and the project schedule and a baseline.

What is this baseline? Baseline is the standard or the datum line against which you will be monitoring your progresses of the future work. So, you for this then that control system that what you control you control the time, cost and specifications by the

deliverable wise and for the organizations also as a whole. So, this is the in essence and the nutshell the project management information systems overview. Then creating a project monitoring systems involves what? Project monitoring systems require the require what? Collection of data and thereafter analysis of that data. So, what data are to be collected and who are the generally in a project the data that are collected at the project progresses how it is going on.

So, what are the progress data we collect? We collect the project schedule and project cost whether it is going yours as per planned or not. So, you check whether it is overruns that cost is over running or the time is behind the schedule or ahead of schedule or under cost all you check it that collect the data and find out the causes of the overrun and based on this what you do you we make the forecast forecasting for the completion of the project, forecasting for the cost required, forecasting of the resource required all this we can do it and we can take the corrective course if it required that is the interventions we have to do. So, this is the one of the roles called data collections and analysis. Then what you do with this analysis and this data collection you create reports and reports for whom? Reports may be for the different stakeholders and different stakeholders have different requirements. So, you disseminate the information as per the stakeholders requirement and say your senior management or sponsor their requirement will be very high-level requirement they will be interested in when the project is completing like whether the project is on time or project is behind schedule or ahead of schedule and project is over budget or under budget and whether any corrective actions has been taken or not.

But if you give the more and more details to them they may not be interested whereas, customers may or the clients may be needing more detailed information then the functional managers may require their part of functional their part of functional information. So, different stakeholders have different need accordingly you have to disseminate the information in the form of report. Then what are the information generally in a project generally disseminated or report contains. So, it is the current status of the project say schedule, cost, scope the current status then cumulative trends that how the status that time when it will be finished or the cost cumulative when it is going resource requirement cumulative that trends you can you can draw then problems and issues that can be identified from this report. Then actions and resolution of earlier problems that will also be part of the report and new variances you find out the difference between the targeted plan minus the actual and problems and take corrective actions.

Though these are the contents of the project reports of two different stakeholders as per their need. Then project control this you are familiar with how does this control that schematically it is like that, but project plan and objectives you prepare then you set a

baseline. The baseline is your datum line you're against which you monitor your progresses progresses. So, then you measure actual progress and performance then compare plan versus actual that is the variance analysis we have to do and if any the discrepancies are there you take a corrective action this is the control loop of project control process. Next, we will be talking about what is the purposes of a baseline as we told we have talked about in the last lecture what is the purpose of baseline it is we have we will reiterate it again it is an anchor point for measuring your progress.

So, how do you measure your performance in your cash flow award cash flow then based on these you make the payments to the contractor the contractors have to be paid periodically. So, those are the whether they have reached those milestones or the mutually agreed progress level based on that your payment is released. Then what costs are included in baseline? Baseline costs are generally the direct costs are reflected in the baseline. Direct cost like your labour your material your equipment and subcontractor. So, these are the direct costs which can be attributed to the work package that is the baseline cost no overhead cost.

overhead cost is the indirect cost that is not part of the baseline that is added later by the accounting process certain percentage of direct cost is attributed to that. So, next is the what are the tools for project control process we have in the any software and all you will find those tracking Gantt chart baseline Gantt chart control chart these are some of the tools for tracking or monitoring your project progress. So, here you can see it that baseline tracking and Gantt chart. this is a baseline Gantt chart. So, these are shown as the baseline duration of the activities.

Now tracking the Gantt chart shows the status, status is like that this is the baseline standard then this blue is the actual completed you see this is actual completed is showing in this and the remaining dura remaining durations are shown is shown in this ok this is the remaining these are the just some illustrative baseline Gantt chart you can find it any project management software this is from the Microsoft MS project. Then to conclude what we have discussed so far is these model deals with the project progress measurement and performance evolution to start with it discusses the structure needed for project monitoring information system and emphasizes the creation of project monitoring system. That inter-alia would contain project progress report format project control process and different types of performance analysis including development of an integrated cost schedule system. It also explains the purpose of creating baseline and various tools available for controlling the project. So, they here are some of the reference books you can you can go through and enhance your knowledge further on this this topic.

Thank you very much for attending today's lecture.