**Project Management for Managers**
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Lecture - 02
Project Success

Hi. Welcome you all in second session of this course. In this session we will be discussing about: what are the different success criteria of a project, what are different success criteria of an IT project, and we will also see what is capability maturity model in this session.
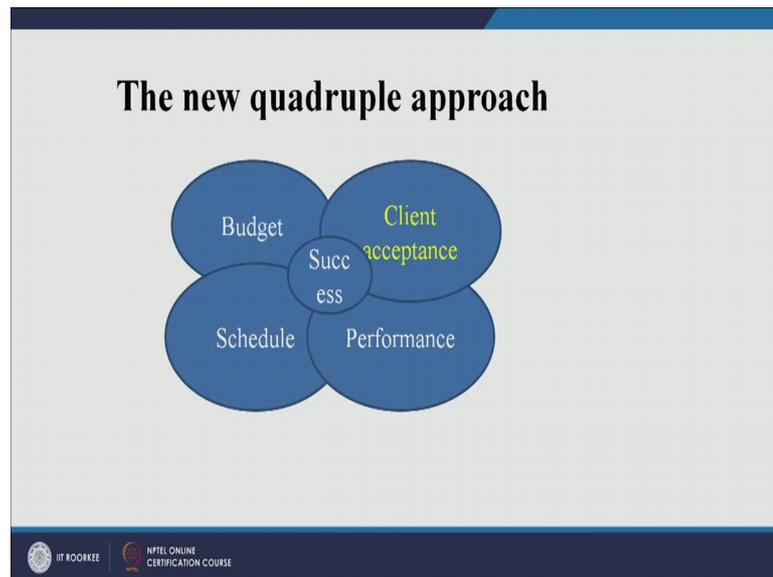
Now how would you say that a project is successful, I will give you just 15 seconds to answer this question. When will you say that a project is a successful one? So, let us see what a project should accomplish so that we can call it a successful project. There is something called iron triangle approach. We will say that a project is successful if we complete it within given time, if we complete it within given cost, and the project is performing for which it was developed.

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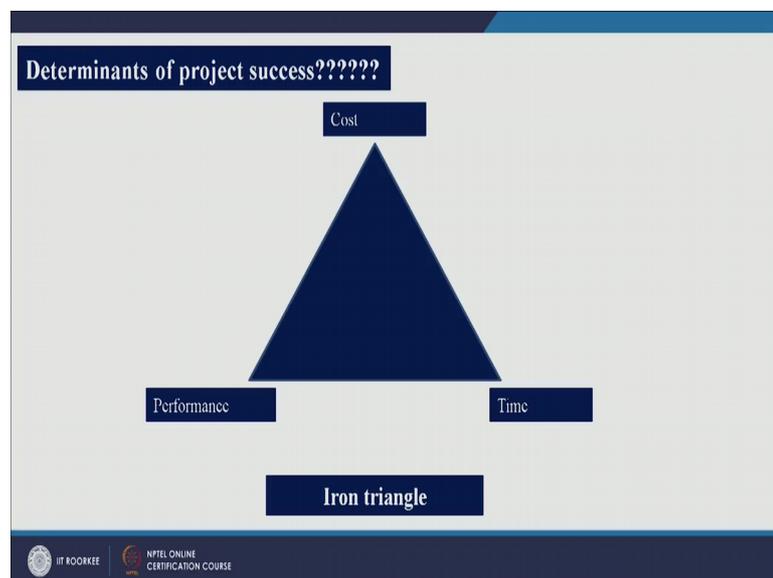
So, there are three criteria on which we should evaluate a project: time, cost, and performance. But there are several people who think that these three criteria are not sufficient enough to define successful project. So, they have done this. There were added one more criterion which is client acceptance.

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So, apart from time, cost and performance the project should be accepted by client as well. Then only will say that a project is successful. I will give you an example. Let us say if you are taking up an R and D project. And if you finished it in time within caused and it is performing also, but client is not ready to accept it because of some of the other reason than it will not be a successful project. And as I said there might be several reasons why a client is not accepting that project.

Let us look at couple of objectives of project management, our determinants of project success.

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Whenever you go for a project you should look at its scope very carefully. Its scope is nothing but the boundaries within which you are going to perform. For example, in cricket match you have got a boundary. So, that is scope of the project. Similarly in other sports also you have got certain boundaries, certain limitations within which you have to work.

Let say if you are doing a project on people who live in slums. So, whenever you go for studying this kind of project you should know a priori what you are going to do. For example: are you going to know about number of family members, is one of the family members working somewhere in government organization or private organization, do they have television, what is the area of the house in which they are living. And several other things you should know a priori before starting project. And this is known as scope of the project. Because when you increase the scope of the project your cost will increase, you are time will increase, and performance will also be something different.

So as I said you can have performance and performance can be of different types: you can have technical performance, you can have marketing performance, you can have financial performance and so on. Of course, time is an important criterion. So, you need to complete project in time. As I said the cost or budget of a project is a function of its scope, its time and its performance. So, if you want a better performing product or a

project then its cost would definitely be more than the previous cost: and finally, client acceptance.

So, we have seen four success criteria of a project, but do you think that those four criteria would remain same when you talk about success of an IT project. You can always say that- yes, those four criteria should be there, but you can add some more criteria to it. For example, you can just think for 5 minutes if not for 5 minutes you just think for 5 seconds. So, apart from time, cost, performance and client acceptance what do you think and IT project should have so that we can call it successful project. Let us look at this.

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So, we need to have system quality, it should be easy to use. If I am going up let us say for MIS project. So at the end of the day it should be easy to use for me. So, system quality should be there, information quality should also be there, because MIS project would be giving me certain outputs at the end of the day. So, whether those output or actionable? If yes, then will say the project is having information quality. It should be useful for the organization at the end of the day. So, it should solve problems, it should add to your decision making process.

User satisfaction: because let say once again I will take the example of MIS project. So, those people who are using MIS project it should fulfill their expectations and the team members should feel satisfied after using that MIS project. Of course, individual impact should be there, because your decision making would be faster and it would be more

accurate. And at the end of the day the project should impact your organization positively.

So, these are couple of other things which you can add to the list of successful criteria apart from those criteria which we have seen when we talk about IT project.

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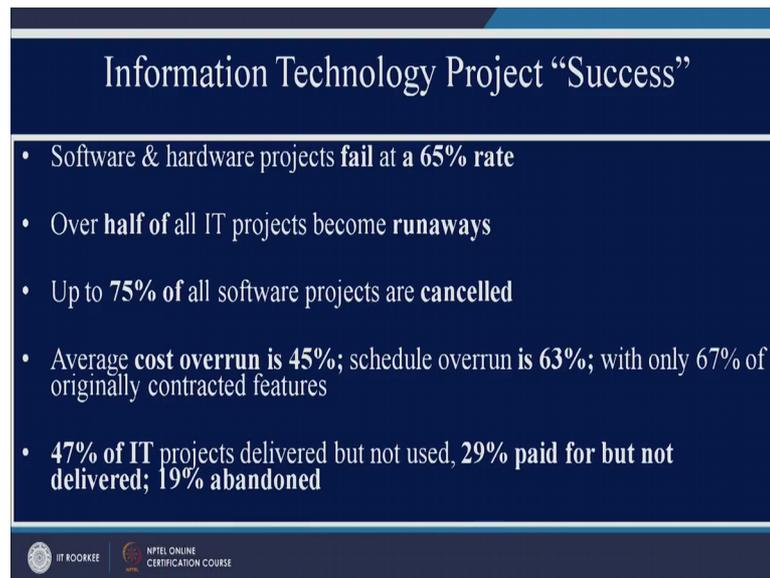
There are couple of research in which people have said that software and hardware projects fail at 65 percent rate. Over half of all IT projects become runaways, you do not complete them in time. Up to 75 percent of all software projects are cancelled, due to some of the other reasons. Average cost overrun is 45 percent, schedule overrun is 63 percent with only 67 percent of originally contacted features. 47 percent of IT projects delivered but not used, and 29 percent paid for but not delivered, 19 percent abandoned.

So, these are couple of statistics related to failure of IT projects. And as I said the reasons could be several. So, let us look at four dimensions of project success.

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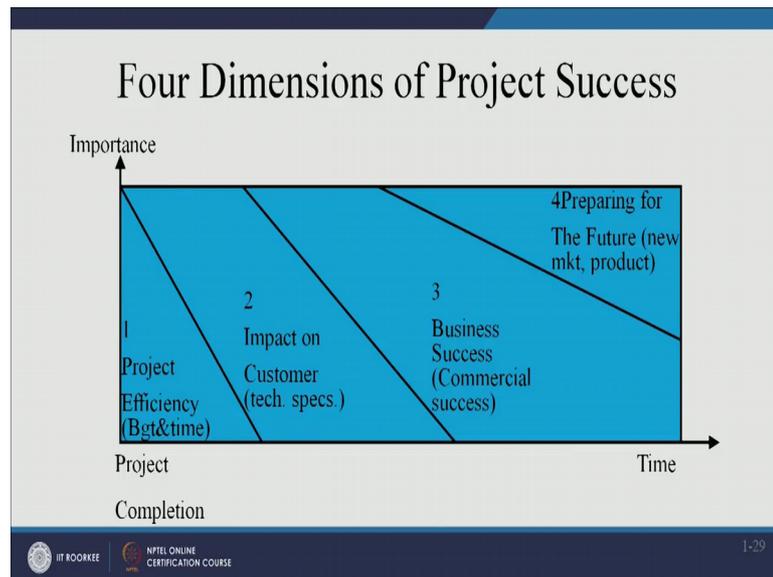
So, you have got time and budget criteria, you also have performance criterion. The second one is impact on customer this nothing but performance criteria. The third one is business success. And the fourth one is preparing for the future. Because whenever you take up a project it should help you in future, it is not only it should be useful in current times, but it should also be useful in future as well.

We want organizations should be benefited from project.

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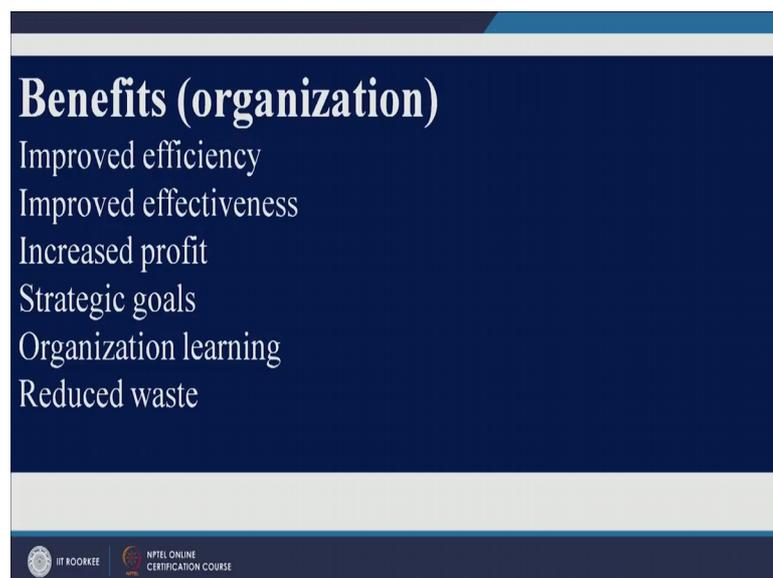
And these are couple of benefits and organization can get from projects. So, you have got improved efficiency and improved effectiveness the major difference between efficiency and effectiveness is that a efficiency deals with means of doing work, while effectiveness deals with whether you are doing right work or not. Effectiveness is always focused on end results, while efficiencies deal with how you are doing things at a particular point of time.

So, you have got increased profit, of course profit should increase, the project should help in achieving strategic goals. At the end of the day from every project you learn something. You should record those learning's and you should not repeat if mistakes committed by you in a project in future. And of course, one of the benefits is reduced waste.

Now there are several stakeholders in a project.

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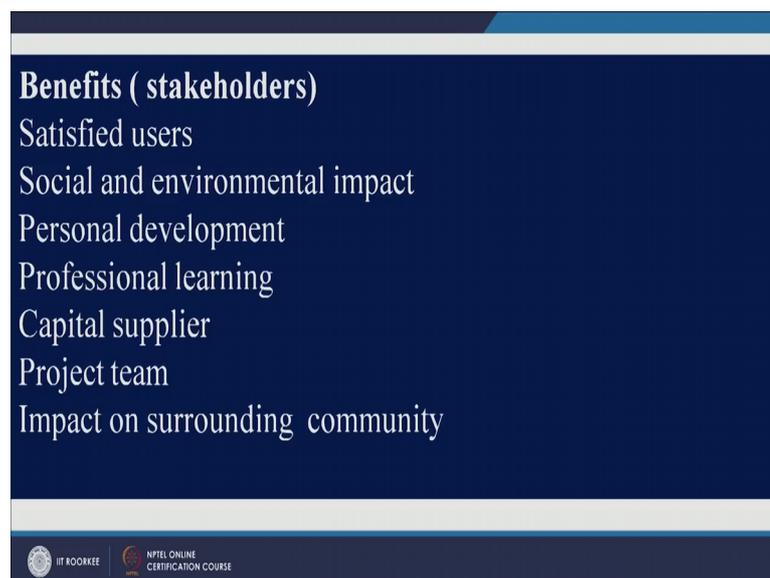
So, these are couple of benefits for stakeholders. At the end of the day you have got satisfied users. Social and environmental impact: whenever you take up a project you should see how it is affecting your society and environment at large. And will see some other points also how you should select a project. Personal development, professional learning, capital supplier, because for doing a project you need funds and capital supplier is one of the stakeholders.

So, how you are meeting the expectations of capital supplier and how that project is impacting surrounding community. Because whenever you do something in a project it will positively or negatively affect some of the other stakeholders.

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Understanding success criteria			
Iron triangle	Information system	Benefits (organization)	Benefits (stakeholders)
Cost	Maintainability	Improved efficiency	Satisfied users
Quality	Reliability	Improved effectiveness	Social and environmental impact
Time	Validity	Increased profit	Personal development
	Information Quality	Strategic goals	Professional learning
	Use	Organization learning	Capital supplier
		Reduced waste	Project team
			Impact on surrounding community

So, understanding success criteria you have for iron triangle, you have got information system, you have got benefit to the organization and benefit to stakeholders. So, in short will say that these are differences success criteria, namely; once again iron triangle, information system, benefits to organization, and benefits to stakeholders.

Now, let us look at something called CMM model is called Capability Maturity Model. Those who are working in IT and software related forms they would be knowing about CMM model, but there are several people who really do not know what is CMM. So, CMM is nothing but capability maturity model. We will see this in detail.

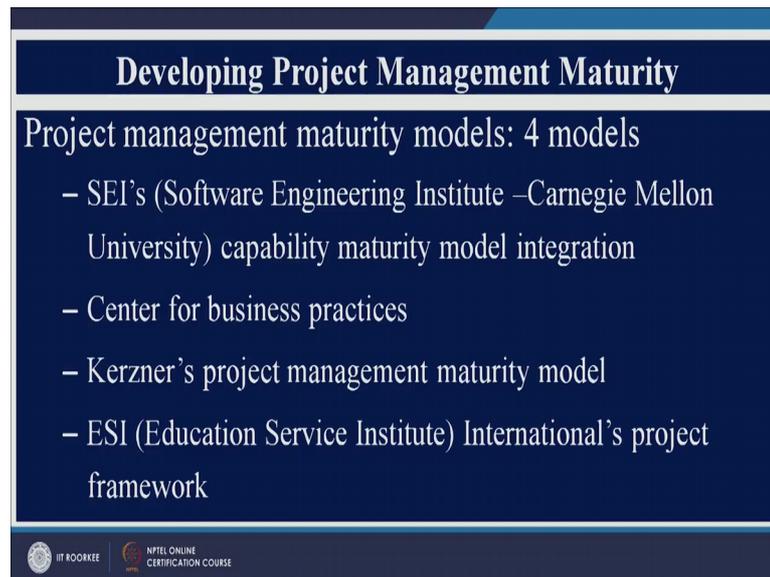(Refer Slide Time: 13:58)
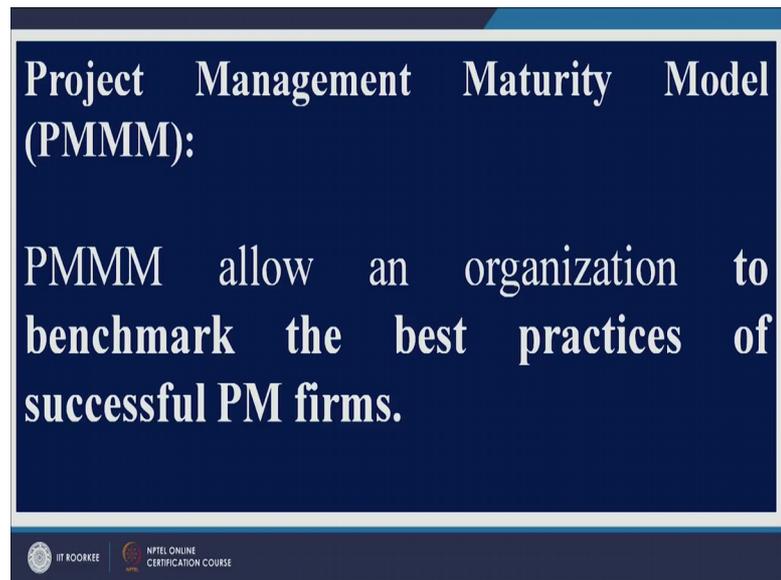
So, what is capability maturity model or project management maturity model? It allows an organization to benchmark its best practices of the successful project management firms. Will give an example: let say in your organization you are doing several activities; for example let say procurement, let say equality control, let say manufacturing and there would be several competitors of yours. So, you select the industry leader in your area and compare your processes with the industrial.

So, your industry leader will also be having procurement processes, you are also having procurement process, so compare them and then try to move towards the procurement process of your competitor. This is in short capability maturity model.

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If you look at how to develop project management maturity model there are basically four models. The first is developed by Carnegie Mellon University- Software Engineering Institute of that university, you have got Centre for Business Practices- the second model, then you have got Kerzner's project management maturity model, and then you have got Education Service Institution International project framework.

So, these are four basic models as far as capability maturity models are concerned. Let us look at one-by-one, will not go in detail, but I will tell you what is there in Software Engineering Institute- Carnegie Mellon University CMM model. Before I go for those models let us look at some other things related to project management maturity model.

So, what you doing in project management maturity model you benchmark your practices with the best practices available in your area.

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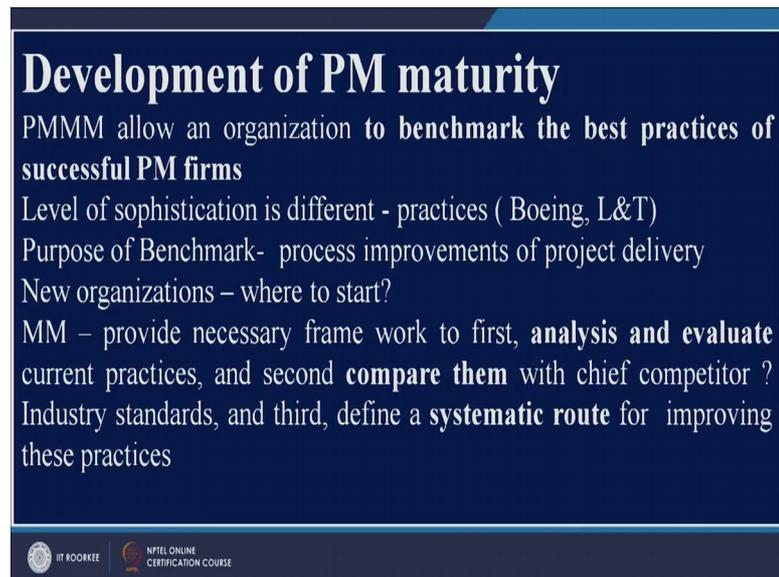
Development of PM maturity

PMMM allow an organization **to benchmark the best practices of successful PM firms**

Level of sophistication is different - practices (Boeing, L&T)

Purpose of Benchmark- process improvements of project delivery

New organizations – where to start?

MM – provide necessary frame work to first, **analysis and evaluate** current practices, and second **compare them** with chief competitor ? Industry standards, and third, define a **systematic route** for improving these practices

And then you move towards those levels. We know that in organizations you will have different level of sophistication as far as processes are concerned. Let us take for example, procurement process. In your organization you might be having a traditional procurement process and with your competitor they might be using some sophisticated procurement method.

So, what you should do? You should try to move towards in that direction. Initially you will have different level of sophistications and we do accept that organizations have you got different sophistication level. So, the purpose of benchmarking is to improve our processers. We benchmark our processes with the industry leader. Many times when you start a new business you really do not know what to do, you do not have a standardized processes in your organization. So, where to start with? So, what you should do? You should look at what are the other competitors doing and benchmark your practices with their practices.

So, maturity model provides necessary framework to first analyze and evaluate current practices, second compare them with the chief competitor industry standards, and the third one is take a systematic route for improving your processes are practices. So, this is development of project management maturity model.

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Maturity model offers a template for defining and then achieving such progressive improvement. Maturity model charts both. Set up standards currently I accepted as well as processes for achieving significant moment towards this benchmark.

Now, let us look at this web diagram through which you would understand in a better way what I am telling.
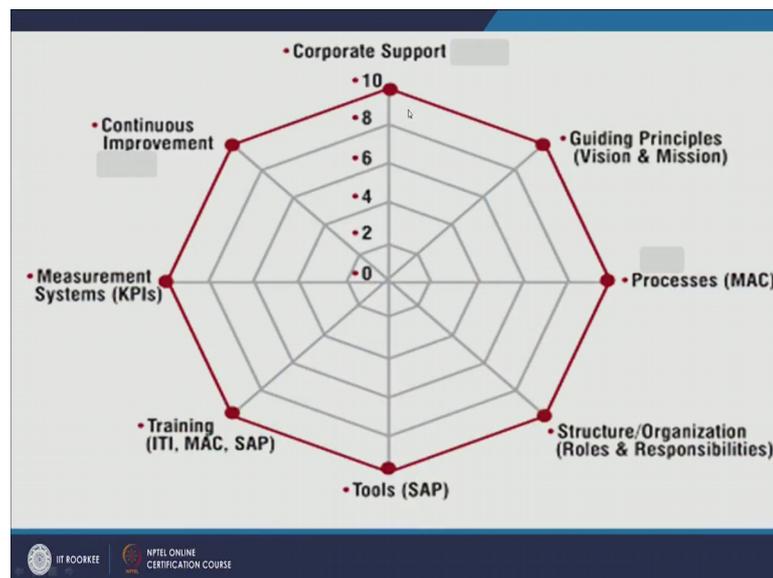
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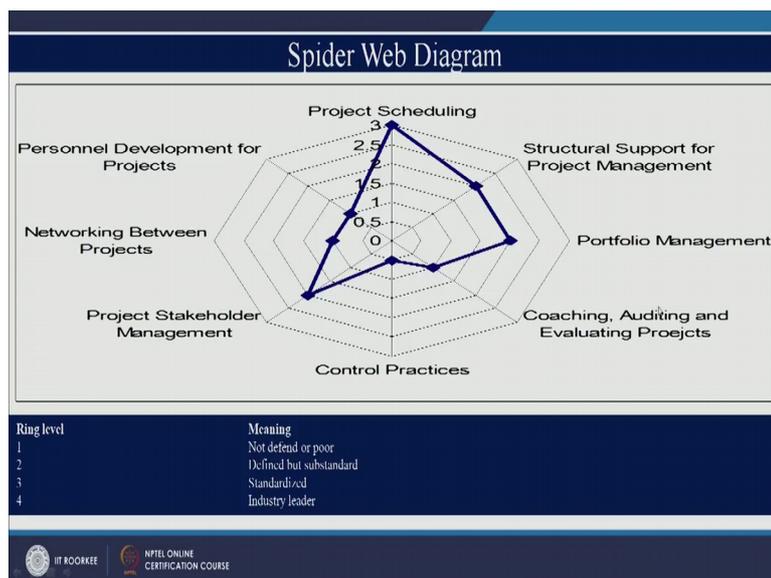
Let us say- in your organization there are several processes; let us say project scheduling, structural support for project management and so on. And your chief competitor has also

got these processes. Now if in your organization let us say you are at this level, when you compare your networking with the competitors networking then this is your position. And let us say your chief competitor is at this level three point. So, you should benchmark your process with chief competitor and you should try to move from one to three. This is CMM capability maturity model.

Similarly, if let say this is your process project scheduling and you are the top leader in this process, you always complete projects in time. And let us say at this point is your competitor. So, he should benchmark his processes with your process of project scheduling. And let him achieve the level of his project scheduling process to this level. So, this is nothing but a process of first of all identifying your practices, benchmark them with the practices of industry leader and then systematically move towards that direction.

This is another example, so you can have different processes.

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For example, you can have corporate support, you can have training, you can have several KPIs and so on. So, you can have benchmarking of your processes with the industry leader.

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A Comparison of Project Maturity Models and Incremental Stages

Center for Business Practices

Level 1: Initial Process	Level 2: Structure, Process, and Standards	Level 3: Institutionalized Project Management	Level 4: Managed	Level 5: Optimizing
• Ad hoc process • Management awareness	• Basic processes, not standard on all projects • Management supports use • Estimates, schedules based on expert knowledge	• All project processes are repeatable • Estimates, schedules based on industry standards	• Project management practices integrated with corporate processes • Solid analysis of project performance • Estimates, schedules based on corporate specifics	• Processes to measure project efficiency • Processes in place to improve project performance • Company focuses on continuous improvement

Kerzner's Project Management Maturity Model

Level 1: Common Language	Level 2: Common Processes	Level 3: Singular Methodology	Level 4: Benchmarking	Level 5: Continuous Improvement
• Sporadic use of project management • Small pockets of interest in the firm • No investment in PM training	• Tangible benefits made apparent • PM support throughout the firm • Development of a PM curriculum	• Integrated processes • Cultural and management support • Financial benefit from PM training	• Analysis and evaluation of practices • Project office established	• Lessons learned, files created • Knowledge transfer between teams • Mentorship program

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Let us talk about those maturity models. The first one is centre for business practices. So, this is got five levels. In the first level in almost all the models; in the first level you have got Ad Hoc processes you do not know much initially about processes of the organization, slowly and slowly you will understand about rules and regulations, you will understand about roles and responsibilities, you will understand about decision making process and towards and you will always have something call optimization. So now, here everything is well established, well defined. And from here onwards you should try to continuously improve.

So, if you look at this model the first level is initial processes and the fifth one is fifth level is optimization. Similarly in Kerzner's project management maturity model, you have got level one and you have got fifth level which is continuous improvement. So, in between you can have different levels; for example, common processers, singular, methodology, benchmarking.

And after continuous improvement what should be the next level, you just continuously improve. In fact, here you have achieved optimization and after that you need to continuously improve its called (Refer Time: 24:06).

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Then you get ESIs International's Project Work. As I said in this model also initially you have got Ad Hoc processes. And finally, you have got optimization. And in between again there are three levels.
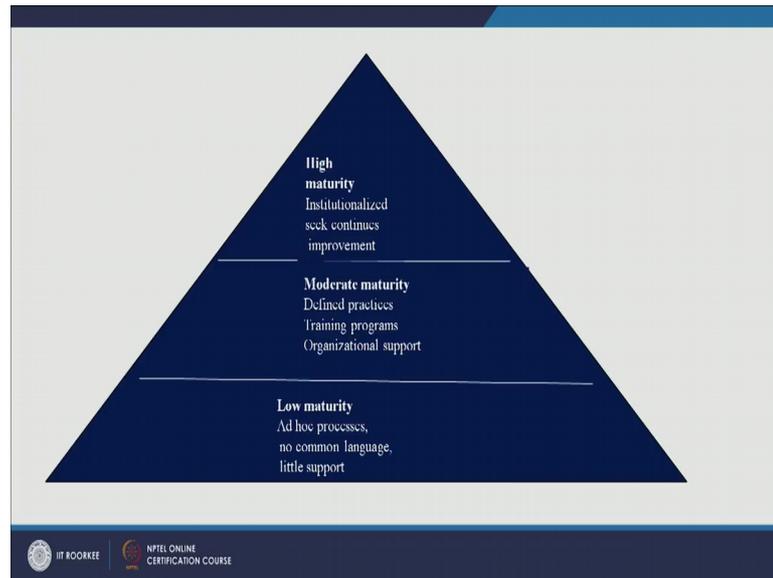
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If you look at the Carnegie Mellon's model here also you have got initial processes, Ad Hoc processes and optimization.

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So, there are almost five levels in each of these models, but at the end of the day you can say that this is a standardized CMM model. So, what you are having? You get low maturity in the beginning in an organization, you will not have common languages, you will have very little support from your team members. Over a period of time things would start improving. So, you will have moderate maturity. Things would start settling down; there would be different training programs, you would have support from your team members, you will have some define practices. And at the third level you have got high maturity.

So, in this diagram there are only three levels: low maturity, moderate maturity, and high maturity. You can have five levels also. Now these are the ten knowledge areas which I have been talking about, one should study project management on these ten areas.

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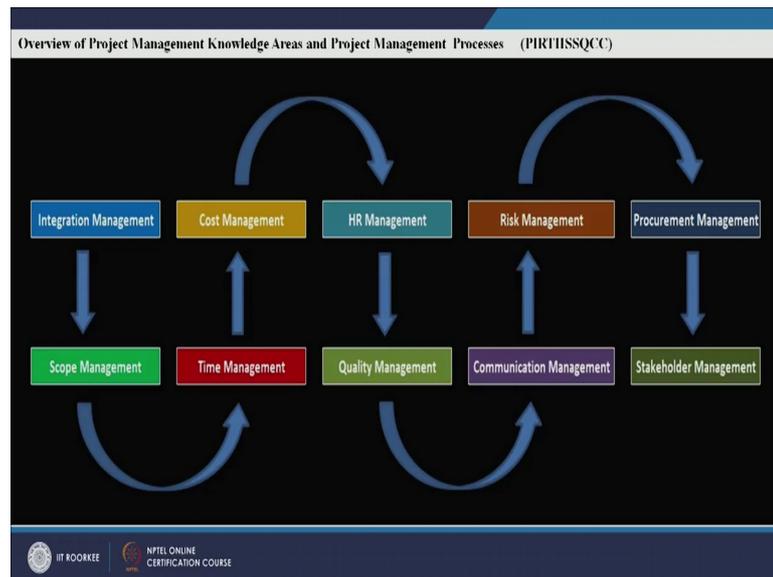
And these ten areas are: you have got project integration management, project cost management, project human resource management, risk management, you have got procurement management- how do you purchase raw materials, semi finished goods and so on. Scope management- very important knowledge area, because if you do not define scope properly then your cost would be very high so could time management. One of the important knowledge areas time management; in fact, you would have those who are civil engineers they would have definitely study pert and CPM. So, this is that point you have got quality management, you have got communication management, and you have got stakeholder management.

We will see these things in detail in coming lectures. Just to remember you can call these ten area as PIRTHSSQCC- pi r t h s s q c c. These are ten areas PIRTHSSQCC. P is for procurement, I is for integration, R is for risk, T is for time, H is for human resource management, S is for stakeholders management, the second S is for scope management. Q is for quality management, C is for cost, and C is for communication. So, you can easily remember these ten areas by remembering PIRTHSSQCC.

So, apart from those ten years you have got different processes in each area. For example, if you have got integration management.
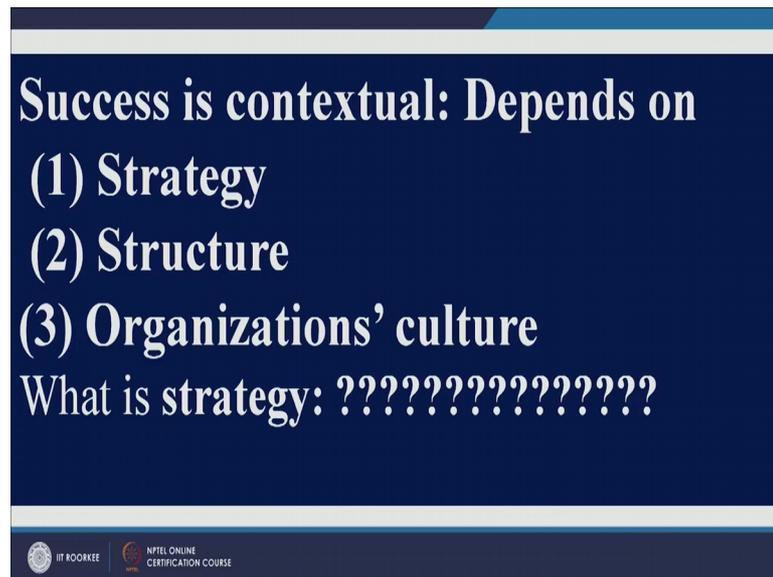
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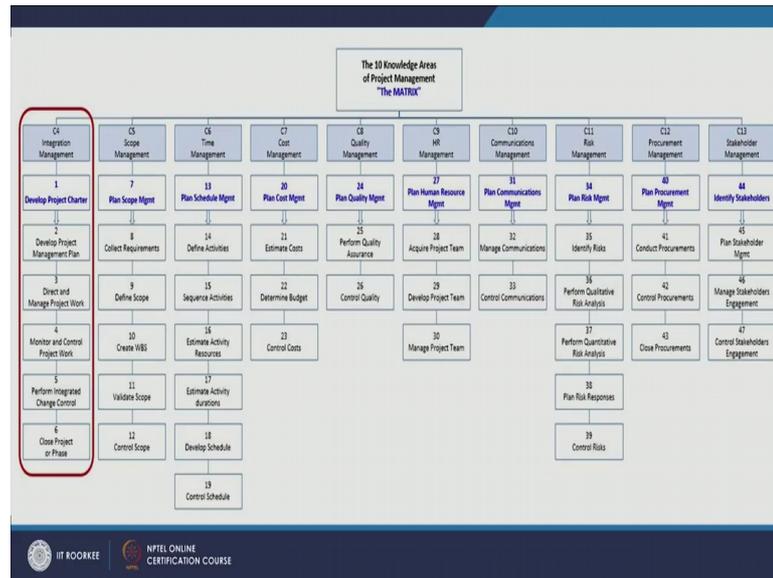
So, any project integration you need to first develop a project charter, develop project management plan, direct and manage project work, monitor and control project work, perform integrated change control, and close project phase. So, these are six processes in integration management area. Similarly you can have different number of process in each of those remaining nine area.

So, we can say that there are total 47 processers. That is what I said in the beginning it is 10 by 47 courses: 10 knowledge areas and 47 processes. So, so far we discussed about project, project management, what are different characteristics of a project, what are different success criteria of a project.

Now let us look at another topic which is on how to get success in a project, because success of a project depends on several things. Broadly we say that success of a project depends on strategy: what is the strategy of the organization, what is the organizational structure, and what is the culture of the organization.

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Apart from these things there are several other things upon which project success depends, but will see only these three.

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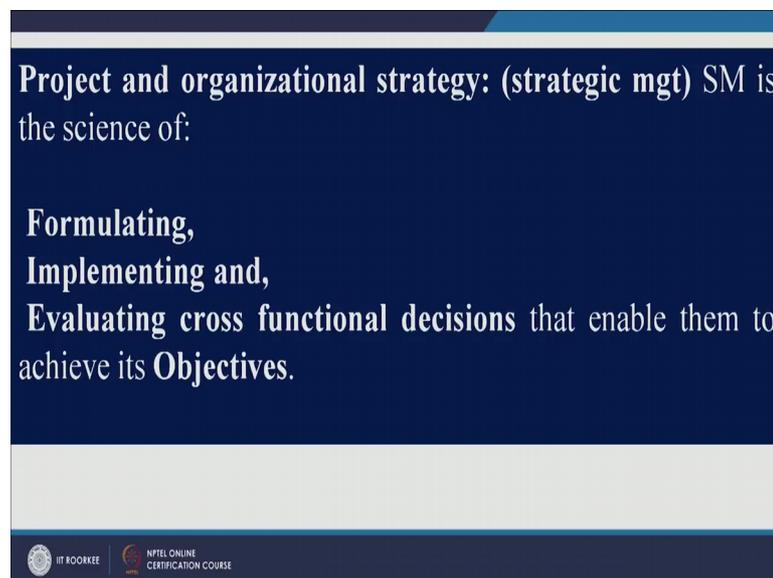
Strategy: what is the strategy? Just try to think over it. What is strategy? Yes you are right; strategies this. Strategy is nothing but science of formulating, implementing and evaluating cross functional decisions that enables an organization to achieve its objective. So, first of all you need to formulate policies, formulate plans by looking at availability of resources, because you will always have constants on resources.

So, we need to formulate it. Once you are done with formulation you need to implement your plans and policies. And for making a strategy you will have to sit together, you will have to have members from cross functional areas of the organizations and then plan your strategy. That is why it is cross functional decision making process. You will have experts from let us say marketing area, finance area, IT, HR, quality manufacturing and so on.

So, the top management of the organization will always prepare strategy. And how good your strategy is it will reflect in your project success as well.

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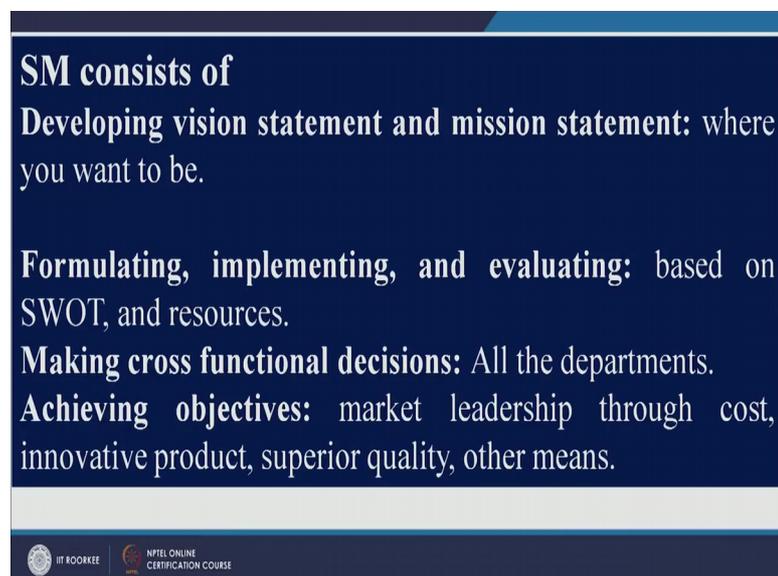
If you look at strategic management, it consists of developing vision statement and mission statement. When I say vision and mission: vision is nothing but what is the basis for existence of your organization that should be your vision- why you are there in business. The very purpose of existence of your organization is should be your vision; why you are there in market place at the end of the day.

So, as I said it is formulating, implementing, and evaluating cross functional decisions based on SWOT analysis and resources. So, you should prepare a strategy based on your strengths, weaknesses, because strengths and weaknesses are internal and opportunities and threats are external. So, you should look at the opportunities available in market and what are the threats available in market. So, look at SWOT analysis very carefully and then come up with strategies.

As I said cross functional decisions you have got experts from different departments and achieving objectives. As I said that nowadays organizations achieve their strategies through projects. In other words projects are building blocks of the organization; whatever organization does it does through projects. So, there is a strong relationship between strategy and project.

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Projects are stepping stones of corporate strategy firms strategic development is driving force behind project development. You can look at couple of examples. Let say if a firm wants to reduce wastages, then what kind of project it should take; it should take up project of let us say how to reduce work in process inventory, how to reduce finished goods inventory, how to reduce let us say manufacturing time in an assembly line and so on. So, these kinds of projects will help in reducing waste.

Let us say if a firm wishing to redevelop products or processor. So, what kind of project it should take? It should take projects related to reengineering. Or let say let us called business process reengineering projects. Let us farm wants to improve cross organizational communication and efficiency. So, what kind of project it should take? It should take project related to IT systems.

Similarly you can have some other examples as well. For example, creation of new strategic alliance is what a firm is looking for. To achieve this firm can take up supply

chain management project. For example, new distribution strategy is what the firm is looking for. So, what would be the possible project for this?

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This supply chain management can be a project for achieving new distribution strategy.

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And there is always a relationship between strategies and projects. So, the top you have got mission of the organization, then you got objectives, you have got several strategies- you can fulfill those strategies through goals, and goals can be achieved through programs, and programs can be achieved through projects. So, there is an indirect

relationship we can say exists between strategy and projects. So, we will take up an example.

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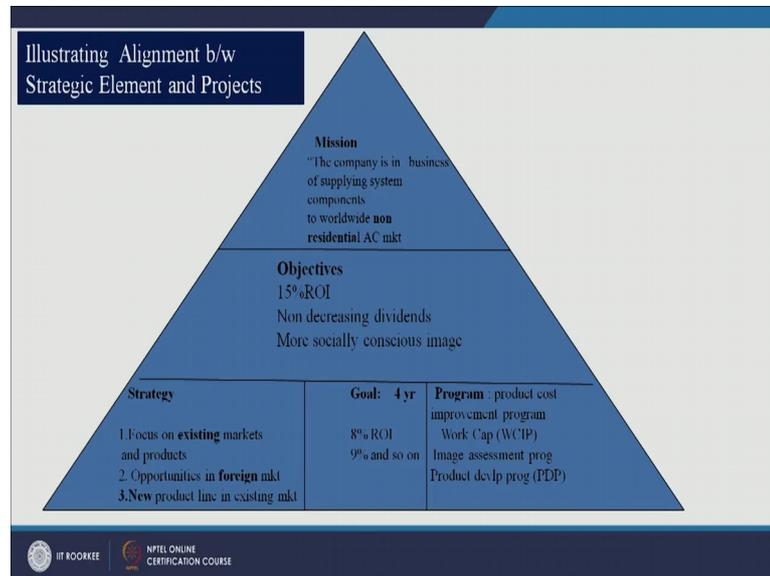
So, let us say mission of an organization is to become number one company in the world in non-residential AC market. So, this is the mission of the organization. And this mission can be achieved through having different objectives.

So, let us say the first objective is 15 percent return on investment is needed. Let the second objective is non decreasing dividends should be paid to this to the stakeholders; to the shareholders. And the third objective could be more socially and conscious image. So, if you set up these three objectives you would be achieving mission. And what is the mission; to become world leader in non-residential AC market.

So, for objectives, you can have these strategies. So, either you focus on existing market or you focus on some new market; let say some international market or you can come up with a new product line in existing market. And you can do several other things as well. So, these are your strategies.

Now when you got these strategies you can have goals also. So, let say for achieving 15 percent return on investment first of all in first 4 years you want 8 percent return on investment. Later on you can increase return on investment to 9 percent and so on. Now this can be achieved through different programs. So, let say you can have a product cost

improvement program, our working capital improvement program. You can have image assessment program, product development program.

So, through these programs; now in this program you can have different projects. And through those projects you can achieve your strategies. So, this is an example of alignment between strategic element and projects.

So, let me conclude what we have done in second session. We have seen several success criteria; the most important one is iron triangle. So, for a project to be a successful it should complete, it should be completed in time, it should be completed within budget, and it should deliver the desired performance.

And we have also seen several other criteria namely; we have seen Quadrupolar approach, we have also seen what benefits should a project bring to the organization and to several stakeholders. And so for as same model is concerned we have seen there are different same models available and in capability maturity model initially we have processes which are very Ad Hoc and towards and we have got optimized processes.

Thank you very much.