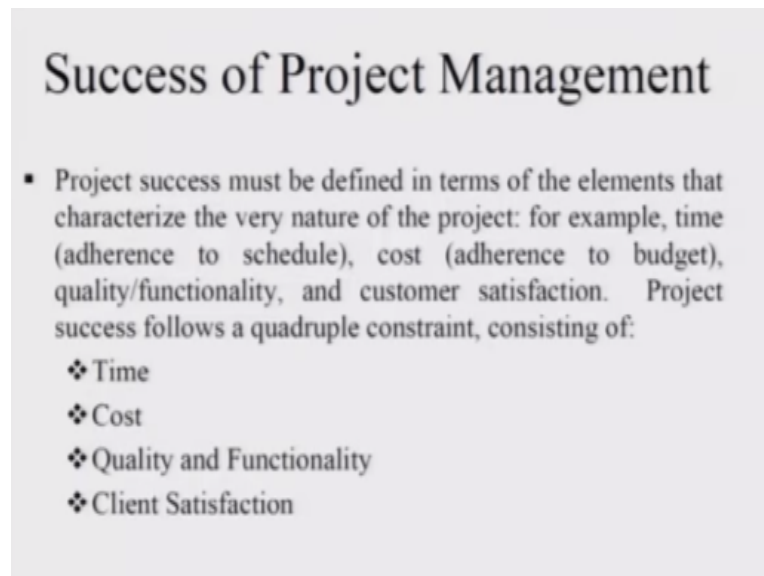**Project Management**
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Module No # 1
Lecture No # 03
Project Management Process for a Project – I

Welcome back welcome to all my students so this is the third lecture in the twenty hours session for project management and am sure you know my name is I am Raghunandan Sengupta from IME department IIT Kanpur. So you are discussing very briefly the concept of agile project management and its features and how it in very holistic sense considers all the concept of cost, productivity, the concept of budget functionality in one go it is totally different from the concept of PERT and CPM.

If even though I have mentioned and am mentioning it again I would be doing it time and again and the main focus would be from the point of view of quantitative techniques which we will pick up as we proceed considering the concept of PERT, CPM, GERT, Q-GERT and so and hence so forth.

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So for the success of project management to continue our third lecture in this series so we should consider or one should consider that the distinction has to be made between the key

performances which are the indicator of key performances and the success factors. So the key performance indicators are the parameters of the indicators or the values that can be measured.

So you have some measuring tools based on which can be measure to evaluate whether project is successful or not from the point of view of the overall concept of what is the success of project. Is it related to time? Is it related to cost? Or so and hence so forth as you have consequences of key performance indicator so they can be different indicators also for a project can only be measured after the project is completed and then you basically measure the success of the project.

So if say for example you have decided to finish the project within three months. So obviously your time factor is important and each you can only find out once the project is over. Obviously you can take steps in order to finished the project before hand or right on time. If there is delays obviously COTS perspective would come or else if you consider the COTS perspective only the obviously the concept of time does not come into picture.

But obviously they can be as I mentioned in the multi objective framework all the concept of perspective would be taken into consideration the time, functionality, cost, and schedule everything is considered in one go. So the success factor are the condition of the factor based on which you present the project to be successful. So whether it is able to meet all the social requirements, all the company requirements, all the requirements based on which the marketing strategy was started for a particular project if the marketing strategy was the project as such.
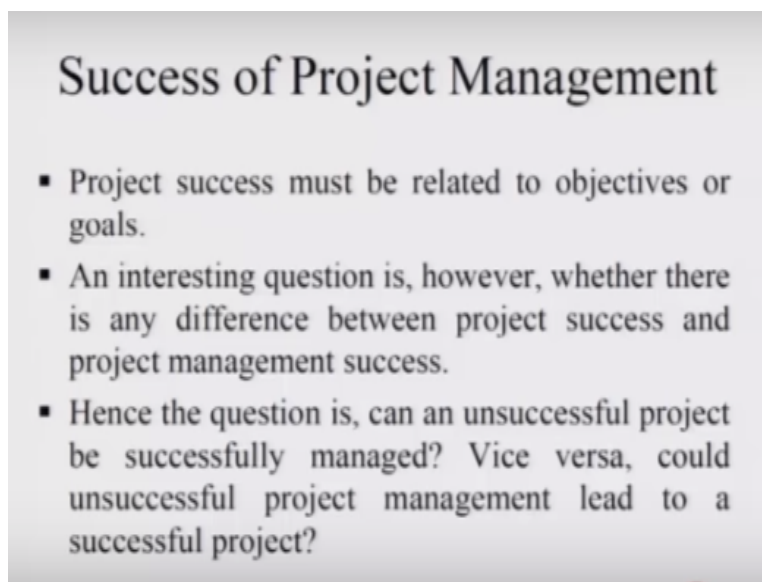
So those are the success factor based on which the project is decided. Such factor may be observed and influence during project execution phase. So as the project is going on obviously the success factor would be taken into consideration hence and studied that and how the project is progressing in its overall view point from the point of view of both the success factor and the key performance indicator based on which we are trying to analyze the project.

Project success must be related to some objective of fixed goals which we already have in mind. We cannot be very hazy like means we want to finish the project say for example some year

three years down the line is not the way how you basically analyze the project. So if it is a project which has both social implication which has both company point of view which is very important or say for example from the government point of view which is important obviously that that framework of time is very important based on which the project would be utilized.

Because if they are over shooting of the time obviously the cost perspective comes into the picture into the very big way at the overall cost increases manifold such that it has a negative implication of the overall success of the project.

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Success of Project Management

- Project success must be related to objectives or goals.
- An interesting question is, however, whether there is any difference between project success and project management success.
- Hence the question is, can an unsuccessful project be successfully managed? Vice versa, could unsuccessful project management lead to a successful project?

An interesting question is whether there is any difference between the project success and project management success. So if you are implementation of project management from the point of view of trying to implement the quantitative tools is the success. So you have to study the success has been speculating has speculated to the project phase also. Project success need not be a project management success or vice versa so you have to basically analyze the point of view from both the perspective.

Hence the question is can an unsuccessful project be a successfully managed one? So see for example we have been able to manage the project in a very fantastic manner say for example you are all the campaigner of political party and your main project was basically or idea was

basically to win the election. So obviously you implemented everything best possible extent the cost ward minimize overall campaigning was good and so henceforth.

So the teamwork basically able to which best deliverable products if the end result the project has been unsuccessful would be study from the point of view whether the election can be won or loss. So obviously there is a mismatch between the project management concept and the project as such obviously we will try to analyze whether the both of them are at diverse end or they basically give you the same feedback based on which you can analyze the project.

So could an unsuccessful project management also lead to a successful project? That has to be studied also but generally there would more from the point of view of the qualitative field. So we will try to bring the quantitative and qualitative field to the picture such that they are able to answer the questions which are just faced in few minutes back in the slide.

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Success of Project Management

- A perfect project management organization is no guaranty for a successful project. Opposite, unsuccessful project management may complete a project successfully.
- An example of the latter is the oil platform Statfjord A in the North Sea. When it was towed to field, it was over two years late and at the end the final cost was almost three times of the first estimated cost.
- Still this platform has performed well, produced oil and generated revenue far beyond what was expected.

A perfect project management organization is no guarantee for a successful project successful project being implemented with its full scope. So opposite is also may be true would be unsuccessful project management may complete of project successful. So obviously this discectomy between a project and the project management has to be found out in such a way that we are able to find out that what is the basic idea based on which the project was taking into

consideration and why this project management was basically taking up in order to implement that project.

An example of the later is the oil platform as Statford which is in a North Sea when it was towed to a field it was two years late and at the end the final cost was almost three times of the first estimated cost. So say for example it can be try to implement one of the trying to build one of the Indian navy say for example trying to build a aircraft carrier basically if the cost is basically much higher than the project at the end of the say may be success about the project management point of view cost may be very high.

So the project may be we the country needs a aircrafts carrier so or say for example it can be say for example we are trying to implement a Thejas aircraft. So Thejas aircraft may there as been delays they had been increase in the cost but if you consider in the point of view of the project and the project management point of view. It may be project may be successful but the end of the day even after delays aircraft has been brought into the picture and it may have been brought into the the implementations of the airforce or the arm forces.

But if you consider from the cost perspective cost may be very high so obviously the time lag between the implementation of the project and the project management their basically gives the picture there is a mismatch between the concept of the project management and the project which you are going to do.

So as continuing with the example which we have just mentioned in the slide the oil platform in the North Sea. So it says that still the platform has perform well produced oil and generated revenues far beyond what was expected but there was a delay in initial periods so obviously from the project management of view it may not have the successful but from the project point of view in the late areas the returns have been much higher than next then what was really accepted from their.

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Project Organizational Maturity

- As the project work model is being deployed in industry, it becomes increasingly important to understand how well an organization is able to handle projects or how mature the organization is with respect to project management.
- This is referred to as project management maturity (PMM) or organizational project management maturity.

So as the project model has been deployed in industry it becomes increasing important for the team to understand how well and the organization is able to handle projects or how the mature the organization is which represent the project management team as such. So say for example the team may be able to implement a very practical project management concept.

Such that the returns from the project management project as such is positive that means the risk are very low, profits may be very high or the social perspective based on which the project is been implemented is high. But say for example if the method of implementation of project management tools are not at all very practical they may very nice theoretically but the end of the though overall project implementation has been a huge loss point of loss for from both point of view of the social structure both from the point of view of the company or may be from the point of view of the cost structure as such.

So obviously at end of the day the mismatch between the project management concepts and the project of such would definitely be there. But you have basically analyzed what is important for? Our main aim would be as I mentioned we are trying to basically learn the tools of project management but trying to analyze the success of the project would basically much more bigger in scope from both the social as well as the team implementation point of view.

So this idea of trying to basically find out the less of the (()) (10:41) between the project management and project is basically referred to a project management maturity or the organization project management maturity such that there is ease divergent between the time which is implementing and the idea based on which is trying to implement the project as such.

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Project Organizational Maturity

- The company can obtain an impression of how well it is doing compared to best practice.
- A best practice represents an industrially accepted best way of achieving a given goal.
- Benchmarking and best practice definitions within the manufacturing industry have for a long time been regarded as a good approach to enhance competitiveness.
- Within project management, project management maturity measurement is a tool to achieve continuous improvement and organizational learning.

So the project organizational maturity happens and the points are to be considered are the company can obtain an impression of how well it is doing compare the best factors which are there in the industry. A best practice represents a industrially best way of achieving the given goals. So that given goal may not be so called theoretically the best may be the best which being implemented by the industry based on which the company would try to basically implement its project.

Benchmarking and the best practice definitions within the manufacturing industry has for a long time in regarded as a good approach to enhance competitiveness such that the project is implemented to the best possible way. So within project management maturity measurement is a tool to achieve the continuous improvement and organizational learning which would in a way try to basically bridge the gap between the project implementation idea and the project management tools which are being utilized to achieve that goal.

So obviously the maturity of the team is very low then obviously it may be that the project management concepts which are being utilized may have a huge difference between what it aims to achieve and how the project is basically able to be come up in the later stage.

But as maturity happens they have obviously all these points would be taken into consideration all the points means would be ignored or may have been ignored or may not have been considered may be taken up but the team such that gap between the project management concept as such project, project as such are reduced to the maximum perspective.

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Project Organizational Maturity

- Measurement of project management maturity will help a company to understand what processes influence competitiveness and what processes need further development and improvement.
- Thus project management maturity measurement becomes a strategic tool for developing project management competence and building a project culture characterized by excellence.

Measurement of project management maturity will help a company to understand what process influence competitiveness and what processes need further development and improvement such that the gap is reduced. Now again I am repeating what the gap means is basically the different between the project management as a concept and project as a concept. So how a gap can be reduced now one as to analyze that the gap reduction is not the only goal.

So see for example if my main perspective is the social issues then our concept of cost may take a back sit such that the main focus of social issues is the main gap deduction the idea between the project management concepts as well as the project which is being implemented using the project management concept as such. But say for example this is from the government point of view.

Say for example lets cost may not be important but say for example if it is related to floating a product by company where cost is important. So obviously the concept of trying to analyze the project and the project management concept which are being utilized would only be analyzed from point of view of cost.

So obviously there that time the scheduling, the budgeting would not be important such that the gap between the project management concept and the project concept are taken into consideration such that it implemented to the maximum possible extent considering the cost is important.

So thus project management maturity measurement becomes a strategic tool for developing project management competence from any perspective may be marketing, may be drug design, may be floating coming up with the car in the market, may be trying to basically sale a product, buy a small company may be the government implementation of social projects.

Like say for example polio eradication or trying to basically come up with different social norms or the poor formers or say for example trying to basically come up with different schemes for the for young kids for malnutrition's. So all these things may be considered the project where in the last three examples which I gave from the government perspective their cost is important definitely but their social implication will be much more important.
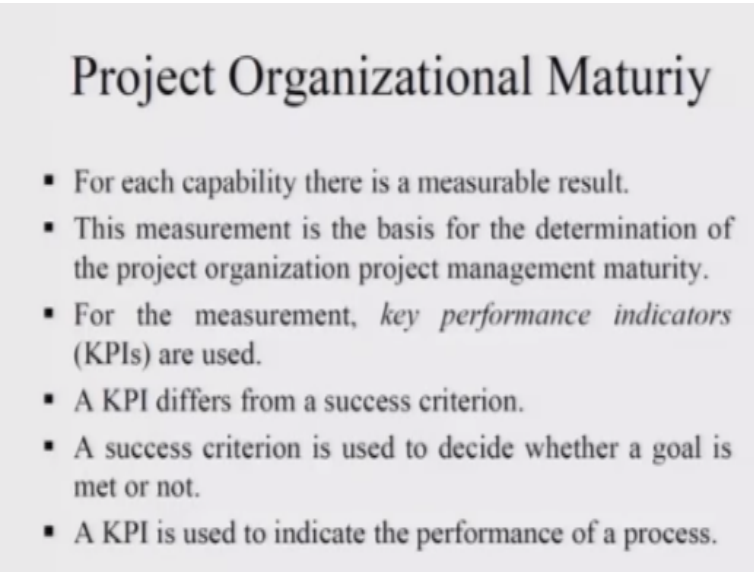
So say for example are idea is to build or the government idea is to build schools in one district or say for example the central India or East India or South India so obviously the main focus would be how to come up with the good schemes such that the idea of trying to send a kid. Whether a girl or a boy to the school is the main focus of the project cost would be important but the cost would not be considered important the main factor based on which the project would be implemented.

So because our main perspective is trying to analyze them the maximum number of people are enrolled or kids are enrolled in the school and that is a continuous it happens in a continuous

fashion. But as I mentioned in the other example from the company perspective if trying to basically come up with a new fridge or a new refrigerator or a new video or a new television.

So obviously it would mean that I want to come up in the market with the best product in the least possible time such that the cost is the factor based on which the bottom line of the company may reach. So in that case the social issues do not or may not be considered in the best possible way from the point of view of the company which is definitely different from how the government basically try to analyze is problems or its projects.

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Project Organizational Maturiy

- For each capability there is a measurable result.
- This measurement is the basis for the determination of the project organization project management maturity.
- For the measurement, *key performance indicators* (KPIs) are used.
- A KPI differs from a success criterion.
- A success criterion is used to decide whether a goal is met or not.
- A KPI is used to indicate the performance of a process.

For each capability there is a measurable unit when you are trying to basically consider the project alternation maturity. This measurement is the basis of the determination of the project management or the project maturity. So for measurement key performance indicators are utilized so the key performance indicators for the social perspective may be maximum number of enrollment or may be say for example you are trying to give electricity connection.
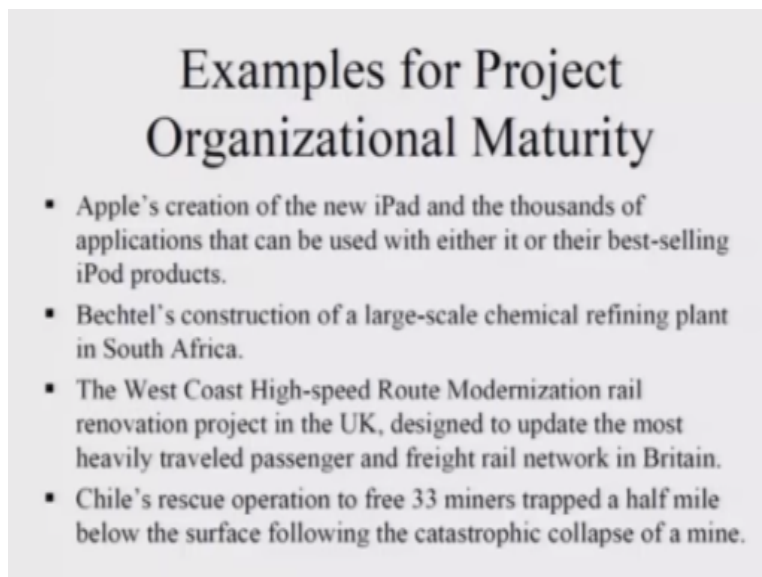
So cost is not important you want to have basically have implementation of electricity of different points you will try to basically analyze the point of view of the project such that maximum numbers of households are connected through the electricity grid. Or say for example our main perspective is to basically try to have good irrigational system in the state of Maharashtra.

So obviously the government main perspective would be how to basically have the irrigation system implemented in such a way that the maximum number of farmers do get the benefit of irrigation system implemented as a project. The key performance indicators differ from a success criteria so how you are analyze the performance of a project may not be same as based on which how you are trying to basically collectively analyze the project as such after it implemented.

A success criteria used to decide whether the goal is met or not while the key performance indicators would be utilized basically analyze the overall functioning of the project different point of implementation. A key performance indicator it used to indicate the performance of a process as it is going while the success criteria based on which we want to decide would basically we wants to reach the goal how you are trying to basically analyze the overall project.

So obviously these one is basically on and ongoing process and on a case by case basis either on macro level or micro level and other is basically after the overall project is implemented using the concept of project management would learn as we proceed.

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Examples for Project Organizational Maturity

- Apple's creation of the new iPad and the thousands of applications that can be used with either it or their best-selling iPod products.
- Bechtel's construction of a large-scale chemical refining plant in South Africa.
- The West Coast High-speed Route Modernization rail renovation project in the UK, designed to update the most heavily traveled passenger and freight rail network in Britain.
- Chile's rescue operation to free 33 miners trapped a half mile below the surface following the catastrophic collapse of a mine.

So examples of project organization maturity would be Apple's creation of new ipad and the thousands of applications that can be used with either it or their best-selling ipod products applications. How the project organization maturity has happened would definitely give a good

feel that how as the team which was implementing the apple products they came of different type of KPI which is all these key performance indicators and the success criteria based on which the projects could be analyzed on a macro level as the overall project finish.

Or the Bechtel's construction of a large scale chemical refining factories in south Africa so that can also have ah aha end goal based on which we will analyzed it end criteria or it can be different type of key performance indicator is based on in which how the project as it implemented it was analyzed at each and every step.

The third example can be the west coast high speed route modernization rail and the renovation project in the UK design to update the most heavily travelled passenger and the freight rail network in Britain or say for example it could be implementation of the different type of rail routes in India.

So our the government in India main aim would be basically to have safety and security and trying to basically utilize railways are the best mode of transportation but in that case as it is doing that cost would be important but the cost important factor may not be considered for many of the local train fare increasing in the cost price impacting in overall project implementation phase.

Because if a project is implemented and at end of the people are not going to utilize the obviously its social impact considering this example which I just gave may not have any implication whether it is actually be worthwhile to implement that project. On the other example can be Chile's resource rescue operation for free thirty three miners which did happen who are trapped in a half mile below the surface following the catastrophic collapse of a mine.
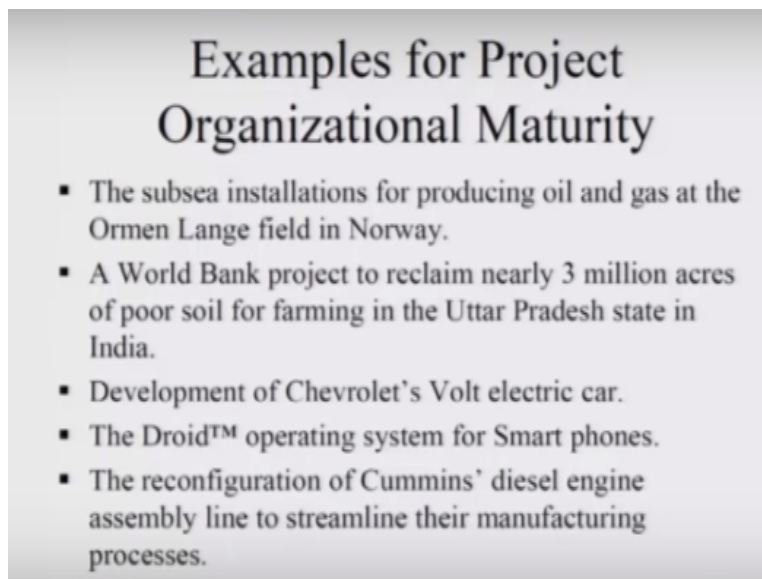
Basically that was taking up of our project where the main focus was that all the thirty three miners should be rescued. So obviously any key performance indicator as it is progressed may have been very important at that point of time but end result was the rescuing of the all thirty three miners. So that was basically the criteria based on which the project was taken up.

Or say for example if the project even though those are the examples of been discussed by many of the academicians and the practitioners in the past say for example if one of time India's main was to basically have its own milk production. So based on that project or that idea which Dr.Kurien started for AMUL at the Gujarat Co-operative so that was basically implemented.

So at the end of the day as the project is basically is implemented and it has been going to the process for the last thirty years they see the actually the aim based on which it was implemented giving its benefit. Any key performance indicator in between may have been negative of positive but the end result rather criteria based on which we are trying to analyze the project is definitely positives.

So obviously it does not mean that only quantitative technique would be utilized to analyze the project. The overall scheme of things of the project from both the social, the qualitative, quantitative, cost perspective the budget constraint everything as to be considered in a very rational manner in order to implement and get the best result from the project.

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Examples for Project Organizational Maturity

- The subsea installations for producing oil and gas at the Ormen Lange field in Norway.
- A World Bank project to reclaim nearly 3 million acres of poor soil for farming in the Uttar Pradesh state in India.
- Development of Chevrolet's Volt electric car.
- The Droid™ operating system for Smart phones.
- The reconfiguration of Cummins' diesel engine assembly line to streamline their manufacturing processes.

Examples of project organizational maturity as we continued would be the sub seen relation of product producing Oil and Natural Gas in in a Ormen Lange Field in Norway. So there the main focus was basically considering the very typical weather in Norway and that area of the Northern Hemisphere. It was basically planned to build up the oil field in such a way that the overall

drilling of the oil and the transportation of oil could be done in the severe weather considering the overall cost could also be reduced to be maximal possible extent.

Or say for example if you consider continuing not with the oil but if we consider the project of building big ship in the (()) (23:43) concept how the ship can be built there how the ships are build say for example countries like Japan and North Korea or south Korea totally different because the implement weather which is there in the (()) (23:59) countries as a different perspectives of the projects are implemented.

World Bank project as to consider the next example a World Bank project to reclaim nearly three million acres of poor soil for forming in the Uttar Pradesh state in India was also given as a very good example in many of the books as an example from project management maturity how it can be implemented. The fifth example can be development of Chevrolet's Volt electric Car or say for example implementation or trying to basically to come up with different type of electric cars either from Toyota perspective or Volkswagen perspective.

So these can be different type of project were rather than any key performance indicator in between main aim was basically to have a criteria such that you get a running car which basically runs on electricity considering the overall cost can be utilized and considering that oil utilization is minimize. So obviously as at this point of time thus the scarcity of oil may not be a problem but say for example if it thought that the oil depletion is happening in such a way that cannot be utilized for running the vehicles.

Then obviously the idea of having a project with the project management concept of trying to come up with a project where the main idea is to develop an electric car really make sense that has to be implemented in all its schemes. The android operating system for the smart phones that concepts can is also very good example for project organizational maturity.

So as the thing build up and as android scheme came into market the concept of utilizing the android phone for different work starting from checking your email, checking your bank account

to buying things online. That became a very said norm, very common norm based on which the implementation of trying to come off with the android phone can be analyzed.

And there are different type of implications of android phones starting from using Whatsapp and trying to basically go for video chatting all these things are now at part of person of project management. The reconfiguration of Cummin's diesel engine assembly line for stream lining their manufacturing process can also be considered another good examples for project management maturity.

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Success of Project Management

- Project success must always be measured against goals or objectives.
- However, there are normally several sets of objectives.

The success of project management basically depends on many factors but from the agile project management point of view. Project success must always be measures against goals and objectives of the criteria based on which we are trying to analyze a goal. If your criteria is try to reduce the cost so based on that you try to basically analyze your project and the implication of the project.

So however there are normally several sets of objectives so objectives may be considering collectively can be reduction of cost, may be social perspective, may be resource constraint, may be budgetary constraint all of these have to be taken into consideration when we are trying to basically find out how good or bad, successful or unsuccessful the project management implementation has be.

So with this I will end the third lecture and I having said that in the next three lectures before we start in the seventh or the eighth lecture about the problem I will try to basically go through quickly as far as possible for the concept of project management agile project management and the related concept. And again I would request my students who are taking this course to please follow the concept which I am teaching through different of the text books or different articles which are there mainly the text book which are referred.

Such that they can at least have a feel that what we are trying to cover in this three lectures and what we are going to do in the future such that they are much more in by and much more in to the course that it gives them both the flavor as well as the excitement of the course which we are going to cover in twenty lectures thank you very much