Software Project Management
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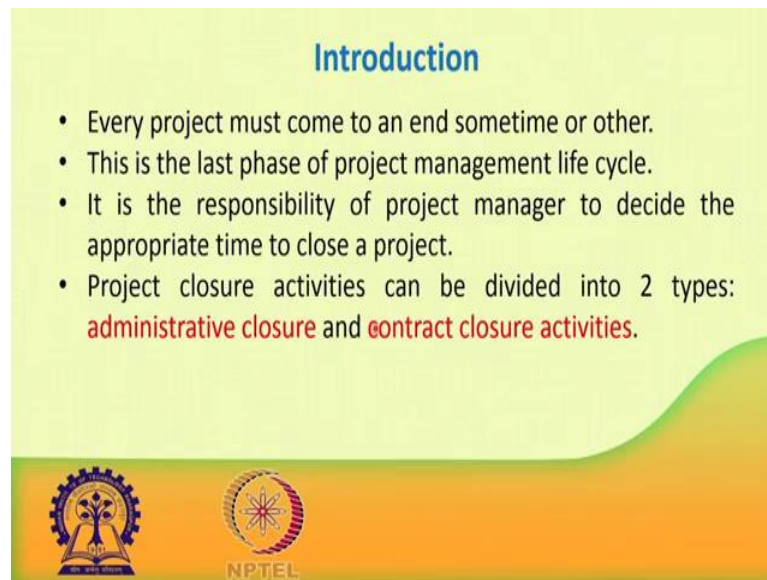
Lecture - 50
Project Close Out

Good afternoon. Today, we will discuss the last phase of a Software Project Management cycle that is Project Close Out or project closure; how to close the project.

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Today, we will discuss first the little bit introduction of project closure, then what are the possible reasons for project closure, then what is the process to be followed for closing a project, then performing a financial closure and finally, publishing the project closure report.

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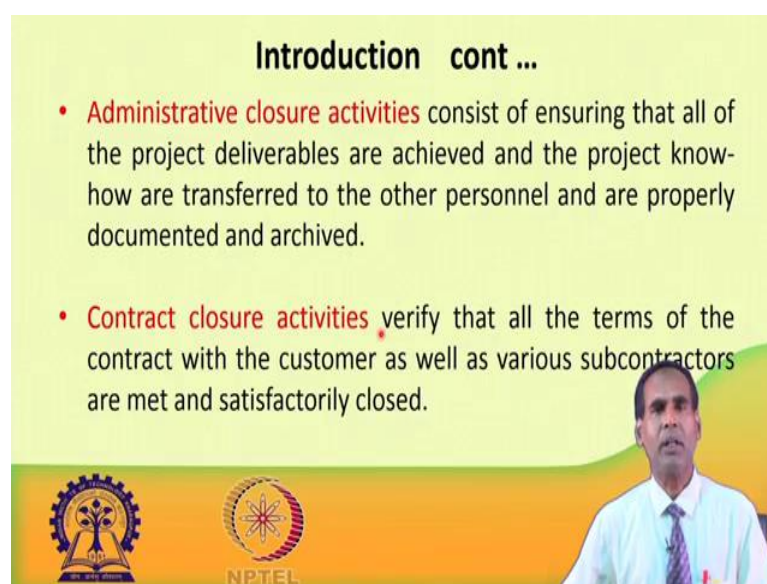So, you know that every project must, it will come to an end, sometimes today or another day. This is the last phase of a project management lifecycle. It is the responsibility of the project manager to decide the appropriate time to close a project, when the project will be closed that is the responsibility of the project manager to decide.

Normally, project closure activities can be divided into two types administrative closure and contract closure. Let us see what is administrative closure.

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Administrative closure activities; they consist of ensuring that all the project deliverables they are achieved and the project know-how are transferred to the other personnel and are properly documented and archived ok. As its name suggest administrative closure activities so, these activities consist of ensuring that all the project deliverables such as requirement specifications, your design documents codes, test plans and the modules tested modules, etcetera. They are properly archived and the project know-how; that means, the project what knowledge project details, etcetera are these are transferred to the other personnel, which are associated with project and these project know-how they are properly documented and archived.

Then the other activity is known as the contract closure activities. So, these activities verify that all the terms and conditions of the contract with the customer as well as various subcontractors they are met. All those terms and conditions they have been successfully met, and the project and their satisfactory closed.

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Now, let us see why we require to close a project? What are the possible reasons for project closure? There are two main reasons for closing a project; one, all the project goals the objectives they have been successfully accomplished. So, the project is completed, now we have to close the project, other one, that it has been found that the project is unlikely to achieve its stated objectives. What are the possible mentioned objectives or the goals it is very much difficult to achieve them it is unlikely that we can

achieve them and hence, we have to prematurely terminate the project. So, these are the two possible reasons why a project needs a closure.

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Now, let us see I have already told you there are two reasons; one that project is successfully completed, another is project is not successfully completed and it is unlikely that it will achieve its mentioned objectives and goals and hence, we have to prematurely terminate. Let us see, some of the possible reasons, why we have to prematurely terminate the project before its due date.

Many reasons are there to prematurely terminating a project, but few important reasons we will discuss below. Number one lack of resources, the project requires some resources and those resources we do not have right now. We have started the project, but after the starting project, we fail that we cannot, what accommodate the resources might be due to financial deficits or some technical problems we do not have the lack of resources, we do not have the sufficient man power etcetera. So, in that case we have to prematurely terminate the project.

Similarly, changed business need of the customer; the customer was requiring something, but in the meanwhile after the starting of the project there is no need. So, that because suppose, he wants to the customer has given a project to develop a inventory management system. And after posing the status then or after posing the after starting project, they felt that we will give this development of the inventory control system to a

third party then so, the business need does not now, it is does not occur the it is there is a change in the business need of the customer. So, in that case you have to forcibly terminate the project.

Number three the perceived benefits accruing from the project may remain what they may not no longer remain valid. For example see while starting the project you are expecting that this much benefits, I will get; if I will what automate it. But in the meanwhile several competitors came into the market and some competition products they come into the market. So, you are afraid of that this much benefit I may not get. So, in that case this, what project has to be prematurely terminated.

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Similarly, next possible reason is incomplete requirements, if you do not know your all the requirements; requirements are incomplete then even if in assuming that we can clearly state the requirements within say few days after the starting of the project. We have started the project, but even if some days have passed, we are not able to define the requirements; we are not able to clear what the customer is not able to clearly specify the requirements.

So, in that case the project has to be prematurely terminated. Similarly, changes to the regulatory what policies. So, your organization is bounded by the rules and policies regulations of a government and if a government, while you have started there was no such what binding policies, but after the project has been started government has

imposed some policies, some restrictions. Such as suppose, you have planned to develop a product which is based on satellite communication and then that we will release to the market. And suppose, government has imposed a rule no, nobody can use a satellite communication based product in this country, then what will happen? You have to forcibly, prematurely terminate the project even if you have started it.

Then some key technologies used in the project have a become obsolete during the project execution. What are the key technologies during the starting of the project what key technology are there and after starting of the project after few months or few years. Now, new technologies have come up and these then techniques now, they are being outdated. For let us take an example; you have suppose started with development of a project, we using 4 G. Now, you see now after using few days 5 G is coming. So, once 5 G will come to the market then; obviously, 4 G will become obsolete and if I have started your project keeping in a mind that I will use 4 G then that will be obsolete and nobody will purchase your product. So, you have to forcibly prematurely terminate the project.

Similarly, risks becoming unacceptably high, while you have started the project, you have known that some minor risks, what lower risks will come. But after starting the project within few days you see the risks are becoming very much high, may be technical risks are there or financial risks are there or operational risks are there. So, you cannot tolerate all those risks. So, in that case also you have to terminate the project. So, these are some of the possible reasons, why you have to terminate a project before it's time; that means, you have to prematurely terminate a project.

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Then let us see why it is required to properly close the program or projects and why people are not properly closing the projects? Why? Due to somewhat reasons might be due to negligence or so they are not properly closing, after these we will see, what are the problems it will not properly close the program.

So, let us first see why are projects not properly closed number one lack of interest by the project team members. The project team members, after either successfully completing the project or prematurely terminating the project, they do not have any interest in that project. So, due to lack of interest they do not officially what or properly close the what, project. Then under estimation of how first know how can get lost and how much implicit knowledge exists with the team members.

See finally, after developing the project you gain some knowledge and you know after the what, project is over this gain, what knowledge gain; It will be simply, you will forget, you will lose, you will loss those knowledge. So, now and you are under estimating ok, I have that knowledge now, I have lost it. So, you are underestimating that or you are not imagining that how quickly the, know how or the knowledge, it will get lost.

So, due to underestimation of how fast, how quickly the know, how only the knowledge regarding the project it can get lost, people may what, they may not do the proper closing of the project. Also, how much implicit knowledge exist within the team members, you

are underestimating that and as a project manager, that is why you may not properly close this, what project this is another reason.

Another reason is emotional factors suppose a project is continuing for three years, four years, five years. Within those four five years, we are having strong relationship among your teammates and you are having some emotional, what relationship among your teammates and you do not want that. So, quickly you will lose these emotional relationships. So, due to the emotional factors you do not want that no, this much quickly, I will not properly close this project.

Another reason is in decision regarding the project closure. As a project manager we are not able to take a decision, when to project the close the project, you are making the late. So, because you are in dilemma whether the close, whether to close the project or today or tomorrow or after few dates so, due to this delay you are not able to take a decision so, that is why due to this indecision you are not able to properly close the project. So, these are some of the what reasons, why the projects are not properly closed.

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Now, let us see these things, these points what I have explained, these have explained in this slides so in detail that you can read yourself.

Problems of improper project closure

Time and cost overrun

- If project termination is delayed, the project as a cost centre runs up expenditure in the meanwhile, leading to cost overrun.
- Also the project duration appears to be longer than what it should actually be.

Now, let us see about what are the problems if project closure is not becoming proper, if a projects are not closed properly what kind of problems we may face? Number one time and cost overrun; see if a project termination is delayed what will happen the project as a cost center runs up expenditure in the meanwhile leading to cost overrun. You are nothing, no work you are doing, because project is already completed, but since you have not officially have closed the project.

So, some expenses will still continue. So, these will be what these cost in that way it this will lead to cost overrun, also the project duration appears to be longer than what it should actually be. Already, you have finished within four years the project, but another two three months you are not able to officially properly close it so; that means, the project duration it will be counted as four years three months. So, unnecessarily the project duration it appears to be longer than what it should actually be.

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Next problem is locking up what valuable human and other resources. Your project is over, but since you are not officially closed it the human beings, the staff members and other resources such as computer, etcetera these are being held up. Those resources or human beings these staff members otherwise, they would have what assigned to some other project.

So, unnecessarily you are locking up the valuable human beings or the staff members and other resources, because you have not properly closure the officially mark the closure of the project. So, this is another problem that may occur or if you are not properly closing the project.

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Then this stress on the project personnel is another problem. So, the project personnel often lose out on experience that they could have gathered on other projects on which they might have been deployed. Had the project closeout occurred at the appropriate time? So, if the project would have closed at the appropriate time, these staff members could have been what allocated they could have assigned to some other projects and they could have what gain experience there. So, unnecessarily they are losing their experience.

So, and the feeling of not doing anything challenging and missing out on the learning opportunities, sitting ideal and the impact of these on the future carrier can be very stressful for the team members and they will be unnecessarily stressed. So, this is another problem that you will get, that you will observe, if the projects are not properly closed.

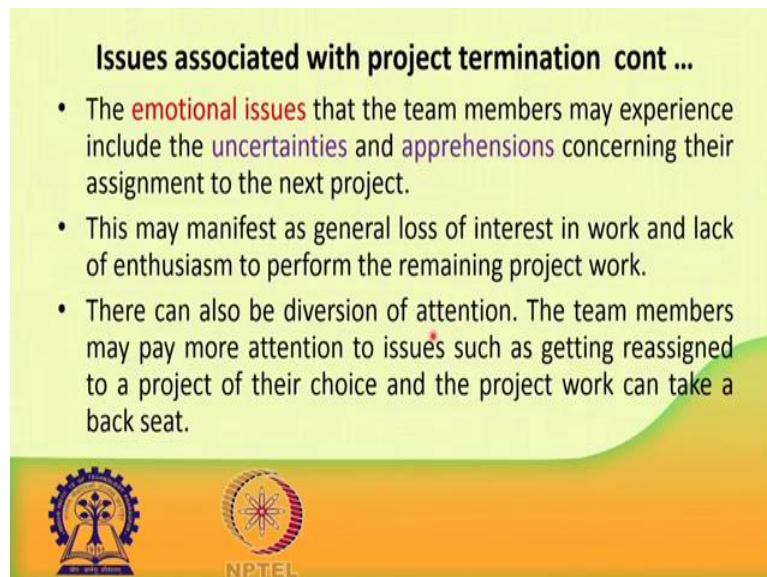Now, let us see; so, quickly some of the issues associated with project termination. The problems with project termination are two-fold; one emotional problems, two intellectual problems. The emotional issues, it can concern both the team members as well as the customer or the clients.

Now, let us see what will happen or what these emotional issues they suggest. The emotional issues ok, the emotional issues are that the team members may experience; the emotional issues that the team members may experience include what the uncertainties

and apprehensions concerning their assignment to the next project. So, if the project is not properly closed, then the emotional issue the emotional thinking will come among the team members that they may not be what they may not get another suitable project. There will be some, they will apprehend that they may not be assigned to the next suitable project.

So, this may manifest as general loss of the interest in work and lack of enthusiasm to perform the remaining project work. So, in that way what will happen? What are the remaining project work they will not do sincerely, they will not have interest and they will what they will lack of enthusiasm to do work for the next projects. Similarly, there can also be diversion of attention, if the project is not officially close they will sit idle, the staff members will sit idle and the team members their attention will be diverted. They will pay more attention to issues such as getting reassigned to a project of their choice and the project work can take a and then the main objective the project work, it may take just a back seat, they will just lose interest, they will have diverted attention, if they will sit idle.

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Issues associated with project termination cont ...

- On the client side, there can be a sudden change in attitude and loss of interest in the project.
- The client may even change the personnel dealing with the project, and thereby causing further disconnect and difficulties in project closure.

On the client side, there can be a sudden change in attitude and the loss of interest in the project that is another important issue associated with the project termination. The client may even change the personnel dealing with the project, since you are not officially have closing or terminating the project. So, the client may even change the personnel who is

dealing with the project and thereby, causing further disconnect and difficulties in project closure. So, the official project closure will be further, what we will face so, further difficulties and problems.

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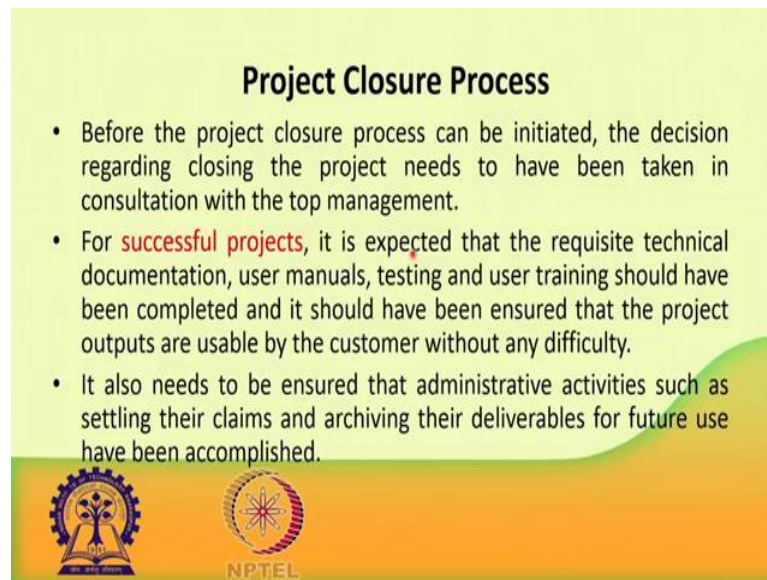
Now, we will come to the next problem. Next one is intellectual problems; the intellectual problems may include hand what handling some sensitive issues. Let us take what sensitive issues may come. So, when a project is to be prematurely terminated the terms of the contract. And the list of deliverables need to be renegotiated once it is premature terminated what terms what conditions, we are mentioned in a contract and what list of deliverables, they were plan previously, they need to be renegotiated. And also even when some deliverables and tasks that are considered to be not necessary at any more; however, before dropping these, it needs to be verified by the client ok.

So, even when some deliverables and tasks that are considered. There are not necessary any more, but before dropping, these it requires to be verified from the client. Also, the closure decision, it has to be effectively communicated to all stakeholders since, you are what closing the project may be successfully, after successful completion or premature termination, these decision has to be effectively communicated all the stakeholders may be this project manager, developers, designers, clients, etcetera to all of these stakeholders, you have to pass on these decision, effectively.

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The learn now let us see, how will, what how will do this project closure first? What is the project closure process, what steps you must follow to closure a project, but before that let us see some fundamental things. Before the project closure process can be initiated the decision regarding closing the project, it needs to have been taken in consolation with the top management. You are not competent enough to what close the project you have to get a permission approval from the top management.

For now, there are again two possible cases; you might want to close a project after successful completion of the projects or after premature termination; now, let us these two what cases individually. For successful projects it is expected that the requisite technical documents, the user manuals, testing documents, user training, etcetera should have been completed perfectly. And it should have been ensure that the project outputs are usable by the customer without any difficulty.

So, two things you can see here that for successful projects, all the documents they have been completed successfully and you should ensure that the project output or the final outcome that is usable satisfactorily by the customers by the clients without any difficulty. It also needs to be ensured that the administrative activities such as settling their claims, archive what archiving the deliverables for future use, they have been also accomplished successfully.

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Now, let us see about the second case that is project those who will be terminated in premature. For a project facing premature termination, the project manager in consolation with the top management and in consolation with the customers, he has to take the decision as whether to terminate the project immediately right now, he will what terminate the project or he may take some time to keep it under watch for some more time.

So, this decision the project manager has to take in consolation with the top management as well as the customers, whether to terminate the project immediately or we can observe the some more days and then will close it. For both the normal successful closure or the premature termination categories of the project, it has to be ensured that that there is no further obligations. In both of the cases there are no further obligations pending, you must as a project manager you must ensure that there is no further obligations pending whether it is a normal closure or it is a premature termination.

Now, let us successfully; now let us quickly see, what are the steps they have to be followed for project closure process; number one; we have to get the client acceptance. You have to get the acceptance from the client that we are going to close the process, getting client acceptance, then archiving the project deliverables, whatever the project the outcomes the deliverables such as your SRS document, design documents, code and this test cases, etcetera all those things you have to archive properly. Next preserve the project know-how the project details, the project knowledge, the experience that you have gained out of the project you have to preserve properly.

So, that they can be used in similar projects in near future, then performing a financial closure, all the financial documents, balance sheets, etcetera in income expenditure statement, etcetera every what the financial aspect must be close must be closed properly. There should be a financial audit and the financial obligations should be over year or you must close the financial detail. There must be financial closure that has to be performed before the financial, before the final closure.

Then performing post implementation project review yes, whether the project has been successful completed or you are pre maturely terminating. So, you must have to conduct a post implementation project review. You call it as a post mortem post mortem analysis, because by this process you can know what are the what plus points of your development, what are the negative points and what are the what lessons that you have

learnt from the what project development and these things you can use for getting benefit in similar types of projects. This experience can be used, their help can be taken in the similar projects in near future to get the benefit, and then you have to prepare a post implementation review report.

So, after carrying out these post implementation analysis or this review you have to prepare a report and archive it and finally, you have to release the staff, which staff members we are associated with development of this project. After the official closure of the project, you have to as a project manager you have to release them and, it is your duty to see that they are successfully allocated to other similar projects, depending upon their experience and skill.

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Post-implementation project review
- The goal of a post-implementation project review (sometimes called post-mortem) is to perform a critical analysis of the project in order to learn and improve, and avoid repeating the same mistakes in future projects.
- By analysing past mistakes, the project teams can learn to do better by improving their methods and practices.
- Not only the successful ones, even the unsuccessful projects implicitly hold a lot of information that can be identified, documented and disseminated to benefit other projects

Those things I have explained here in the couple of slides. I am skipping those things you can these are easy things you can read those yourself. But I want to say something about this post implementation project review, because this is very-very important. The goal of a post implementation project reviews as I have already told sometimes, you call as post mortem analysis it is carried out to perform a critical analysis of the project. Why? In order to learn and improve and avoiding that repeating the same mistakes in future projects. You can learn many things, you can improve how can what steps you can take so that you can improve in your similar projects and you can avoid the mistakes what you have done in this project, you can learn from the mistakes and avoid the similar

mistake mistakes in a future projects. By analyzing the past mistakes the project teams they can learn to do better by improving their methods and practices.

So, not only the successful projects, but also the from the unsuccessful projects, they can also implicitly hold a lot of information that can be identified, documented and disseminated to get benefit from the other similar projects in near future.

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Now, let us quickly see, what are the steps of post implementation project review; what steps you must follow for the post implementation project review. First step; you have to conduct projects surveys to collect various types of information. So, after the project is over you should conduct some surveys to collect various types of information. For these you may carry out, you may prepare some questionnaires and collect the information from the stakeholders. So, information such like gather performance issues and these organization structure, etcetera those kind of information you can collect from the survey. Then you collect of you collect some objective information or some project metrics from this review.

For example the cost metrics, say schedule metrics, quality metrics, those metrics you can call it during this post implementation project review. Then hold a debriefing meeting. So, before making the final project review meeting hold a debriefing meeting called as the preparatory meeting, where the project manager will there all and some senior persons or senior management persons may be there, analyze what you have

happen and what are the advantages you have got, what are the experiences and what are the lacunas, then yeah, what arrive at a consistent decision. And after this you can hold the final project review meeting and then discuss all those, then see what are the experiences you have gained, what advantages, what are the skills you have learnt and what are the mistakes that you have committed. So, all those things just analyze then prepare a report based on this post implementation review.

This report you archive and these findings will help in improving the similar types of projects in near future. These report will also give some of the recommendations for the similar types of projects in near future. If you will follow those recommendations definitely you will get more profit more benefit out of these similar types of projects in near future and finally, after what preparing the review report you have to publish the report you have to send it to all the stake holders. So, that they will analyze, they will see what are the what plus points of, what team members, what are drawbacks what are the mistakes they have done and these what findings they can use in the near future projects of similar type and nature.

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So, then as I have already told you the outcome of these post implementation project review will be what report ok, it will be a report. We have also seen that after the project is closed out you have to prepare a final report, this is known as the project closure report. Now, let us see it contains what? This project closeout report it is documents the

important results, which are obtained from the various project closeout tasks from the various project closeout activity or task what results you have got, this document will contain that.

First, it is starts with a historical summary of the projects deliverables, what are the project deliverables? A historical summary will contain and the baseline activities over the course of the project that it will be contained, then subsequently, it will be present the summary of the survey results, ok. So, I have already told you before this you have already conducted a survey.

So, from this survey what you are getting. So, then subsequently it will be present the summary of the survey results and the quantitative data, those are gathered about the projects performance ok, regarding the performance details also it will contain.

Finally, the results of the final project review meeting, I have already told you here, you have to carry out a final project review meeting what are the findings what are the results they must be contained here finally, the results of the final project review meeting are presented in this document. The reasons for variances from the baseline plan, we have already prepared the baseline plan. What are the reasons that what are the reasons for which there are variances, there are what diversions from the baseline plan and also the lessons that we have learnt, the best practices that we have followed and the what disposition of a project resources, etcetera, they are also highlighted in this report.

It also contains recommendations for improvement for other similar projects. So, from this experience; from this project, what experience you have got you can prescribe some recommendations for improvement of similar types of projects. Those recommendations also will be what written in this closeout report so that, you can get benefit of these in the next similar types of projects.
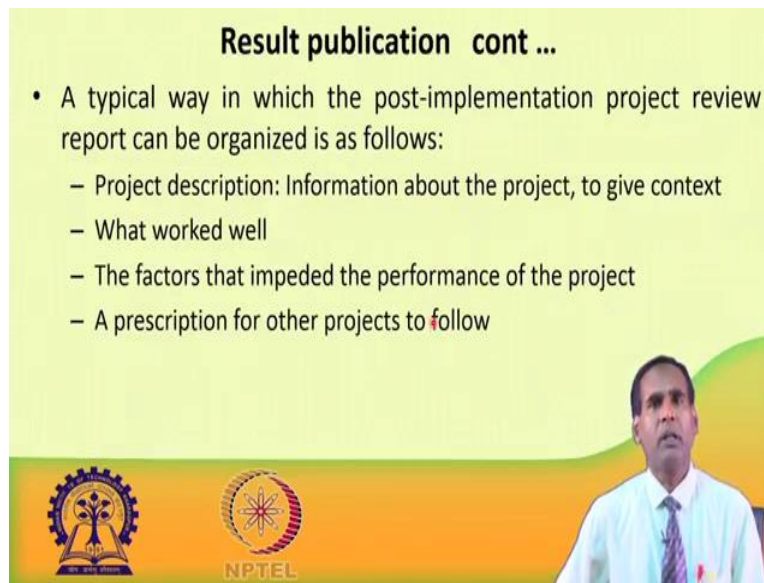
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So, then finally, you have to publicize the result; the project leader he will summarize the positive and the negative findings as well as the prescriptions or the recommendations for improvement. The summary is published so, that all the team members can refer to it and also the management can take initiatives for any what necessary corrective actions based on this.

The important findings of the post implementation project review audit, it can be published in a document. The document can be used to disseminate the lessons which are learnt and to work as a reference for similar future projects. So, whatever the important findings that have to be archived, that has to be published in a document and that document has to be archived. The document it can be so, the document it can be used to disseminate the lessons that we have learnt from the previous project and it can be used, you can under the to work as a reference it can be used as a reference for similar types of projects in near future.

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A typical way in which the post implementation project review report can be organized as follows; this is a typical structure. First you have to write down the project description, the information about the project, then to give the context in which it will be used, that has to be written then what worked well, what are the good things positive things, what are the advantages, ok.

The positive things they have to written here, then the factors that impeded the performance of the project ok, which factors have impeded the performance of the project that will be written the negative aspects also will be written. The mistakes that you have committed, they have also to be written here, then a prescription for other projects to follow. So, out of this project what you have learnt the prescription the recommendation that you will give to other similar projects in near future they should follow. So, those prescriptions or those recommendation also should be written in this what project review report.

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Releasing Staff

- This is the final step of the project closeout process.
- This is the last meeting before the project team members disburse to different other projects.
- The project manager should see that the team members are assigned to proper projects according to their expertise and skill.
- This meeting is also the ground for celebration before the team members disperse to different projects and for recognizing exceptional performance by the team members and recognizing the experience and proficiency gained by the team members.

Finally, the final step in project closure is releasing staff. So, now, the project is officially closed, you have to release the staff. So, this is the final step of the project closure to process, this is the last meeting before the project team members disburse to different other projects. And the project manager should ensure that the team members who had working for these project, they are assigned to proper projects according to their expertize and their skill and this meeting is also a ground for celebration for celebration before the a team members.

This would be before the team members disperse to different projects and for recognizing what are the exceptional performance by the team members, then you must recognize here and recognizing the experience and proficiency gained by the team members. Because if different team members, they have a different experience, they have different proficiency, you must recognize the experience and proficiency gained by the different team members. They as a project manager you must experience, you must recognize the experience and the proficiency which are gained by the different team members, you must recognize them you if possible you can reward them.

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So, these are the; so, the final step is release the what team members and the as a team manager ensure that these team members should be assigned to other different projects, depending upon their experience and skills. So, today we have discussed the reasons for project closure, why project are becoming why there is a need to what close a project. We have also discussed the problems of improper project closure, what problems will face, if you improperly what close the project.

We have also explained the issues with project team in termination, we have presented the steps, they have to be carried out for closure of a project. We have also presented the structure of a typical project closure report what should be the contents and what it should contain and how we can get the benefit in similar projects in near future these are the things we have discussed today.

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This is the reference we have taken from this book, these contents we have taken from these books.

Thank you very much.