Knowledge Management
Prof. K B L Srivastava
Department of Humanities and Social Sciences
Indian Institute of Technology-Kharagpur

Lecture 04
KMSDLC

Knowledge management but knowledge management system differs from other systems. That is not a process range. It does not mean that you are going to reconfigure or do something like that.
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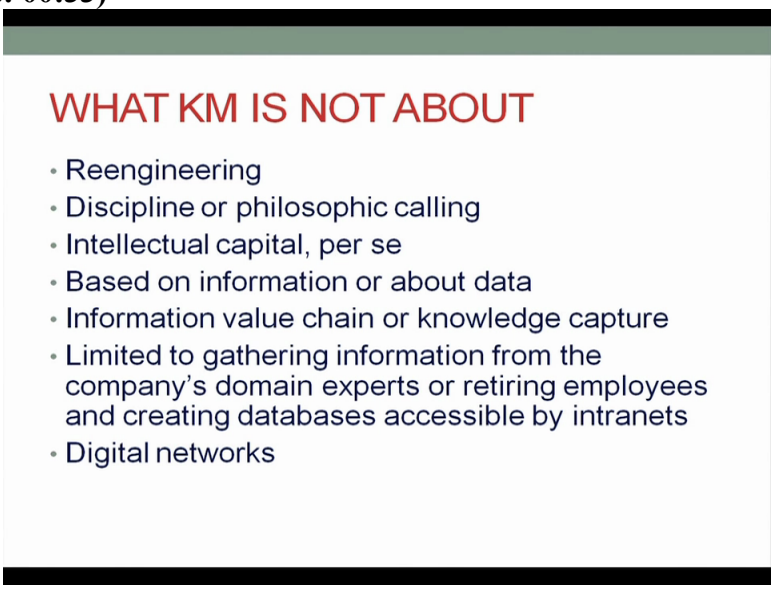

But it is also not intellectual capital, because intellectual capital is something different ok. And if you look at knowledge management, it is based on information or data. But it is not perceived information or data because unless this information is used in a particular context, then, it does not become knowledge ok. And it is also not information value chart chain.

So, what is required is that you have to see how you are going to use, make use of this information for doing the job. But it does not mean that you are going to use company's domain experts or using employees to create databases which can be accessed by the Internet. So databases are not knowledge management.

At the same time, digital network that has been created also not knowledge management. So that is where you need to differentiate knowledge with knowledge management with other forms of things in the organization.
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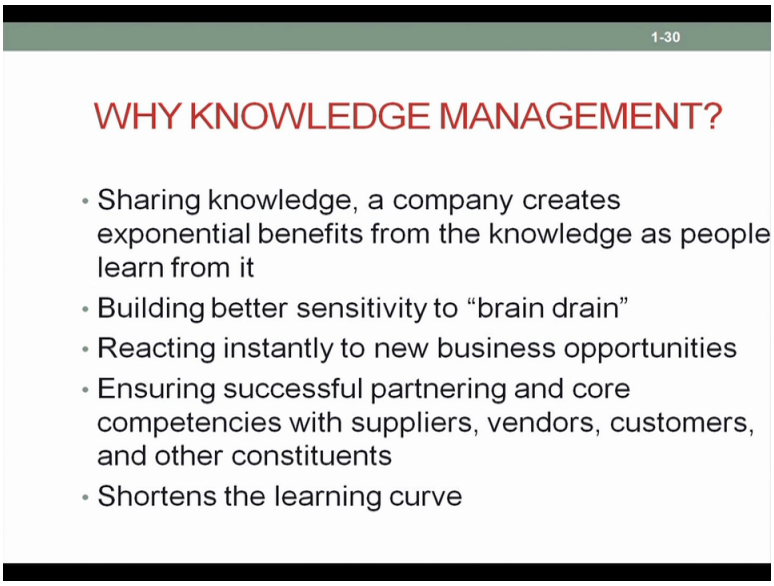

Now moving further, see I have earlier talked about what is the benefit of knowledge management system and why organization should go for moving to have a knowledge management system ok because if you share knowledge probably you get more benefits because through knowledge sharing, people learn and they use whatever they learnt.

And it also helps you to actually create a substitute to brain drain because if the people leave, then, the knowledge goes with them. And if you can also solve the problem of brain drain if you are going to develop a knowledge management because if you have knowledge management system, even if people leave that knowledge is going to be documented by you in some form okay.

It also helps you to find out business opportunities, you can also see that how you can make use of knowledge to create core competence with different stakeholders maybe customers, suppliers, vendors okay. And you can also shorten the learning curve. So, when I am talking about shortening the learning curve it means that since the knowledge is already available.

So, people take less time to learn and make use of that knowledge. And that is where learning curve gets shortened.

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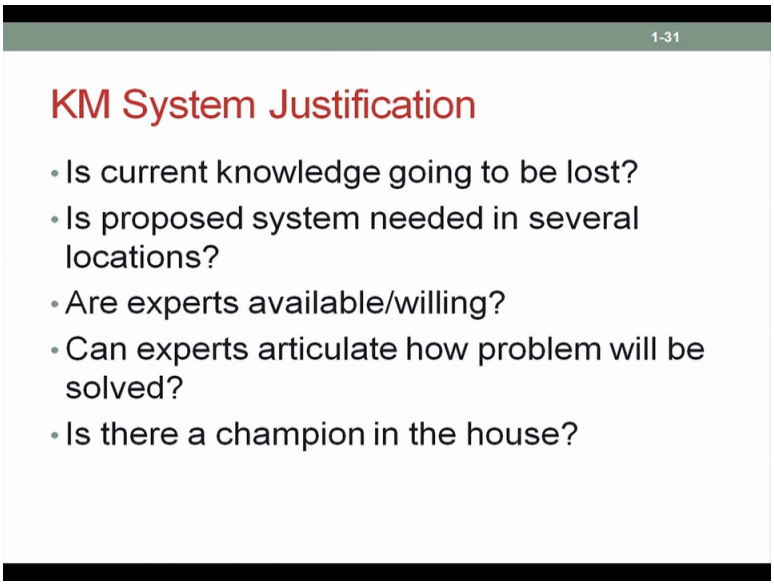

Now why we need a Knowledge Management System? Is current knowledge going to be lost, yes, see we have lost lot of information and knowledge that we had. If we look at our traditional knowledge management systems ok, through which we have build buildings, minarets and these things okay, which is not available.

Had it been available in some documented form, you could have created similar things that we had in the past. So, whether this system is going to be in one place or in several locations. You can have in one place or several locations it depends upon you. The only thing is that you need to be connected if you are going to have several locations.

Then, all experts are available or willing, then, we have to see that whether, in order to create knowledge management system expertise is available. If it is available then they should go for it. And if you think that the current knowledge is going to be lost or you need to see that this knowledge is stored for use for the future generation.

Then, you should create a knowledge management systems, okay. And then, you have see that whether experts that which are available, they are able to create that knowledge articulate how certain things are being done and document them, then it is good, then you should go for it otherwise not and finally if there is champion in the house.

That is whether people are there in the house who is advocating to have a knowledge management system. So, the champions basically talked about the benefits and see that why knowledge system is and what kind of benefits people and organisations can derive out of there

having a knowledge management system and that is the role of a champion. So, these champions basically try to justify, to have a knowledge management system in the organization.

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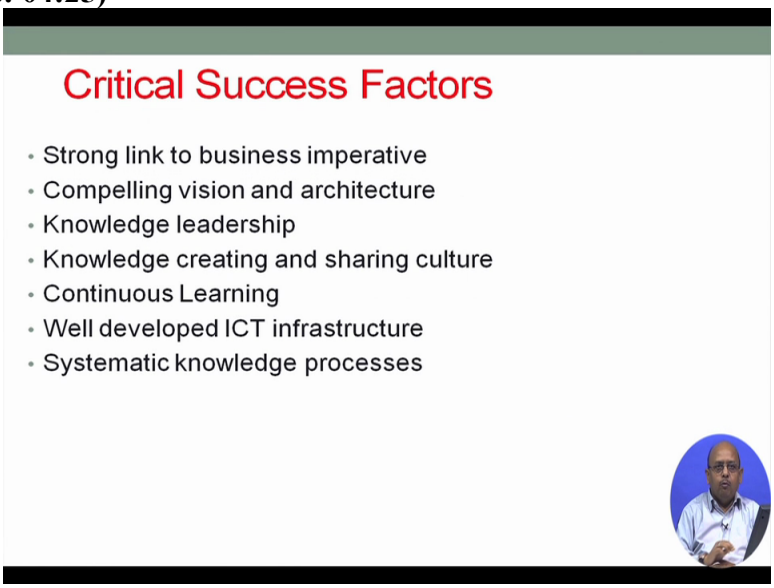

Now, what are the critical success factors? In what way you can say okay that knowledge management system is going to successful in the organization? It must be willing with the business. It means at any kind of knowledge management system, must help the business to grow up, okay. And any kind of knowledge management systems should have a vision. It means what for it is, how it is going to help the company to move and future.

And how is it going to realise the goals and objectives of the organization? And that is related to having a compelling vision and architecture. Architecture means that you must have a good framework of knowledge management systems for creation, storage, dissemination and use. And only then, you can succeed it. And then, people at the top management may be able to provide you support in terms of leadership because knowledge leadership is coming from the top.

You may have a Chief Knowledge Officer who is going to coordinate and integrate these activities but actually the top management must support through resources, infrastructure and other things to initiate any kind of knowledge management system in the organization. Then another important factor for knowledge management to succeed is that you need to create and share it.

And for that you need to develop a culture where people are readily willing to share their knowledge with others. And for that I had talked about it earlier to develop a collaborative culture and morale culture, team building, dialogs, good relationships, developing trust among

the employees to share their knowledge. Otherwise, what will happen? You cannot create or share knowledge with others.

That is where organizations are supposed to see that they need to create a conducive climate for knowledge creation. Otherwise, what will happen? They will not be able to do it. Then continuous learning, because continuous learning is the back bone of what you call having a good knowledge management system.

Because the kind of knowledge that you been using may become obsolete over a period of time. So, you need to replace that with the new knowledge. And this new knowledge comes from where? New learning that takes place. So, people need to continuously learn and come out with new knowledge so that organization going to have new knowledge which could be used by them to succeed.

And another important enabler is information, technology infrastructure because that is where you are able to capture and develop a retrieval process for the knowledge. So, you need a very good information and communication technology infrastructure. That is it in term of IT systems, Intranet, Internets, blogs, portals and websites through which you can support knowledge management system for retrieval and dissemination, okay.

And then you have to hire a systematic knowledge process, what are the different processes, how they happens. So, if it is captured in different forms and it is available in a proper way which could be used not in a haphazard manner, then what will happen? People will be able to make use of knowledge management system.

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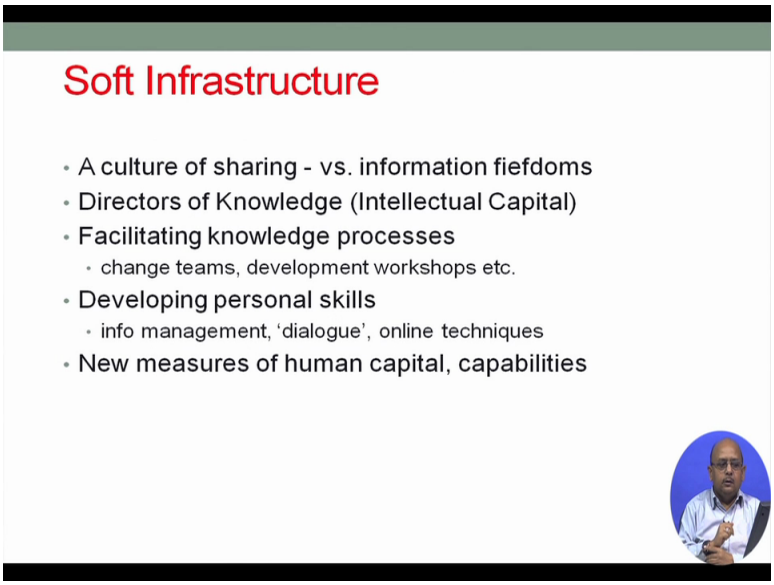

You also need you also need soft infrastructure. What I mean by soft infrastructure is culture of sharing versus information fiefdoms. That the two things when I am talking about information fiefdoms it means that people who are holding knowledge or information from others okay. And if you do not have a culture of sharing it means people are holding it, holding the knowledge from others.

Then, it is not good for the organization. So, we need to create a culture of knowledge sharing not of information holding, okay. Because this information is residing with only few people, it is not available to others, and then, they will not be able to make use of it okay. And then, you have directors of knowledge.

It means you have intellectual capital and human capital. You have people who have the knowledge or the expertise ok. And then, you also need facilitating processes like teams, workshop through which you can communicate people regarding creation, capturing and other form of knowledge processes so that you are able to have a good knowledge management systems.

In order to share other things you also need to look at the relationship issues. That is you need to develop good relationship at the workplace and that is where developing personal skills are also important. What I mean to by developing personal experiences skills is that you also need to see that how people are able to relate with each other, either a face to face or using a technology.

Because when it comes to information management, people should be able to know how to make use of that technology or system in order to create, share or whatever it is ok. And then, you also

need to develop new measures of human capital. That is why people would be talking about measuring human resources, what is the value of human resources.

And this measuring value of human resources is basically talks about how what is the value of the human capital in the organization. Where you use human resources accounting principles, to identify that total value of human capital of your organization and if you are able to measure the value of human capital of the organization and you find that it is appreciating, then, you can say yes.

The knowledge and skills base of this organisation is appreciating over a period of time. And that is why there are ways and means through which you can measure human capital including the capabilities which basically shows that the knowledge and skill index of the people is going up and these are the various soft infrastructure that is required by us.

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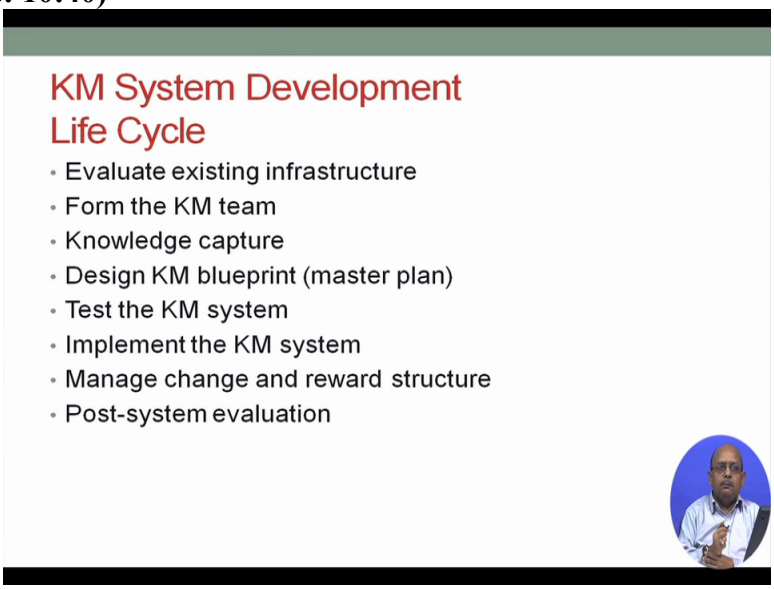

Now, we are moving to System Development Life Cycle. It has different stages like, to start with when you want to develop knowledge management system it has a life cycle and how to go about it. Starting with looking at current infrastructure to evaluation we go through different stages when it comes to developing a life cycle for system development life cycle for having a good and efficient knowledge management system.

So, the first part is evaluating existing infrastructure then we will look into that team, KM team what is the process or knowledge capturing, then designing the knowledge blue print, then you test the knowledge management systems, you implement in the organisation and you also see

whether you need to go for such modifications, minor changes and linked with reward system and finally you evaluate this.

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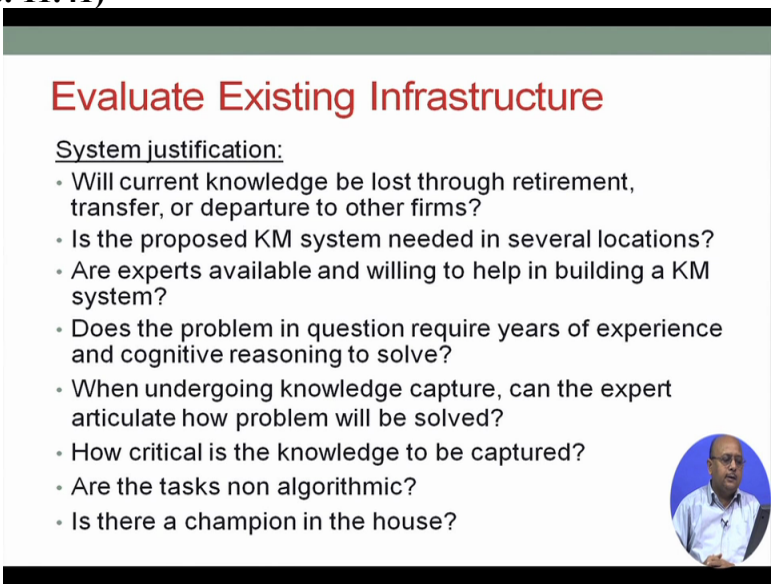

Now what we will do we talked about this one by one. So, I am talking about evaluating existing infrastructure. What do you mean by existing infrastructure? It is the current existing infrastructure, in terms of technology and other things, which is available with the organization right now, okay. So, whether the current knowledge that is there with the organisation is going to leave or it is going to depart from other forms through retirements, transfers, resignation okay and this kind of things.

And if that is so, then, you have to see that yes, you need to develop infrastructure so that it will stop it okay. Whether you require it at different locations or one location, whether experts are available or they ready to help you in developing your KM system, does the problem in question requires years of experience in cognitive listening to solve?

What does it mean? It means that whether people with more experience and knowledge are able to solve the problem or not and then whether it this kind of ability is there with people or not. There are two things. One is whether years of experience count, second with these years of experience whether you are able to solve the problem or not.

Then the next point is when you are going to evaluate infrastructure is when you are going to undertake activities related to capturing okay, can expert articulate the processes, how the things have been done, how all the problems are solved, how critical is the knowledge that is to be

captured because the knowledge that is being created or that is available may not be very critical. It is more generic knowledge, it is not very specific.

So, in that case if the knowledge is not very critical then there is no point capturing it because it is available in abundance, then, you no need to, look at it. Then, the next point is all the tasks non algorithmic. What does it mean? When you are going to use an algorithmic process means that you have defined processes to arrive at a goal or objective.

Say, for example, if I say 2 + 2 then the answer is 4. It means you are followed a principal algorithm process to solve this problem. But suppose if I say 2 + 2 equal to 5 it means that it is a non algorithmic process. It means algorithm is not going to help you to get the answer, fine. It means that you need to use heuristics. It means you have to find different ways to interpret this.

And that is where you have to see whether you are using only state defined processes to perform certain jobs, or certain jobs required for you to use heuristics; different alternative approaches to solve the problem. So if you are talking about non algorithm routes, yes, definitely you require knowledge management systems.

If you are only talking about set or defined processes for which manuals, guidelines may be available which could be used by you, okay. And then, finally we earlier talked about whether it has happened, yes, knowledge management champion, who is basically create a cause and convinces management about the benefits and such is that we should go for a knowledge management system.

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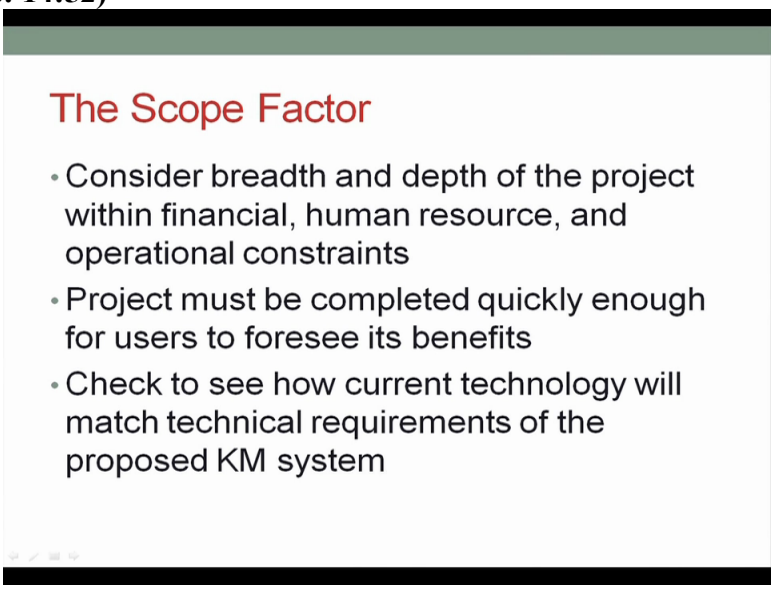

Scope Factor: What is the scope of how of having a knowledge management system? Both in terms of breadth and depth, how much of it, what you want? What are the different constraints that you have in terms of financial, resources and operations? So, that needs to be identified. When you are going to create a knowledge management system okay.

It is very important to consider that scope in terms of where it is going to be used, whether enough resources are available, what are the constraints that you are going to have; it means you are going to do some kind of analysis to see whether financial angle and human resources are available. What could be the operational constraints in order to implement the knowledge management systems in the organizations?

And also to see that yes it must be completed well in time, so that you can realise the benefits of it. Otherwise if you linger around if you keep on doing it probably it would create more cost for you compare to the benefits. And then, you have to see whether the kind of technology that you have, okay whether that is enough or not. If it is not enough it means current requirement of technology does not match with the technical requirement for the proposed system.

I will give you an example suppose you want to introduce ERP system in the organization okay. Now, whether the current system will be; is good enough that is one thing. Now, the current technology for ERP is appropriate or not? If the current technology for ERP system is not enough then you see that what kind of technology would be required for creating ERP system.

So these are some of the aspects of that need to be considered. Another issue is related to feasibility. What I mean by feasibility is that why you want to go for this whether it is really feasible to do it, any project which is related to the implementation of knowledge management address lot of questions.

Like whether it is doable, affordable, appropriate or practical. These are the 4 questions you must ask before you undertake any knowledge management project.

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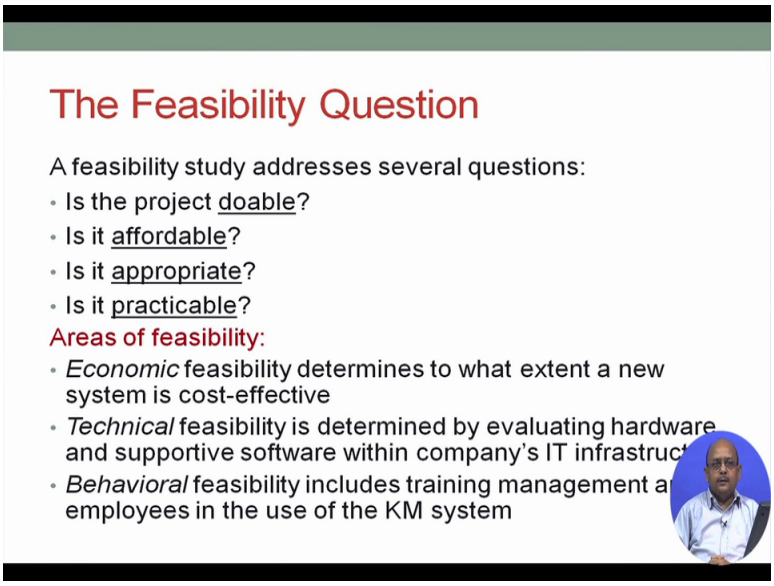

That is whether you can really work it, whether it is cost effective, whether it will help you to solve the problems that you are facing and whether it is practical or not. If you are able to solve all these 4 questions or you are able to address these questions with a definite yes, then only you proceed further, okay. And the area feasibility includes both economical feasibility and technical feasibility and also behavior feasibility.

Economic feasibility that is very, very important. When you are going to implement any new project whether it is knowledge management or anything you make sure that it is cost effective. It means whether the benefits outweighs or approves exceeds the cost. If the cost is more and the benefit is less probably, it is not economically viable to go for any kind knowledge management system, okay.

Then technical feasibility, okay then, you also see whether your hardware or software support system is available in terms of IT infrastructure. If it is available, then, you should go for it. And finally behavioral feasibility, okay. That is where employee comes into the picture, it means whether people have the right kind of student behaviour to make use of KM system or not.

Like, once you have developed an ERP system and people are not going to make use of it, then, what is use of having an ERP system? So, what I mean to say is that you need to ensure that people are being trained to make use of the knowledge management system and that is where will you look into the feasibility in terms of economics, technology and the behavior.

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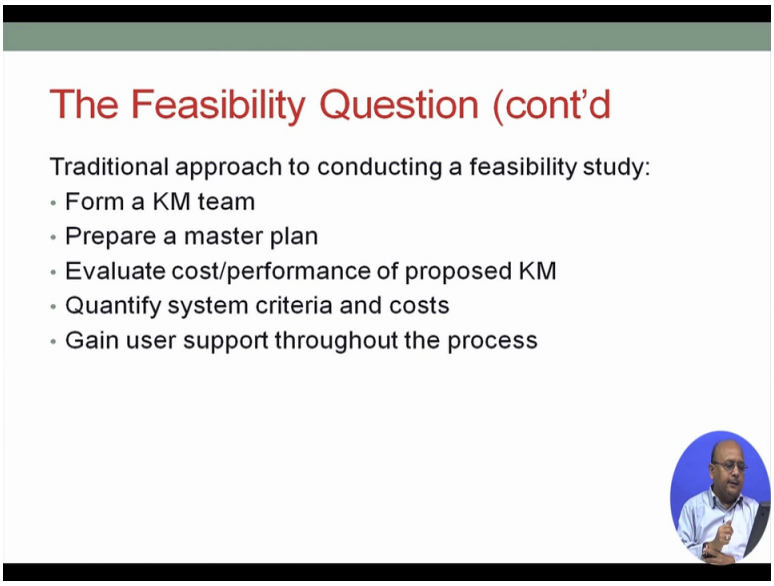

Now there are other things are also there. So we need to form a team, a KM team. And this KM team as I told you is responsible for implementing the knowledge management program in the organization. Then, you also have a master plan. This master plan is nothing else but a blue print on how to go about it, okay. Whatever thing that needs to be done, whatever the resources that is available, what are benefits that is going to there.

So, the master plan must include everything and the top management must be convinced with these kinds of things. And then, you also evaluate the costing performance of the proposed KM system to see that whether when you are going to develop knowledge system, what is the cost and in what way it is going to benefit the organization in terms of performance, efficiency, productivity and whatever it is ok. And then also have a quantify system criteria.

When I am talking about quality system, quality system of the knowledge management system, okay. How good and effective it is and you can use certain quality criteria, okay whether the not only in terms of cost other part systems criteria like how much benefit you are going to have in terms of say market value, productivity, improvement in the quality in terms of percentage.

So, these are the systems criteria which you can quantify if you are going to use a knowledge management system. And the most important thing is when comes to feasibility is getting user support system okay because even are to develop a good knowledge management system ok whether people are really looking forward to it or not.

Whether people go and look at the kind of information and knowledge based information that is available with the organization and how they are going to make use of it. If the user support is not available probably irrespective of the kind of system that you have, I mean knowledge management system it is not going to be very, very effective.

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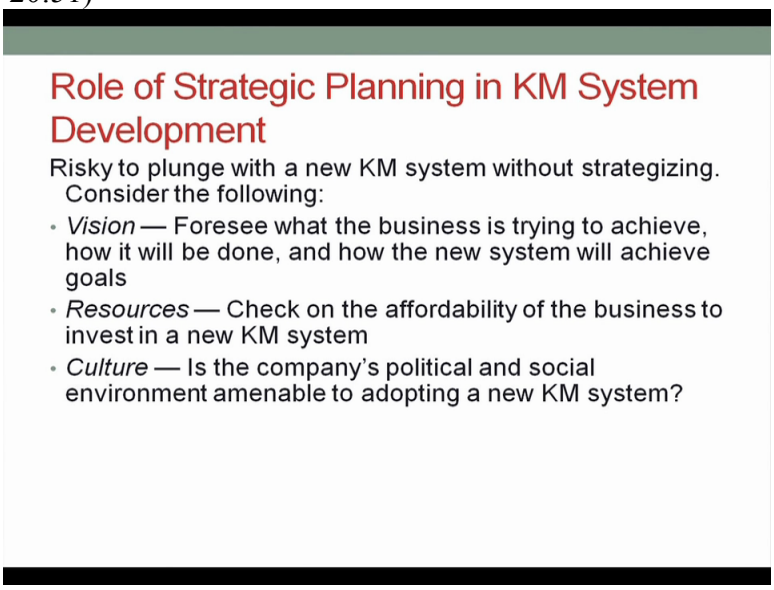

Now, the next part that I am going to talk about is strategic planning and knowledge management system development. That is where we have to see that when you are going to develop in new knowledge management system, you also need to look into three important factors: that is vision, resource and culture.

What I mean to say is that it is not going to be effective in knowledge management system is not going to be effective unless you plan a strategy about how you go to about developing knowledge management system. The first and most important thing is vision, okay. So, what actually vision tells about an organisation?

Says that okay, where you are and where you are to go okay. So, it says, see, that okay this is where we are and this is what you want to achieve. So, I say that okay IIT Kharagpur has a vision document for 2020 that okay; we want to be in the top 20 or top 200 academic Institutions of the world? Now this is the vision, where you are, you may be in the position of 500-600 in the ranking.

Now you want to move to 200, means is that is where you are and this where you want to go. Foresee what the business is trying to achieve. Now the next thing related this how would you go

about it? It means how you can move from 500 to 200 in the position. So, that is where you need to develop certain strategies, okay related to faculty development, projects, collaborations and all kind of things which is going to be a part of a strategy, so that in 2020 you are under 20, 200.

Now in order to develop a new system you must ensure that in what way this knowledge management system is going to help you to realise your vision, okay. If you find that this knowledge management system is not going to help you realize your vision okay. Then probably it is not going to be effective.

Then another important issue is resources, because when you want to develop a new knowledge management system it requires cost, in terms of resources. That is only financial resources in terms of time resource that is also a resource okay. Support and commitment of top management that is also important.

So, you need to see that when you want to develop a new system for the organization with the objective to achieve certain goals in; goals for the organization you have to ensure that whether that organization can afford it or not. See many organizations are not able to adopt to ERP systems because of its cost because they cannot afford it.

Now the question of affordability is very, very important. How much you can invest in a new knowledge management system that is very, very important okay. So, if you look at cost benefit analysis and only then, you invest in a new system thinking that the likely benefit of the system is going to exceed much more than the cost of the investment that you have made. Basically, it is very simple.

You want good return on investment that would be criteria to ensure that your knowledge management system is going to work. And third that is the soft part is the culture okay. Whether the political and social environment is good, whether it would facilitate in developing a knowledge management system or not that is very, very important.

What I am trying to tell you is here is that when you, when we want to introduce a new system in the organization, you face resistance and people start opposing it. And that becomes a challenge for management or even the champions of the knowledge management system. So, you need to foresee what kind of political and social environment the organization has.

Political environment, what kind of manipulation you want okay, what kind of relationship is there, what kind of dynamics people have, what kind of games people play. So, these things must be considered because there are people who are some people were going to oppose this kind of system. And say that the existing system is better than what you want to bring.

So, they need to be communicated strategically and convinced that how this new system is going to be better than the earlier system.

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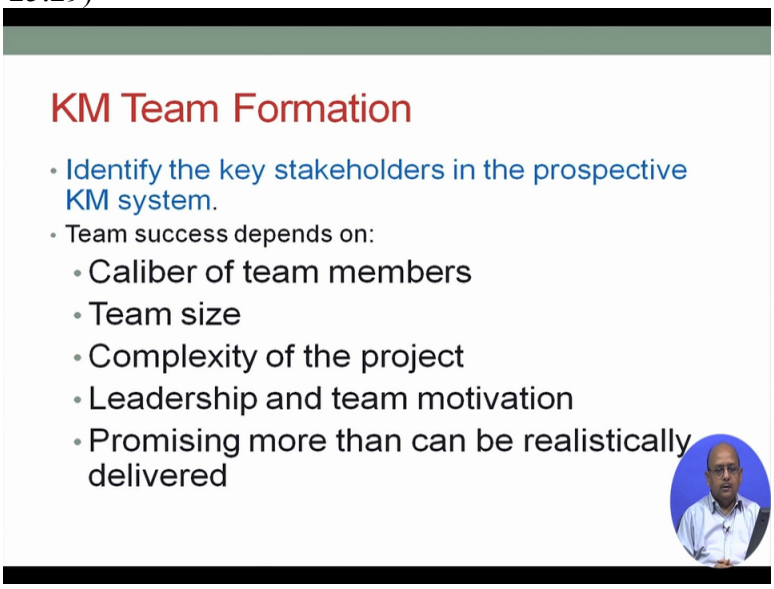

Then, you have formation team. There are various factors that you can look at it. Like who is going to be members of the team, how complex it depends up on the size, project, leadership and team motivation, okay. And then, the goals that is to be achieved. So, based on that, okay you can form KM team and then so many factors that is actually going to see that whether the team is going to succeed or not like what is the knowledge and skill base of the members team members.

That means they must come across different functional areas, they must be experts in their own field or the domain, sizes. When it comes to team size, if you are having too bigger size then creates new scenes, if team size is very low that is also not very good. Ideally a team size 5 to 7 is always very good for any project, then, the complexity of the project.

Then, the members of the team must be selected depending upon what the project is. Suppose if you want to introduce a project on knowledge management. Then, look at the complexities, what kind of systems that you have how complexities you are going to have and then who will be the team members. Accordingly you decide, not only just based on expertise but who can contribute to the project that could be another criteria.

And then, leadership and team motivation it should be there and there will seekers, knowledge champions and it is their responsibility to ensure that provide good leadership, support the leadership, create a culture and also motivate the team to do a good job. And then, when we comes to setting goals, objective make sure that it has done more realistically not make any tall promises. But make sure that this is what knowledge management system going to deliver to the organization.

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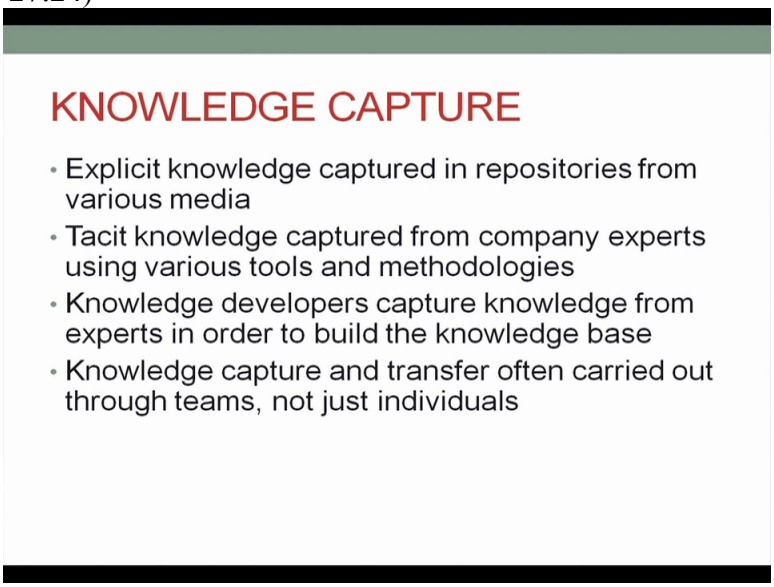

Then another issue is capturing knowledge. See, we have been talking about tacit knowledge and explicit knowledge. So, actually what happens is that explicit knowledge is captured and it is kept in the repository? Tacit knowledge is captured using tools and techniques like process observation other kind of things, dialogue, interactions, relationships, okay.

So, the role of knowledge developers is very, very important because it is the knowledge developers who are going to capture knowledge from experts in order to build a knowledge database okay. So, the knowledge capture and transfer are very, very important. And for that you have to see that it is done through teams not just individuals. So, the roles of knowledge developers are very, very important in the knowledge capturing process;

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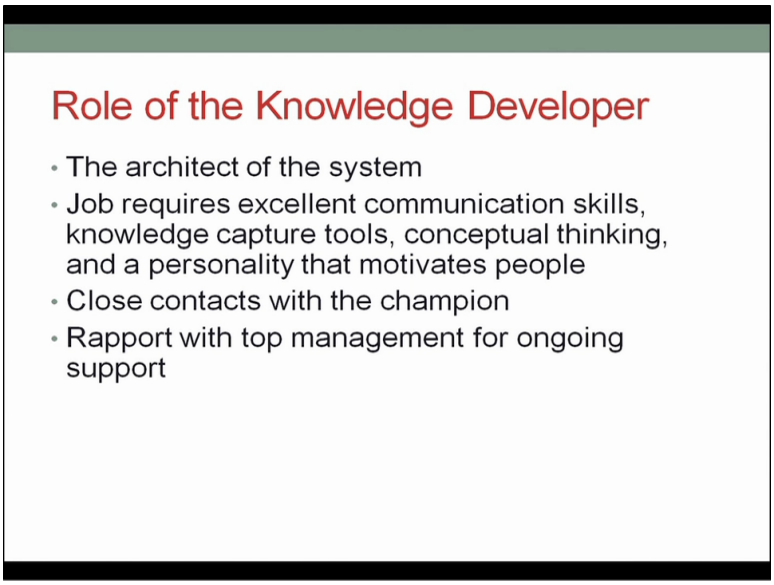

Because the knowledge developers are basically the architect of the system because they design and develop a system for creation, storage, retrieval and use, okay. So, you have to see that knowledge development team has the expertise to capture the knowledge, store it and develop a IT enabled system so that it could be used by others.

And this knowledge development team must have a good relationship with the knowledge champions and also better rapport with top management on a regular basis so that they are able to update and upgrade the system on a regular basis.

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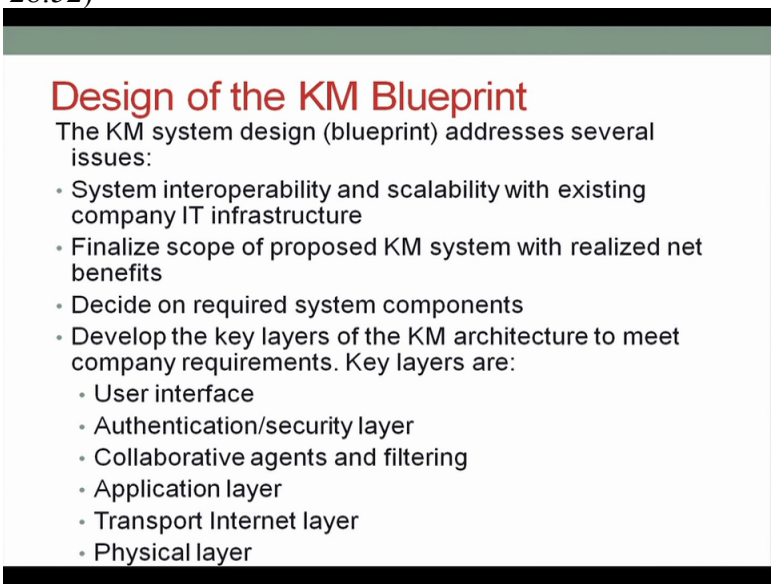

The next stage is that having a blue print or the master plan. It is very, very important. So, what is the scale of operations? What are the IT systems? What are the scope of the system, how it is going to help the organization ok, what could be the different layers of the systems ok, how the

this KM architecture is going to meet the requirement of the company like, what kind of user interface you are going to create, uses of the knowledge basically.

How you are going to authenticate, secure, different layers of the knowledge management system, you have passwords and other kinds of things, okay. And then, you have collaborative identifiers and filters which is going to help you to see that okay, you are able to filter out that part which is not useful which is not critical, not important ok.

And then, in the applications level, how to use that knowledge and then transport Internet layer through internet, you can transport that knowledge from one location to another location. And then, you have physical layer that is basically you can see that content and other kind of things related to knowledge management.

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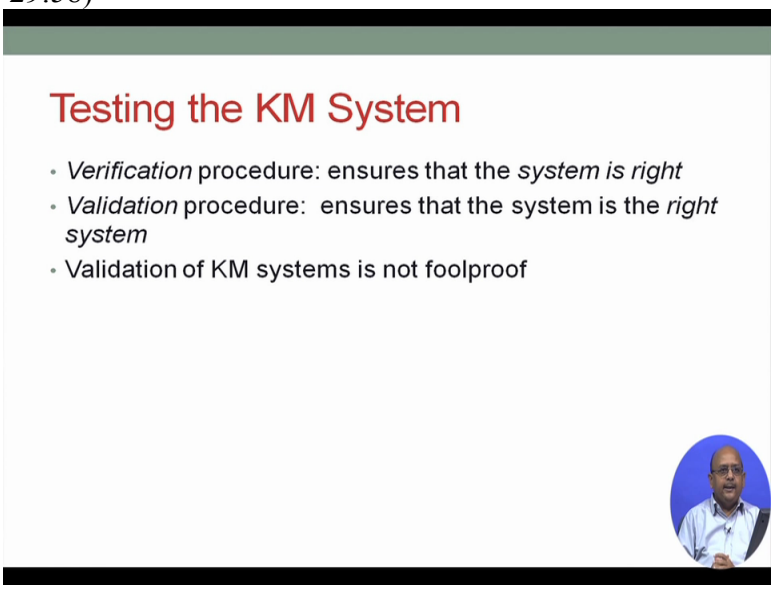

And then, you are going to test the system and verify it, certify that the system is working, validate by using that system, system is in the right kind of system update. And then, validation system is not fool proof because you need to update it and keep on changing. So this validation has to done carried out on a regular basis.

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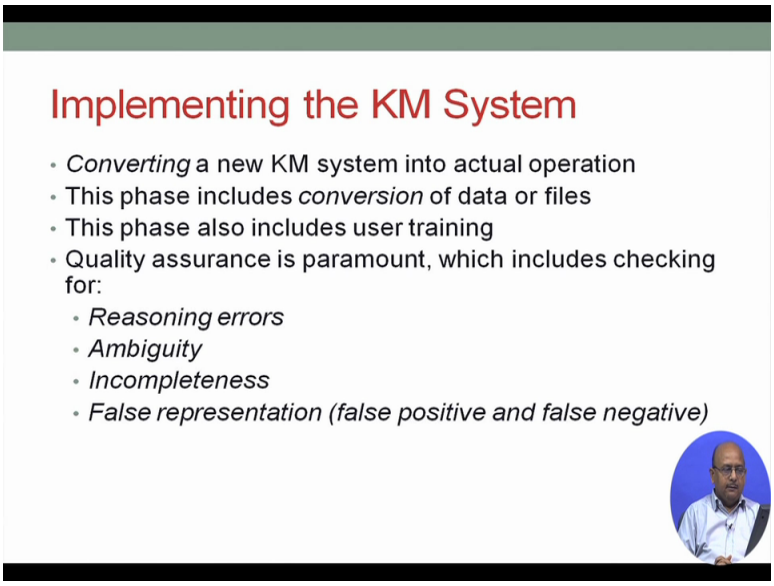

And then, finally you are going to implement the knowledge management system okay. So, once you have go through this life cycle, you are able to actually develop a knowledge management system, okay. Where and in this, when you want to implement the knowledge systems basically you converse data into information to knowledge and that is where you need to train people.

You also look into the quality issues because that is very, very important because whatever knowledge is available there in the databases, you make sure that this is authentic. And there is no error, it is not incomplete, it is clear not ambiguous, okay and you are not going to make false representation that is basically false positive and false negative.

So, what I mean to say here is in the context of knowledge is, false positive is that is, see, when we try to define it into two ways: either the knowledge is correct or not correct, okay. It is not okay it may correct or it may be not correct. That is what we call false positive and false negative. The likelihood of false positive and false negative should be avoided.

Like in Recruitment, what happens, okay? Suppose if you recruit 5 people, okay assuming that all 5 people are good. But ultimately what happens you find that only 2 are good. Out of 10 suppose we recruit two people and need two people are there. Sorry out of 10 we have each group of 5 people and two are good. It means, out of 10 only two are good and three are not good, okay.

But what you have done? You have recruited 5 people. These 3 people are going to be either false positive or false negative. It means they are not going to perform well. So false positives it

means that is you have taken somebody who is not good. It means you have included certain information which is not correct, right.

And false negative is that you have rejected certain information which is correct. And that is where we need to avoid any kind of false representation in the system, okay.

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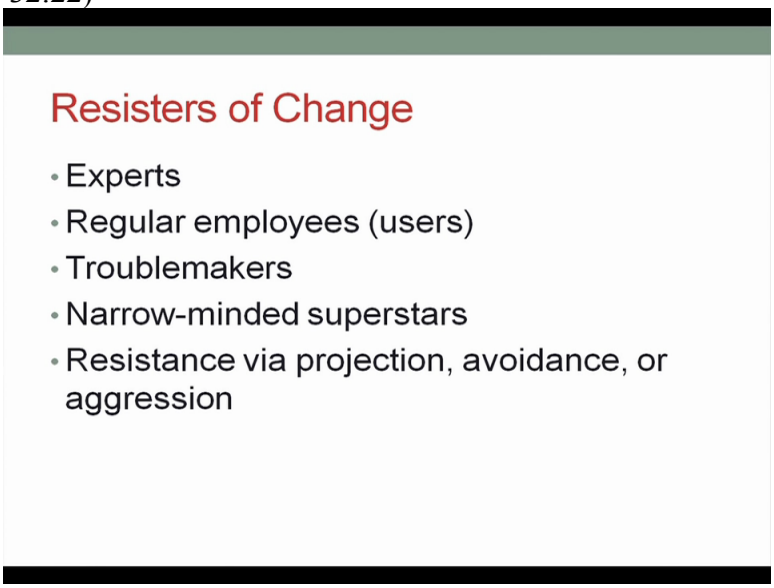

And you also need to mange resistance from employees, trouble makers those you have narrow minded okay. And then you have to communicate and see that how it can be done, okay. Thank you very much.