Knowledge Management
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Lecture 02
Introduction to KM(Contd..)

Ok, so, I am going to talk about the different type of knowledge before that you remember we talked about the knowledge assets.

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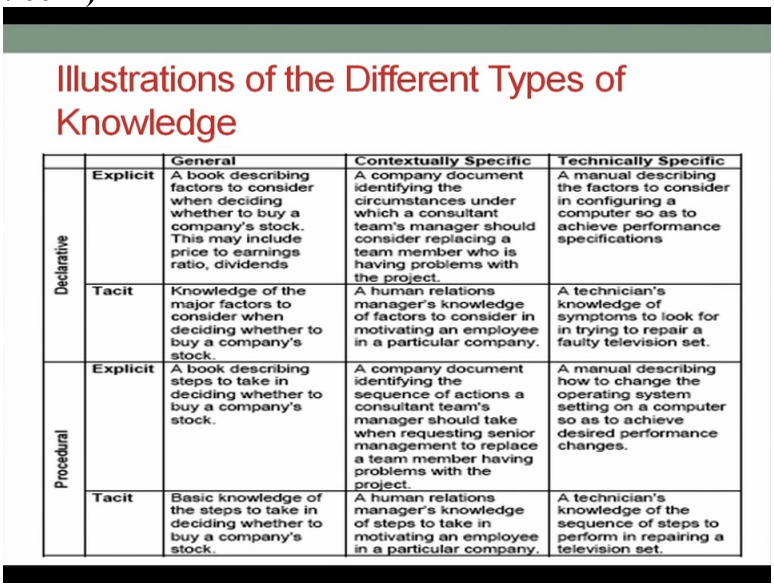

		General	Contextually Specific	Technically Specific
Declarative	Explicit	A book describing factors to consider when deciding whether to buy a company's stock. This may include price to earnings ratio, dividends	A company document identifying the circumstances under which a consultant team's manager should consider replacing a team member who is having problems with the project.	A manual describing the factors to consider in configuring a computer so as to achieve performance specifications
	Tacit	Knowledge of the major factors to consider when deciding whether to buy a company's stock.	A human relations manager's knowledge of factors to consider in motivating an employee in a particular company.	A technician's knowledge of symptoms to look for in trying to repair a faulty television set.
Procedural	Explicit	A book describing steps to take in deciding whether to buy a company's stock.	A company document identifying the sequence of actions a consultant team's manager should take when requesting senior management to replace a team member having problems with the project.	A manual describing how to change the operating system setting on a computer so as to achieve desired performance changes.
	Tacit	Basic knowledge of the steps to take in deciding whether to buy a company's stock.	A human relations manager's knowledge of steps to take in motivating an employee in a particular company.	A technician's knowledge of the sequence of steps to perform in repairing a television set.

And we also talked about explicit knowledge, tacit knowledge and also procedural and declarative knowledge. Now, if you look at this table, it shows the different type of which could be classified either as explicit knowledge or tacit knowledge under the category of what you call declarative knowledge or procedural knowledge.

Now we have also decided to talk about the context specific and Technology specific use of different kind of knowledge which is related to declarative as well as procedural. If you look at declarative, explicit and tacit both now, explicit is say a book right. Book which talks about a particular thing, in general, like when we are going to buy a company stock, what are the things that you are going to look into like price to earning ratio, dividend and this kind of things right.

So, it is explicit which is available in your book which is given okay. It is declarative, it is in declarative form. Now, if you look at that tacit form of knowledge, they suggest, when you are going to buy it, okay? That though you have declarative information and explicit form which

gives information that when you want to buy stock of a company, what are the things that you need to consider?

But, in this case, you are going to see that, when you are going to buy the stocks of a company? And this decision is based upon the kind of knowledge and experience that you have; I am not saying that you are not going to make use of explicit knowledge; you are going to make use of it. But the decision to buy a stock depends on you which is more personal.

You are not only going to look into the factors that are described in the text. But also use your experience, your insight and other things, when you are going to do it right. See, it also has two context; technology related and context related. Now, suppose in a particular context, it says that okay when we are going to take a decision that, okay there are certain a team which is not working well.

So, I need to replace certain teams, certain members of the team and this decision has to be taken by you, okay which is related to particular project. Now if you look at the technical aspects of, aspects as there is manual which is going to talk about configuring a computer ok so that you can achieve specific performance that you want to achieve.

So, when I am talking about declarative, explicit, technical knowledge which talks about how to do particular things, where manuals are available. And then you make use of these manuals to perform certain jobs, right. But if when it comes to tacit knowledge it says that, okay if you suppose, something goes wrong then, how do you go about it.

Are you going to use explicit form of knowledge to find a fault, Are you going to use your knowledge and experience to see that what went wrong with the computer system, which can be corrected, right. Now, look at the next form of knowledge that is procedural okay, again it has both explicit and tacit form. In explicit form basically, it clearly says the process through which you should go to buy a stock of a company right.

Now this gives you the basic knowledge. But it does not mean that it going to decide when you are going to by this stock, right. Now, in a particular context, for example, you can see that, okay when it is reflected senior manager asks, to replace certain members of the team because the team is not working well and then you will decide to do it you have a context ok.

Now, if you look at the tacit part of it because of the context that you have decided to change, a member of the team but if you look at tacit part of it okay this suggests that you are a person who are going to, based on your knowledge and experience, you are going to see that how we are going to motivate people to the organization.

Because there could be books, information about motivating employees but it may not work because, if you go that, it may not work. So, as a manager as a person you are going to use your knowledge, your wisdom, to see that what needs to be done, in order to motivate people or employees in particular or specific context of situation ok.

Now in terms of procedural again, if you look at the technical aspect of specific part there is a manual or guide which tells you the process to configure the system or change particular part of it is not working right. Now when it comes to tacit based on his experience or knowledge he knows what different steps which can be used to repair that.

And he is going to use his knowledge, may not be necessary mean that he is going to follow; then, the entire procedure that is it is going to save time and resources. And that is where tacit becomes more important.

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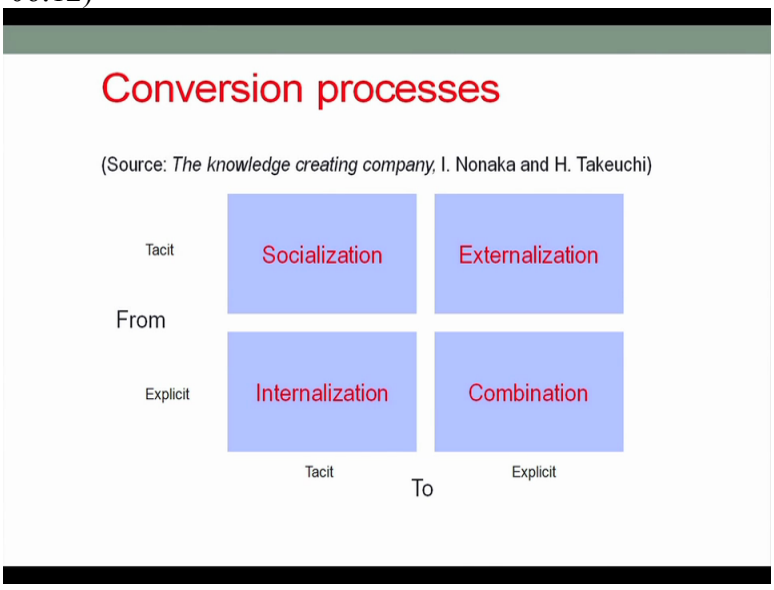

Now will also discuss that how to convert tacit knowledge into explicit knowledge. Now if you look at this figure it suggests that there are different ways through which you can converse tacit knowledge into explicit for not only tacit to explicit but also explicit to tacit and tacit to tacit.

And that is why if you look at both the exercise from, from to that is there are two type of knowledge that is tacit knowledge and explicit knowledge.

And then how are going to convert this tacit and explicit into explicit and tacit. Now if you look at tacit to tacit, there are two ways to do it. That is socialization and internalization. It means that when you are interacting kind of as a personal level, when you are having dialogue collaboration, relationship.

In these cases, you are using certain techniques known as the process of socialization and internalization through which the knowledge is transformed or transferred from one individual to another individual again it remains in the tacit form. Now, when we are using tacit to explicit that means you are going to use externalization.

That means you are going to see that how this could be documented or used in some form, so that you can transform that tacit knowledge into explicit form or you can also use a combination of these three processes that is externalization, socialization, internalization to move from tacit to explicit.

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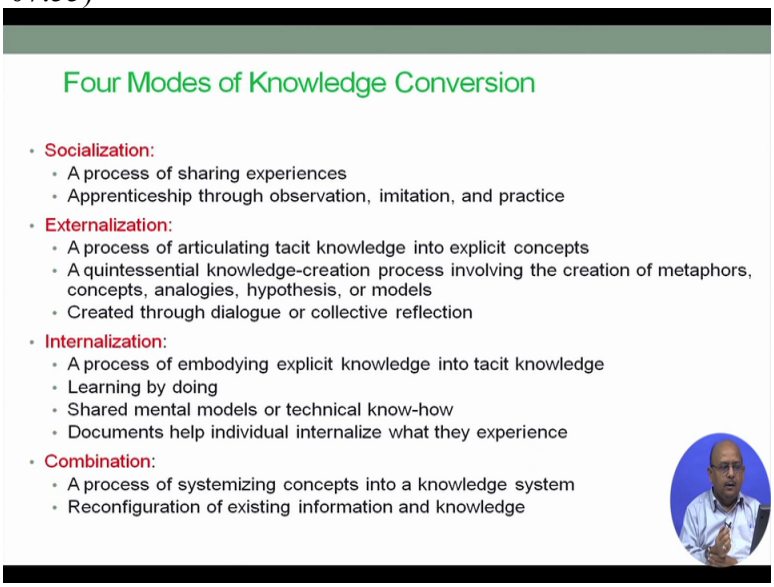

Now I am going to further explain this using this. What is socialization process? Socialization is where you are going to share experience at individual level or at the group level, okay. And the learning takes place through observation, imitation and practices. That is how you come to know about the knowledge which the other person has.

Now the next technique is externalization. Actually externalization is that how you are going to articulate tacit knowledge into explicit form ok and that there is a process through which you are going to articulate certain things, which is available to you. And then you are going to present it into particular form okay.

It could be theory, it would be concepts, it would be models okay and that is based on your knowledge and experience which is with you. And then you note it down, you develop a concept, provide your analogy or develop a hypothesis or a model to explain the relationship among certain concepts of phenomena's. And then, that tacit knowledge is transformed into explicit form.

And that is why you are trying to examine the relationship among various concepts, or you are going to develop theoretical model to explain certain phenomena or the behavior okay. How the externalisation takes place, it could be through reflections of the people in a team or group or through dialogues with people or groups.

Now, another process that will talk about is internalization. Internalization basically where you look at the thing which is available in the document, manual guide line and you learn from that. And then, you gain the knowledge. And that is what you call learning by doing. So, the experience that you gain out of doing certain things is known as internalization.

That means that we are going to internalize through certain experiences based on your readings, observations okay and other things that you go through which is available in to what you call either tacit form or explicit form okay. And that is what we call internalization. Now these documents and other things also helps you to internalize because you have certain documents and go through it and then, you make use of it and then do certain things okay.

And in the process to learn and that is what we call internalization. And you can also make use of these three processes, okay where you are going to systemize these concepts into a knowledge system, okay and so that we can reconfigure the existing information from the knowledge. So there are certain, suppose, for example, based on your externalization, you are coming out with certain theoretical models okay.

Now, based on you experience, you are going to test it, whether it is correct or not. So, when you test these theoretical models and you find that you need to make certain changes in these models

based on your experience, intuition and knowledge and skill then whatever using, you are using all the processes.

You are using internalization, externalization and other factors. So you are using combination of these factors to reconfigure the information and knowledge that is available okay. This is what we call as different form of knowledge conversation.

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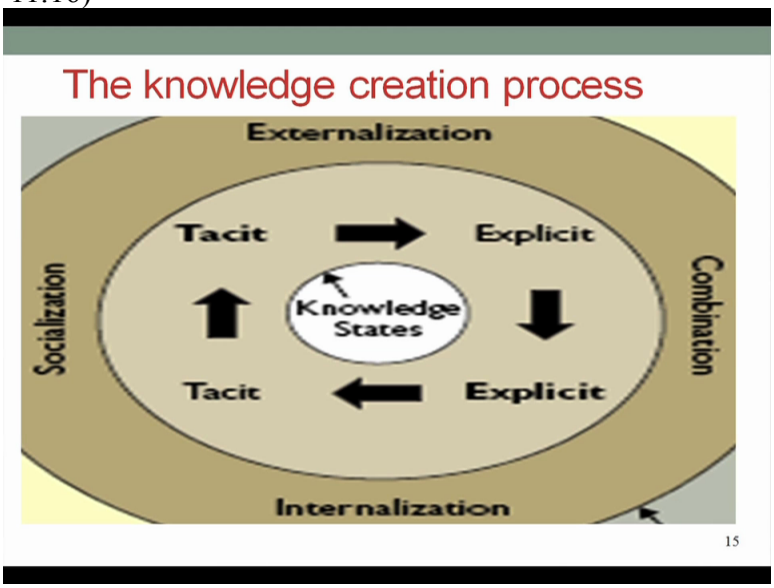

Now, if you look at this graphs, which clearly tells you that how we move from tacit to explicit, explicit to explicit and from explicit to tacit to get the knowledge. And this also tells you the four processes that we used to have either tacit or explicit. So, if you look at the boundary source, for four different processes that we have talked about, like externalization, combination, internalization and socialization.

And if you may make of these processes, okay to create either tacit form of knowledge or explicit form knowledge, right.

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To the next one; now how this is done, how we capture, organize, access knowledge that is available. If you look at traditional system or the older ways of doing things, okay you need certain form. It could be auditory or geographical or written and that is how used to capture knowledge. So the old ways to capture the knowledge was that it is available in the written form, like auditory form or with graphical representation in a graph so that you can see it.

That is how capturing organisation and access was done so that you can make use of it. Say for example, there is the letter okay or there is the lecture which is available in the auditory form. And there is a book which is written by somebody, okay. So this book is documented form of explicit knowledge which is organised and structured. So, you have access to it and you can make use of that to do certain things.

So that was the old thing okay. And this organizing was done through content, indexes, classification system. Say for example our libraries. Our libraries are the best examples of how the knowledge is organised and accessed by us. So, library system if you look at, it has a codification system, it has a classification system, it is very, very structured.

So, suppose you are looking for a book in a particular area, so you have to go to the classification system to find out where the book is available, okay. And that is what we call a classification system, a content and indexes can be identified. And based on that, you can check the content and other things, okay.

And you need to access it physically it means that, you want to have a book, where you have to go? You have to go to the library, okay. So, it was available in physical form because it is not available in virtual form. So, if you want something, then, you have to go to the library to the company or the lab or to the school right.

And the older way to capture, organize and access knowledge was basically for explicit or documented form of knowledge okay. Tacit knowledge was not tapped through this process. Now if you look at the new ways you know that; now the knowledge is being captured in a digital form in a cyber space.

Most of the knowledge is available in most digital form. That is why you know that even libraries are being digitized so that you can have access from anywhere. And how this is being organized and this knowledge is being organized? Using software systems, based on engineering principles, equations so that it is available anywhere anytime, right. That is 24 by 7 by 365.

What does it means? It means that you are using technical system, IT systems or software to organise and access knowledge, okay on a real-time, whenever you wanted okay. You do not need to physically go anywhere to have this kind of knowledge. If you have a computer system you can have access to it okay. And there are different tools that can be used to access tacit knowledge also it is not concerned with explicit knowledge.

But what I want to say here is what is that tacit knowledge would be coming out of this because knowledge that is easily available to you? What you need to do is that you have to make use of that information which is easily available to you, to apply in a particular context, to perform effectively. And that is where you are going to have tacit knowledge okay.

And this leverage is much more exponential. Multiple times you can make use of it, because there is no restriction, because library may be open from certain timings. But in a cyberspace, you can have information any time in the real time basis okay. So, that is how procedural knowledge has been captured and organized you have access to it.

So, it provides you a better leverage in terms of efficiency, effectiveness, performance and productivity.

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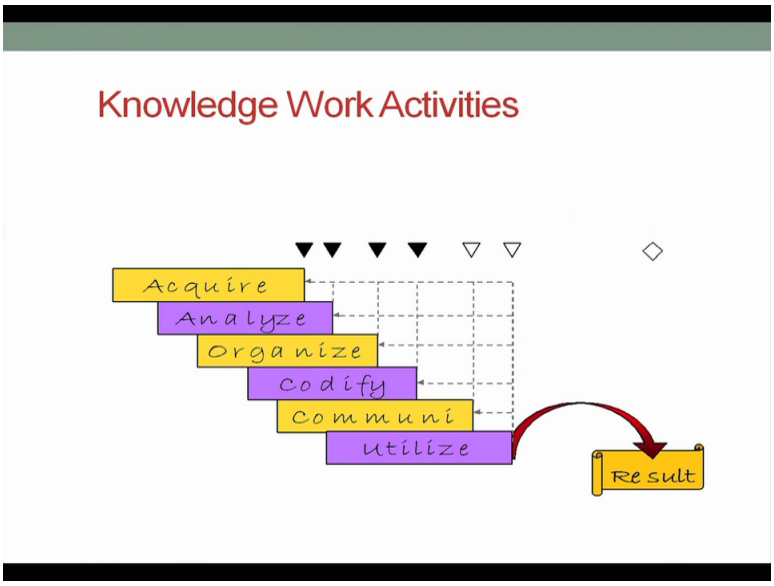

What are the different kind of knowledge activities that is there? So, we start with first thing that is how to acquire knowledge because the most important thing is acquiring knowledge because unless we acquire or create knowledge nothing is going to happen. So, at this stage, you have to see that how to create knowledge?

Who is going to create knowledge? It is the people. So, the people in organisations or elsewhere create knowledge which could be used by others. Knowledge is also created by people, it could be in the laboratories, it could be in innovation centres, R and D labs of the institutions and organisations and they try to innovate and create new knowledge.

So, unless they create and innovate something that is new whether it is related to products or processor or systems you are not going to have a new knowledge, okay. So, once this new knowledge is created or acquired by you, then, you are going to analyse it. Why you need to analyse it? Whether this knowledge that you have created are acquired is going to be viable, useful or not.

So, if you think that this knowledge is good which could be useful for organization or for the individual, then, try to organise it. So, provide, try to provide a system to see that how this knowledge can be used, okay. And then you go for codifying the knowledge. Codifying is the next stage where you try to see that this knowledge is available in some documented form, explicit form so that anybody can use that knowledge.

So, organising means, you are going to classify what kind of knowledge it is. And then, you are going to put it somewhere using an explicit form okay. It could be visual, it could auditory, or it could be in a book form, or it may be in digital form so that the knowledge is available. So, once the knowledge is codified that the next stage is to make use of it. How? Having access and retrieval;

And that is where you need to communicate. What I mean to say, when I am talking about communicate is that you are going to see that okay this knowledge is available which could be used by the people. So, if the knowledge is available in a codified form it is well organised then it is easy to communicate to the people or people can get information about that, from the retrieval system.

And then, what is most important is the utilisation even if the knowledge is available in the archive of the organisation of the knowledge management system of the organisation whether or going to make use of that doing something, to be more productive, to be effective or not, it is very, very important.

So, utilization of that knowledge which is available in some explicit form which is highly organized structured and codified way. So you need a system so that you can have access to it okay. You can make use of it and then you see that what is the result? When you are going to make use of that information knowledge in order to be productive, you have to see whether you have met the goals and objectives for which you wanted to make use of that knowledge.

So you are going to compare the result with other things. So, if the result exceeds with these processes, then, you can say yes, it is a good system; it is very, very effective viable which can be used by you for being more productive and efficient.

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Now, what is the different kind of knowledge management systems that is used in practices okay? So, you know that mostly the organizations are knowledge teams. Knowledge teams which are responsible for creating, acquiring, disseminating the knowledge in the organization or anywhere. And this team may consist of people from different categories.

There could be people from say HR , there could be people from R and D team, there could be people from IT systems because different kind of people are required at different level. Say for acquring you need R and D people, right. For coding and putting them into archive, you need IT system; you need the help of IT people okay okay.

And that is why knowledge people are multi disciplinary where you have people from different functional areas, okay. And from these functional areas, people from different functional area form groups, okay. And this is what we call knowledge team. So, this knowledge team is basically responsible for what?

Acquire, that is creating knowledge. Then storage, then dissemination and finally see to it that people are going to use that knowledge which is available in the knowledge management system of the organization. Knowledge, what is the knowledge base? That is basically the contents okay, what is available in the knowledge database.

Knowledge database may include experts, processes, best practices related to production processes, systems and other things so that people can make use of it. I mean knowledge

database is basically of repository of knowledge which is available in different forms. Then you have knowledge centers.

Knowledge centers basically that is what we call the hub where the knowledge resides. It is basically the archive where the knowledge is there. So, Google is a knowledge hub because from there you can get lot of information. And it has a system, through which you can retrieve information depending upon the context in which you want to make us of it, right.

Now another part, another important thing is running the organization. So when you make use this knowledge, in order to create and innovate something new, which helps you to be more efficient, more productive, and more innovative on a continuous basis then you become a learning organization. If you look at learning organization is defined as a process, a continuous process to improve and innovate yourself.

So, it could be relate to the individuals or teams or the organization and that helps in the growth and development of the organization. Next is, Communities of practices, what is communities of practices? Those are practices which a group follows in doing certain things. It could be related to processes okay. So, suppose a team is given a project and they successfully completed the project.

And they become very, very efficient okay. So, these practices that a particular group has followed in executing certain project, so what processes they have followed if these processes are captured and documented and explicit form then it could be available to others and that is what we call communities of practice is so appears in execution of work.

The information, the knowledge, the process through which the work is being done by the group is very, very important and what is the need to capture those practices which people are adopting in order to be performing well and to be effective okay. Another important thing that is required for knowledge management is technology okay.

Because in a digital world what you need is, if you really want to have a knowledge management system, you need an IT infrastructure or technology infrastructure; you need Internet, software or you need hardware, you need systems, document management systems these kinds of things. So, technology is important because it is an enabler, it is a carrier to store and get that information from the store.

So it helps you to build up the archive, it helps you to set up the processes through which you can retrieve the information, okay. And that is where technology is very, very important and finally, the initiatives that is taken by the corporate managers. Now the thing is that how much important is given by the corporate or the top managers to these kind of initiative in the organization.

Whether industries are top managers of are really interested to have knowledge management system? Do they think that it is going to be useful for them? And if they think that yes, it is a good system which is going to help them to be more efficient, productive and innovative in future. Then they are going to develop or have a KM system in organization.

And they have taken certain initiatives like appointing Chief Knowledge Officers in the organization. And this CKO's chief knowledge officers are actually responsible for implementing and developing and implementing in knowledge management system in the organization, the intellectual accounting management or the intellectual capital accounting.

So, most of this organization have gone for developing a index for identifying the level of intellectual capital. So, then try to create intellectual capital accounting and through this process they try to create intellectual capital in the organization.

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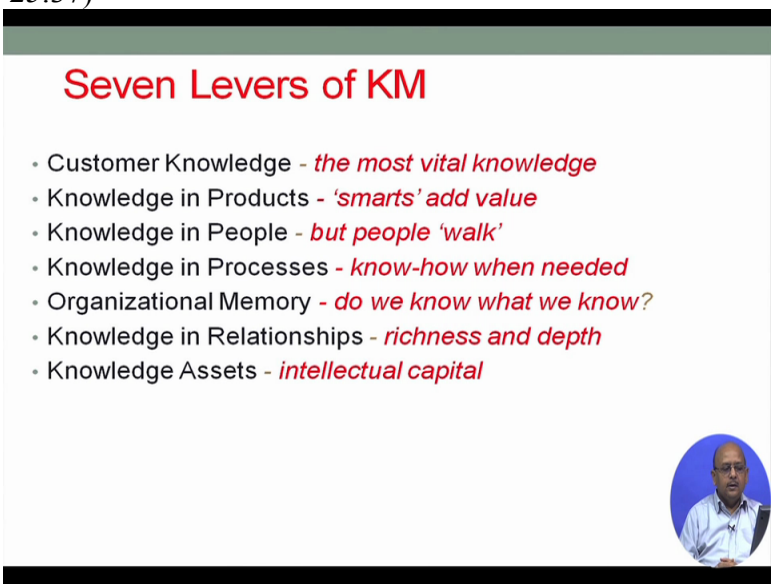

Now after discussing this, we are also going to discuss certain levers of knowledge management. Where the knowledge resides? Knowledge resides at different levels in the organization. If you

look at the first part, it is the customer's knowledge. The most vital knowledge actually is with the customers, because customers are using goods and services produced by the organization.

It could be related to any kind of organization. And based on customer's feedback and information, you try to be more innovative and protective in your products and processes, right. So, the customer knowledge is very, very important which most vital. Then, moving to the knowledge in products, okay what kind of knowledge you put in products, okay?

If you come out with a smart products, okay then it add more value to product. For example, today we talk about smart phones, why we call it a smart phone, because it has added features. It can provide you different kind of activities or it can help you with different kind of activities okay. So, that is why this is smart added value to the product.

So, you have to see that how smart your product is? It depends upon how much knowledge information is put in building and developing that particular product. The third one is knowledge in people that is very, very important. Why I am saying that it is very, very important is you know that when I am talking about tacit knowledge, it resides in the mind of the people.

And this kind of knowledge since it is with the people and if they leave the organisation then what happens? People walk with this kind of knowledge, wisdom. And that is why most of organization today are interested to ensure that the processes are captured so that even people leave, the knowledge is with them okay.

So, the knowledge in people is which is actually available in tacit form need to be captured and transform into explicit form, because if people leave the knowledge goes with them. And that is why there is a lot of knowledge in people which need to be captured, processes. Again I am talking about processes that how thing are being done, how work is performed that is very, very important.

Because, in order to perform any activity, you go through certain processes and some cases this process are defined, some cases processes are not defined. If you have well defined processes you are following the algorithm properly, you can perform the job. But in certain cases, the processes are very important. For a example when you are going to take a decision you do not have enough information, okay.

Then how do you go about it, it means that you follow certain processes, you take a decision based on your knowledge, your experience, your skill, your intuition okay which cannot be captured okay. So, there is lot knowledge which is available in the processes, which is still not captured, okay. So, most of the organizations are also interested in capturing those processes that is being used by people in order to be productive and effective.

And that is why know how is required. So, if organizations have this process of know how they know that how the job would be done. Then individual experience is going to be diminished means the individual is not going to be more important. What is going to be more important? It is the process and the knowledge which they have is being captured by them so, that they can make use of it.

Then memory, these is lot of information or knowledge which resides with the organization okay in the form of reports, graph okay, structures okay which is there in the memory. When we say that organization memory, what is organization memory? Memory means the information that is available with the organization.

It could be in databases, into the archives of the organization, the files, systems, the practices that have been followed by the organisation that is what our memories is. Do we really know that how the organization do this kind of things in the past and whether the way things have been done in the past is going to help us, to do certain things in the future or not and that is what we call is related to organizational memory.

Next is Knowledge in relationship. This is very, very important because in any organisation it is not the technology which is going to help you to codify personal knowledge or tacit knowledge. But you can transform this tacit knowledge into explicit knowledge, using this relationship as a base because people share their knowledge only when they develop good relationship and have effective relationships or interpersonal relationship with other person.

So, depending upon the nature of relationship that is it its richness and depth, if you are going to identify or at least move from this tacit knowledge from one person to another person also capture those things okay, which is there in some form to that knowledge is available in explicit form. The Knowledge assets: A Knowledge asset is defined as intellectual capital okay.

And this intellectual capital if you look at this is which is defined as a sum of three different kinds of capital. That is structural capital, relational capital, organisational capital and human capital. Now when I am talking about intellectual capital it does not mean, I am only emphasizing on human capital, because human capital only talks about knowledge and skill base of the people.

There could be knowledge with the organisation that is what you call organizational capital, like trademarks, trade secrets, patents. That is intellectual capital. Structural capital: systems and processes of the organization. Relationship capital, that is, how people interact and relate with each other.

So, all these are different kind of assets which make up your intellectual capital okay. Knowledge capital is sorry knowledge asset it is also related to what you call Intellectual capital.

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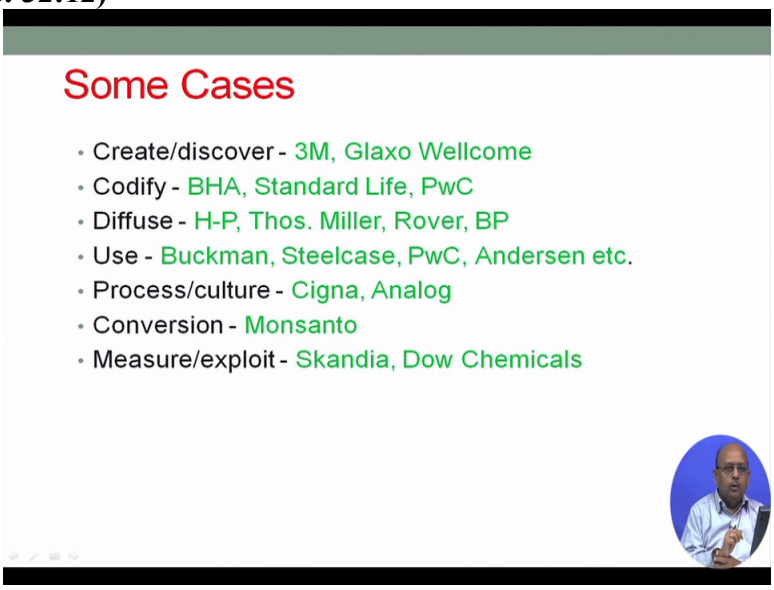

Now I am just giving some example here. A different kind of, sorry, knowledge that is being created, by different kind of companies you can see that are created and discussed if you see. If you look these companies like 3M and Glaxo, they have been able to create and discover new knowledge. When it comes to codifying knowledge there are lot of example BHS, Standardlife, Pricewater Copers.

When it comes diffusing distribution knowledge you have different companies like British Petroleum, Rover, Miller, HP. Then use,how you are going to use this knowledge then you have

Buckman laboratories, Steelcase, Fedral super, then Anderson and these are the examples of different, how different kind of thing related to knowledge has being used.

Now in terms of process and culture there are different companies which have been making use of that. And in conversion, how to converse or transform one form of knowledge to another form knowledge that designs the knowledge. And then measuring knowledge that is basically intellectual capital that how intellectual capital can be exploited and measured to find out what is the intellectual base of the company.

Then, list of companies which have tried to measure the intellectual capital of the organization that is Skandia, Dow chemical and these companies have been able to create intellectual capital index to see whether the human capital is appreciating or not, okay, thank you.