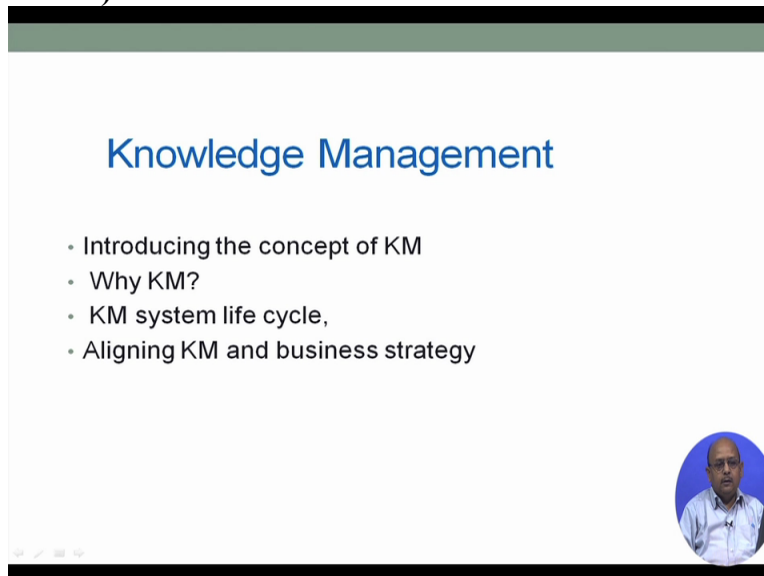


Knowledge Management
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Lecture 01
Introduction to KM

Hi good morning today I am going to start my first lecture that is introduced the concept of knowledge management.

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And then I will also discuss that why knowledge management is required by the organization. In the next, I will be discussing about the system life cycle that how knowledge management system is developed over a period of time and then why organization are looking for aligning knowledge management with business strategy.

This is how I am going to introduce the concept of knowledge management and then you can see that how this knowledge management has evolved over a period of time.

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What is Knowledge?

- **Data** – collection of unprocessed facts, a set of discrete facts about events
- **Information** – organized or meaningful data
- **Knowledge** – information that is contextual, relevant, and actionable
 - Strong experiential and reflective elements
 - Good leverage and increasing returns
 - Dynamic
 - Evolves over time with experience
- Knowledge is also known as **Human Capital**
- The primary difference between the terms **information** and **knowledge** is in the level of understanding of their underlying organizational data



Now, what is knowledge? If you look at the concept of knowledge it has a origin called genesis from the data. So, first stage is data or data is something which is unprocessed; it could be related to facts or events or anything like that. Say for example, I say number of students in the class, I say 15 or 20 means that I am talking about the data but it is not a processed fact but this data is converted into information when we try to organise this data into a meaningful way.

So, for example if we say there are 15 students in the class then we can classify or organise them into different categories. Like, how many boys are there, how many girls are there, right? So, in that way this becomes the information. Now this information becomes knowledge when it is contextual, relevant and actionable. What I mean to say by saying that it is contextual or relevant or actionable is that when information is used in a particular context, right.

For example you know that okay in this institute the number of girls students are less are the number of girls is 20% and 80% students are there. Now how are going to use this information for taking certain actions. So, it has to have a context that it must be relevant it means that you are going to make use of it. And then that information you can act upon it. That is why we say that it is it should be actionable also.

So when we are converting information into knowledge, then, there is thin difference between information and knowledge. That is information is organised data but when we make use of that information in particular context which is good for you or the organisation then, it becomes a knowledge. Let me give you another example, say, you know, that how to write a software code you are software engineer.

Now, as a software engineer, you are going to write a code and for that what kind of information that you need is that how to write code? You have knowledge, sorry, Information about what programming language. But this programming language is just give you information about the way to write the program in a particular context.

Now, suppose your organisation asked you to write a program for customer for particular, specific act. Now, this becomes the context that what is the use of it, why you are going to write it and then, when you write a program that is going to be useful to the customer using coding information then it becomes an action.

Now this knowledge has characteristics like it has a strong experiential and reflective element. What does it mean? When we say that it has a strong experiential and reflective element, it means, the information that you make use is converted it into a knowledge it based on what you call experience. So out of experience your knowledge accumulates your capacity to convert information into knowledge improves.

Second is, it has a reflective element. Reflective elements means that you are going to reflect on certain things based on the information. Suppose you have certain information that this is going to happen in the organisation, okay. You know that new technology has come. Now, how this technology is going to affect your organization.

So, you are going to reflect upon that and then you see that whether you are going to make use of technology or not. So, it has a reflective element also. And why companies are going for using knowledge, because knowledge provides you a good leverage. It means with the help of this knowledge you can have a competitive edge over your competitors. It could be individual or it could be groups or it could be organizations and it can provide you better returns.

So, objective of having an knowledge management system is to see that how you can make use of knowledge to achieve competitive advantage, to get better returns, to increase your efficiency and productivity. And that is why we are using this knowledge management system. The next characteristic is that it is dynamic. What do you mean by saying that when it is dynamic?

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Okay, Dynamic means what? The dynamic means that the nature of knowledge keeps on changing. The kind of knowledge that we use to have 70's or 80's or 90's related to any domain has gone under significant change. So that is why we say that nature of knowledge keep on changing. Let me give an example if you look at Google which provides a lot of information about particular activities.

Now when we say that it is dynamic if you look at the nature of knowledge on any subject or in any domain and you search on Google, you will find latest Information on latest knowledge in that particular field. What does it mean? It means that the nature of knowledge keep on changing because it is updated over a period of time.

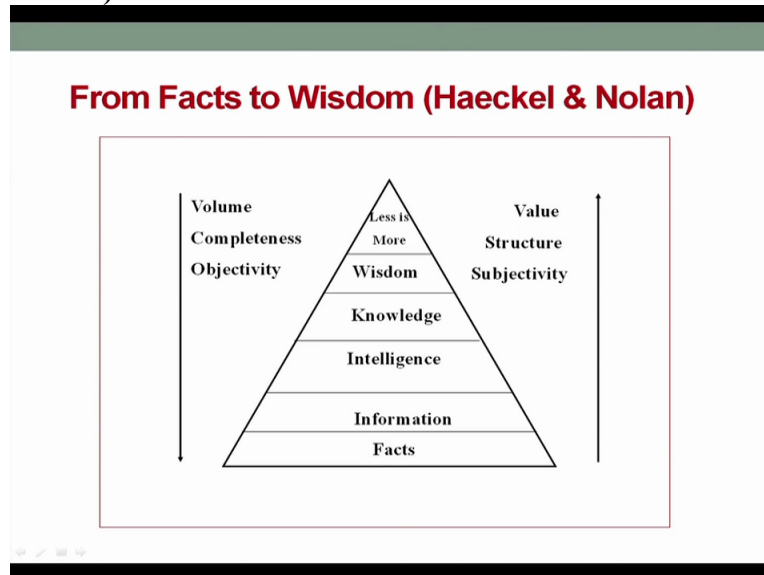
So, new knowledge is coming which could be useful, more relevant and also if you look at the last point, that is, it evolves over time with experiences. The nature of knowledge keeps on changing and as you grow, as you learn and as you experience, the kind of knowledge that you accumulate and store with you keep on changing. So knowledge is very important and that is why we are going to have this course on knowledge management.

And however to manage this knowledge in world which is going to change because with technology, because of the economy, because of the environment and that is why we have a course on knowledge management. I hope that it is going to be useful to you. It is also a human capital. Why we say that it is human capital? Because knowledge resides with the people or it could also reside with group or resides with the organization.

So, when we say that knowledge is human capital it means the knowledge mostly resides with the people. Now, if you want to see the difference between knowledge management and sorry, information and the knowledge it is the level of understanding. So, information just provides you setup data into an organised and meaningful way.

But when you are going to make use of that information for doing or for acting or for making certain decisions then it becomes knowledge, okay.

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Now we will see the differences between the different kinds of concepts that we have been using starting with facts. That is the data, information, knowledge, wisdom, or something more to that. Now if you look at this hierarchy, it is like a pyramid. I suggest that the bottom of it is that information facts that is the data.

From facts, we move to the next stage, that is information. That is the meaningful organisation of the data. Then, we moved to the intelligence. Then intelligence is that however we are going to make use of it. It shows your ability to make use of that information for doing some certain actions and when you do it, it means that you are going to infer something from that data based on your ability.

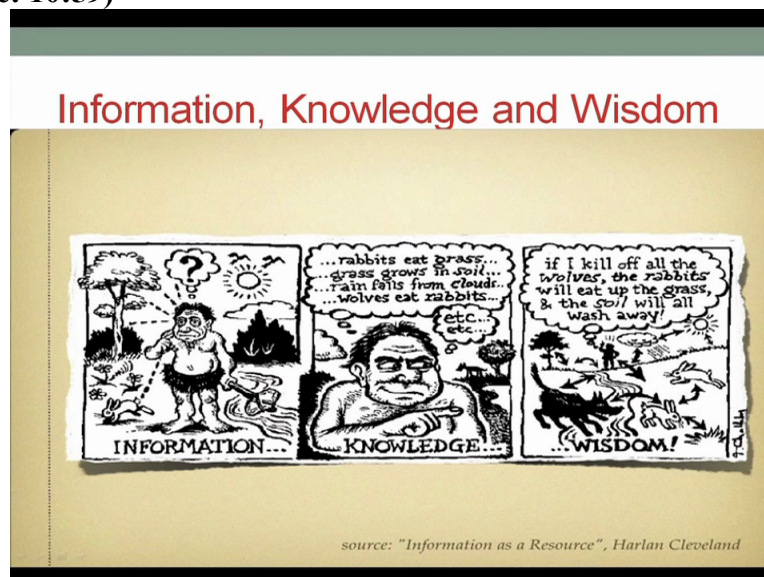
That is your mental intelligence or mental ability and that is what we call it as knowledge. Moving to next is wisdom. So, when you have done something then you experience, ha ha, enlightenment. So, that is what we call wisdom. And then move to further if you look at that two lines that is drawn parallelly, along with this pyramid, it shows two things. One is that volume, completeness and objectivity.

If you look at these things, what is happening? The love, the arrow that is coming from top to bottom, it means, at the bottom of the pyramid, you will find data, which is more objective which is more complete, the more you move up okay the level of completeness goes down. It means that in terms of volume, completeness and objectivity facts are at the best okay.

And then, you move up in the hierarchy. But, at the same time, when you look at the value ok, the value resides more in knowledge, wisdom and something like that. But if you look at this structure, it is less structured; it is more subjective because the data and the information that we have, this is more organised and complete.

And more structure compared to the knowledge because they are going to make use of that in a particular context and the kind of wisdom that we have okay. So, if you look at the difference in terms of objectivity and subjectivity, you will find the data is more objective. And while knowledge and go beyond knowledge is more subjective, okay.

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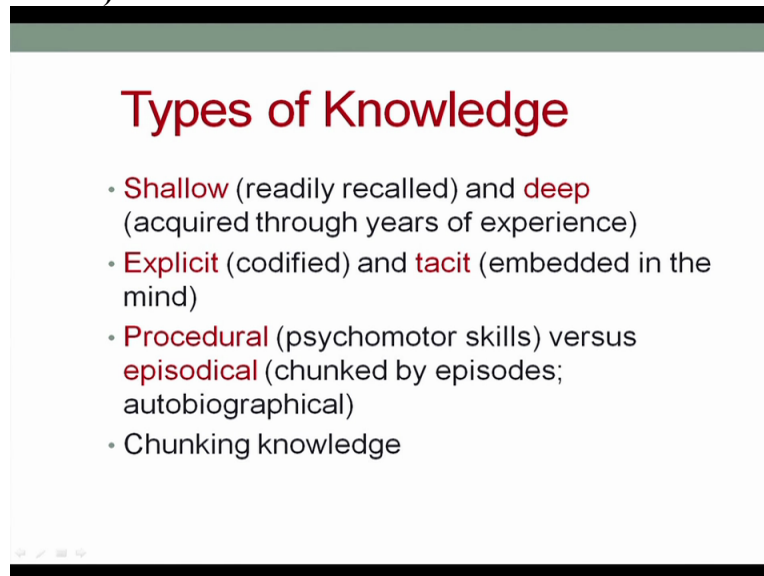
So moving to the next part, now I am going to show you something it is a cartoon and this cartoon has a source from Cleveland which clearly shows the difference between information, knowledge and wisdom. Now, lip look at the information the first cartoon, what does it is show? It is getting all kind of inputs from different sources that is the input.

Now is going to make use of that input to act on that. So, if the inputs are lights are there, grass is there, sun light is there, it is raining, all kind of information that he has. So, he is going to make

use of that like rabbits or grass, eats grass, grass grows in soil, rains falling from the clouds, wolves eats rabbits, so this is knowledge.

But he is moving beyond knowledge what we call wisdom. So, he says that okay, with this knowledge, if I act upon, suppose if I kill all the wolves, the rabbits will eat up the grass and soil will, all wash away. So this is the wisdom. So, this wisdom, say, gives you some kind of enlightenment or an experience that okay, how we are going to hire this knowledge for use of individuals, groups and the organizations.

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Now, based on this, let us say that what are the different types of knowledge that we have? Now, when we are talking about types of knowledge, this is actually classified into three different categories. That is whether the knowledge at the surface level or at the deep level ok that is what we call shallow or deep.

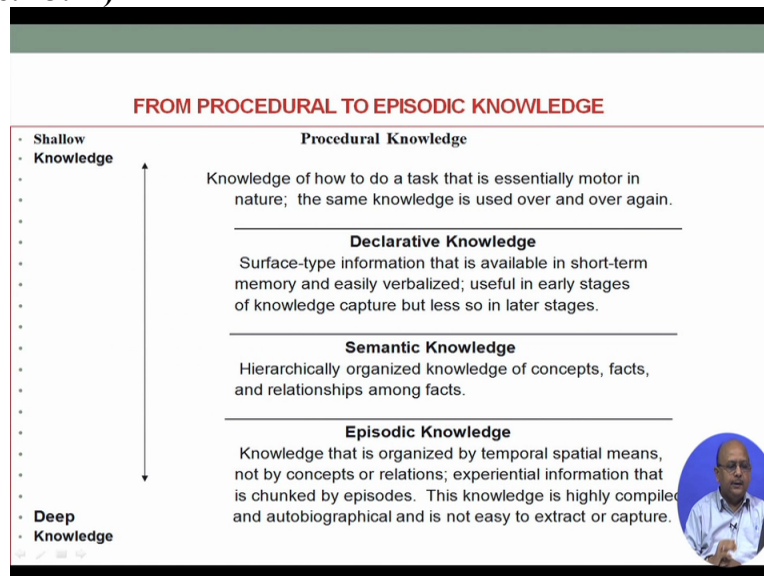
Shallow knowledge means that you have very special knowledge about a particular thing and the deep knowledge is that you have very good knowledge which is acquired through learning, through experience, right. And that is the difference between the shallow and the deep knowledge. Next is explicit and tacit knowledge.

I will discuss about explicit and tacit in more detail but here what I want to say is explicit that is codified in some form. It is this documented knowledge which is available to you in the form a books, manuals, guidelines and these kinds of things. While when I am talking about tacit knowledge it is a winded in the mind.

What does it mean? Tacit knowledge is that kind of knowledge actually which resides in the mind of the people. Another way to differentiate knowledge is, procedural, episodic. Procedural means how to do certain things. Episodic means that you have learnt through experience, memory is this kind of things okay.

And then the question is that the how you are going to chunk knowledge which could be useful to you.

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Now if you look at differences across knowledge from procedural to episodic, you can see that on the right side, it shows Shallow to Deep knowledge. When we say shallow to deep knowledge, it means that the knowledge from the surface level moves to a deeper level that depending upon your learning, your experiences, your knowledge, your skill and these kinds of things.

Now when I am saying procedural knowledge, that is much more shallow; that, it only tells you how to perform a task, right. Suppose I am going to use this computer to write something on a word is that means that the kind of knowledge that is required is actually is motor in nature which I can use any time if I want to use this computer for writing anything.

So, knowledge of how to do a task that is essentially motor in nature. So, same knowledge is used over and above. Whenever I want to write, I will open the computer I will fix the procedure which is known to me and I go through this procedure and open the word file and make use of it to write. So, that is what call procedural knowledge which is at the surface level.

Now but I do not know how this computer works. So, that is basically the deep knowledge that I will talk about it later. Now, second is Declarative knowledge. So, this is a declarative knowledge that is available with you whenever you want to recall it. So, that is related to short term memory which you can easily remember.

Which can be retrieved memory, okay and it is good because at the first stage, you should know okay what is there, which you can easily remember which is going to be useful for you and which can be used by you for doing certain things. So, that is what we call declarative knowledge which is known to you, which is available to you, in your short term memory.

So at a moment's reflection you can get them. Now, moving to the next part, that is semantic knowledge. Now semantic knowledge is what? Semantic knowledge is basically when you move further to the deeper part of the knowledge that is called Semantic knowledge. And this kind of knowledge suggests that knowledge is organised in classified into different categories.

Based on the nature of the concepts whether it is a facts, whether it is concept or whether it is relationship. So, based on this concept, fact or relationship, you are going to organise knowledge into different category. So, it is basically related to organization, classification and codification of knowledge. So, it helps you to achieve knowledge from the data, database from your memory or whatever it is.

Now next is episodic knowledge. What is episodic knowledge? That is organised not by conception relationships, but it is more experiential in nature. It is chunk by episodes, so you remember certain episodes which are related to this. When we talk to supervisor, you based on your experience, you say that. So in these conditions, these are the things that need to be done and that is how we should be working.

That is based on your memory which is there, and what you do retrieve the information based on intuition, experience and learning. And that is much more complied ok. But it is not that easy to extractor capture because it is in your long term memory and it is very difficult sometimes to retrieve that kind of information but you need to do it because that is very, very useful and that is at a deeper level.

That is how we have decided to see that how the knowledge moves from the shallow to deep and what are the different types of knowledge from procedure to episodic.

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Two major types of Knowledge

- **Explicit knowledge**
 - ▣ Deals with objective, rational, and technical knowledge
 - ▣ Examples: policies, goals, strategies, papers, reports
 - ▣ Structured knowledge that is easy to codify
 - ▣ Easily manipulated, shared, taught or learned
- **Tacit knowledge**
 - ▣ Unstructured knowledge – in the domain of subjective, cognitive, and experiential learning
 - ▣ Highly personal, hard to formalize and document
 - ▣ Cumulative store of the experiences, mental maps, insights, expertise, know-how, trade secrets, skills set, understanding, etc.
 - ▣ Involves a lot of human interpretation



Next, now, when I was talking about two different kind of knowledge, that is explicit and tacit. Now let me put some more observations related to explicit and tacit knowledge, now, when I am talking about explicit knowledge which deals with objective, rational and technical knowledge. For example, the goals, objective, papers and reports.

So, most of the explicit knowledge is actually available in documented form. So, for example book in the library. So, whatever information is available it is explicitly given in the book and you can have it. So, it is explicit in the sense that you can go through it, you can read it, you can make use of it ok and you can easily codify it.

So, library, since it is an example of explicit knowledge because the books are organised and classify using coding system and that it is we say that it is more structured. So, explicit knowledge is more structured and it is organized, codified and classified in such a way so that retrieval is very, very easy. So, you can easily manipulate it, share it or a taught it or learn it okay.

Moving from explicit to tacit knowledge and when I am talking about tacit knowledge it is very, very unstructured, highly unstructured you can say. Because it resides in the head of the people okay. So, once it resides in the head of the people it means that it is subjective, it is based on the experience, knowledge, intuition that a person has, right.

And it is not documented in any form. So, you cannot get it easily, right. And it is very, very personal because it is with me or it is with you and how to do it. But the processes are not

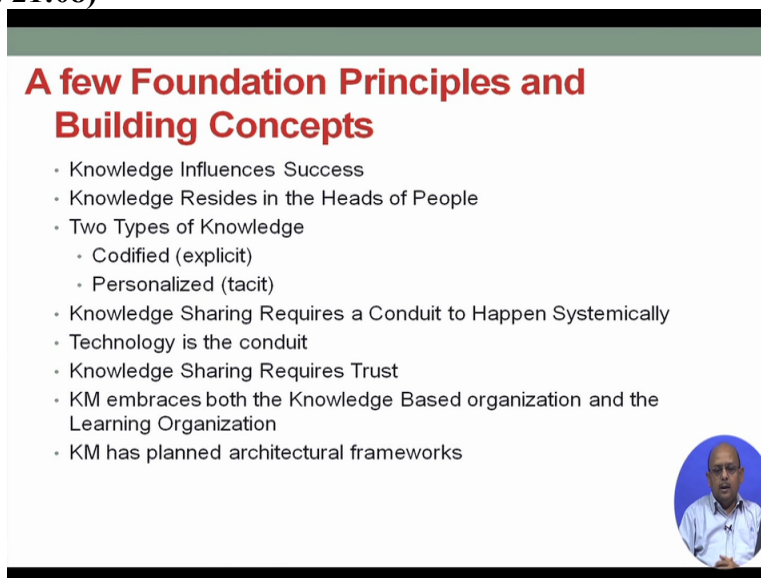
documented in a particular form, say, for example, if a person does certain things using certain processes, now, these processes are known to that person only.

If that process is known to that person only, then what will happen? He will use those processes to perform job. But these processes are in the mind of that particular individual and how to do it. It is not available in a documented form. So, it is not formalized or documented because it is very, very personal the way the person is doing the job, okay.

What is there in when you say that it is tacit, it could be related to experiences and that mental math that you form, about doing certain things, your insights, your expertise, your how to do things, secrets related to traits, your skill set, understanding, comprehension ability all this is related to tacit knowledge.


So, now what we have done is we have tried to examine what is knowledge and what are the different types of knowledge. See the most important thing here is to talk about explicit and tacit knowledge. So, explicit is that is available in some form. Tacit is that is not available, which is not formal, which is with the people.

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A few Foundation Principles and Building Concepts

- Knowledge Influences Success
- Knowledge Resides in the Heads of People
- Two Types of Knowledge
 - Codified (explicit)
 - Personalized (tacit)
- Knowledge Sharing Requires a Conduit to Happen Systemically
- Technology is the conduit
- Knowledge Sharing Requires Trust
- KM embraces both the Knowledge Based organization and the Learning Organization
- KM has planned architectural frameworks



Now, let us look at some of the principles on which this knowledge management system works. Now why we are talking about knowledge management system at all today okay. So, where I am going to talk about certain principles related to knowledge so that you can build an effective knowledge management system. The first principle says that knowledge influences success.

Now whether you are talking about explicit knowledge or tacit knowledge, both are required. And if have this kind of knowledge, it is going to help you to bring success, to you in terms of achievement goals and objectives that you have; whatever it is. So, knowledge is going to influence of success.

If you have knowledge whether it explicit form or tacit form it help you to achieve success in terms of achieving goals and objectives whatever is there. Now another important thing is that which knowledge is more important, tacit knowledge or explicit knowledge? When I am saying tacit knowledge or explicit knowledge, since we have identified these two types of knowledge, tacit is something that is personal and explicit that is codified.

Why I am saying codified because it is available in the form that is documented either as a video or as a book or in digital form, so, that it is available to others for use. But personalized knowledge is with the person and it is not available to use for others. So, personalized knowledge and explicit knowledge both are very, very important. What is to be done if we have to see that, how to formalize the knowledge that resides in the head of the people.

So, there is a need to see that how we can transform this tacit which is more personal in nature into some explicit form that is a very important. Now so we have been talking about codified and personalize knowledge that one that is explicit the other one that is tacit. Now there is a need to have more explicit knowledge which could be used by others because if the knowledge is available only in tacit form, then, others may not be able to use it.

So, the idea is to transform tacit knowledge into explicit form. How does it happen? That is through sharing. So, when we share our knowledge with others then others also come to know about that. So, it is very, very important to share our knowledge with each other okay. Now that there are two ways to share the knowledge, it could be through using face off, face to face at a personal level or you also use technology to share knowledge.

Now when you are going to share knowledge at a personal level it is going to be more tacit because as you are passing on that knowledge from one person to another person. But again it is not going to be available in explicit form. Now in order to make it available in explicit form, you are going to make use of technology, okay.

So, if you are going to record certain processes or bring certain things, then, that knowledge that related to that particular process is captured using technology. So, technology becomes the carrier, the means of expression of that particular knowledge or the process, right. Now, when want to share knowledge with other person especially at personal level what does it requires?

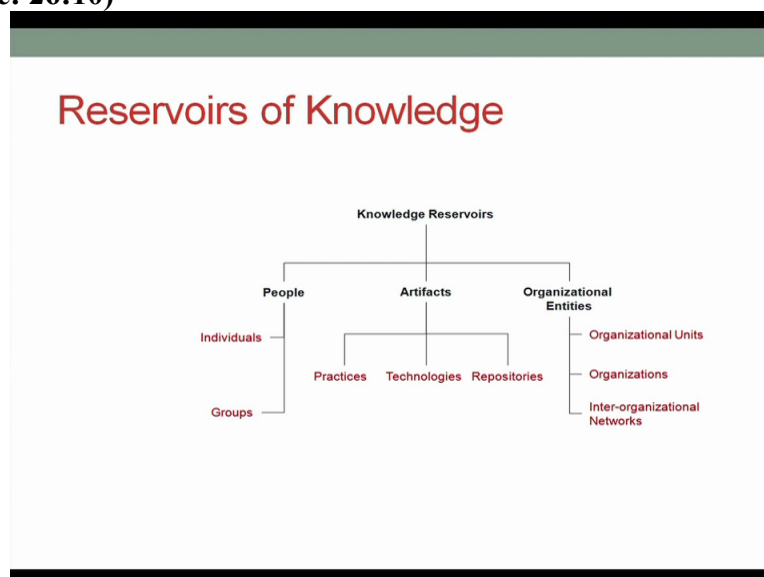
It requires trust, if you have trust on the other person only then you can share knowledge with other person. But if the knowledge is available in explicit form, then, these things may not be required; because then it is available in some form and you can make use of it. Now we are talking about knowledge management okay.

Then we have to see that whether organization are going to make use of knowledge, whether they going to have a knowledge system or not, right and whether they want to make use of knowledge, in order to, create, innovate and perform well, right. So, most of the organizations today which are working in a knowledge economy are going to be called a knowledge intensive organizations.

And most of these knowledge intensive organizations like IT companies, R and D institutions, labs, they are into these business of knowledge management and they have developed and created system for knowledge management. And for that they have created a Framework that how they are going to acquire, create, store and disseminate so that the knowledge can be used.

And that is what and that is what is the last point that came has a plan architecture which helps you to retrieve and make use of knowledge from the storage.

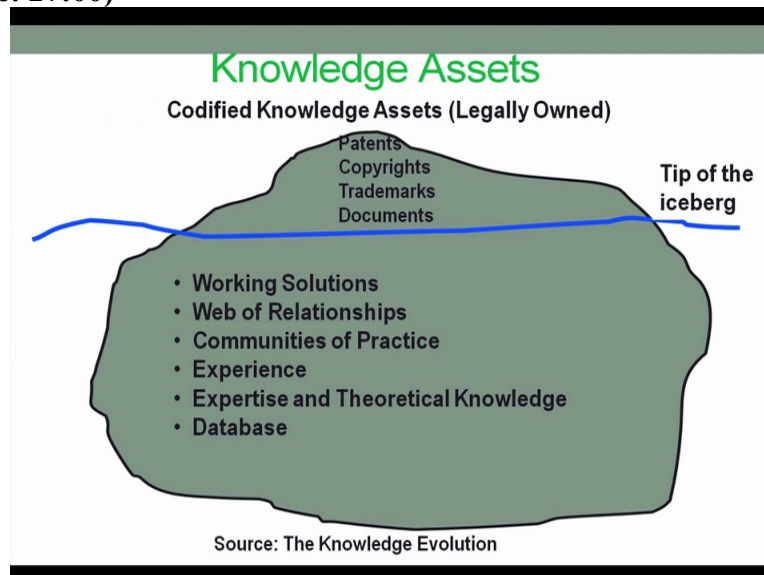
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Now these are the different sources are, where the knowledge is there and that is what we call knowledge reservoirs. Knowledge is residing with artifacts, organizations and the people. If you look at people level, the knowledge resides with individuals and also groups. So, if you look at the artifacts, so that is in the process, the repositories, repositories of the organizations, the kind of technology that an organisation uses.

So, artifacts basically related to systems and processes and repositories of the organisation where the knowledge resides. Now knowledge also resides with the departments, the units and the network that organisation build up over a period of time. So, there could be different reservoirs knowledge where knowledge is available.

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Now if you look at knowledge as if different kind of knowledge assets that we have, it could be classified as you as I already told you that is codified or personalized knowledge. The codified knowledge is basically that kind of knowledge which is owned by the organization. But the personalized knowledge or other form of knowledge is not legally owned and it is written by different sets of people or groups or the organizations.

Now, most of the codified knowledge, which is legally owned by the organizations, may include patents, copyrights, trademarks and documents. And this is very, very important because unless you have the, these things you cannot grow and develop yourself. And that is why you have copyrights for books, you have trademarks, you have trade secrets, you have patents okay which you can make use of it.

And this is your asset in terms of knowledge. But that is only a part of it. Most important is what you call other form of knowledge, which is relying in relationships, communities of practices which people follow, the best practices, the benchmarks, the experiences, experience expertise and other theoretical knowledge, the database in which is there with the organization.

Now the thing is that we need to ensure that how to make use of a large chunk of these kind of things which is related to relationships, practices, experience, database to convert them into a formal system of knowledge that is more explicit which can be used by the organization.