**Organization Development and Change in 21st Century**
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**Lecture – 29**
**Learning Organization – Experimentation, Knowledge Management and Innovation**

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So, next aspect which Garvin talks about in order to build a learning organization is experimentation. Experimentation involves systematic searching for and testing of new knowledge. This is motivated by creative thinking. This practice may include ongoing programs which are part of the organization culture and process and system, and they can be one of programs, they can be demo projects or few critical projects.

We can take examples in both the categories. You must have heard about organization like 3M , where experimentation and innovation are part of the organization culture and organization processes. Learning organization which have embraced the experimentation as part of their operations and culture are Intuit and Autodesk amongst many other.

Google is also an organization which has given lot of autonomy to its teams to run experimentation. We will talk about the Intuit and Autodesk intuit is a software company which works on the financial packages, and Autodesk operates on the 3D technology only creating software in the 3D technology.

In both the organization what we see is they favor the risk taking; it is reflected in their incentive system that to be innovative to take initiatives to take fruitful initiatives are important for this organization. Their training and development process is also directed towards performing and evaluating the experimentation.

Their training and development process also facilitates and also prepares their employees to perform and evaluate the experiments not only just following the processes, but they encourage employees to experiment, and systematically evaluate them as well. So, these are the examples where experimentation is a ongoing process in an organization.

Then there are some demonstration projects. These demonstration projects many a time are the large scale complex experiments, and usually designed from scratch, and they are done. And if they are successful, they change the course of the whole organization. I can take two examples here.

One example is of ITC Paper Mills. ITC Paper Mill in 1998 was on the verge of closure. The CEO of this company was told by the corporate top management that either you can do something in the next year, or we will close down this unit or sell this business out.

In 1998 in between 1998 to 2000, a major experiment was conducted. This experimentation in the ITC Paper Mill was about collecting the pulp which is the ingredient for the manufacturing of the paper through the social forestry mechanism.

The company involved large number of villagers in perhaps more than 500 villages in the borders of Odisha, and they were engaged as the stakeholders as the business partners to collect the bamboo pulps. Social forestry based intervention became very successful, and ITC Paper Mills was transformed with this process.
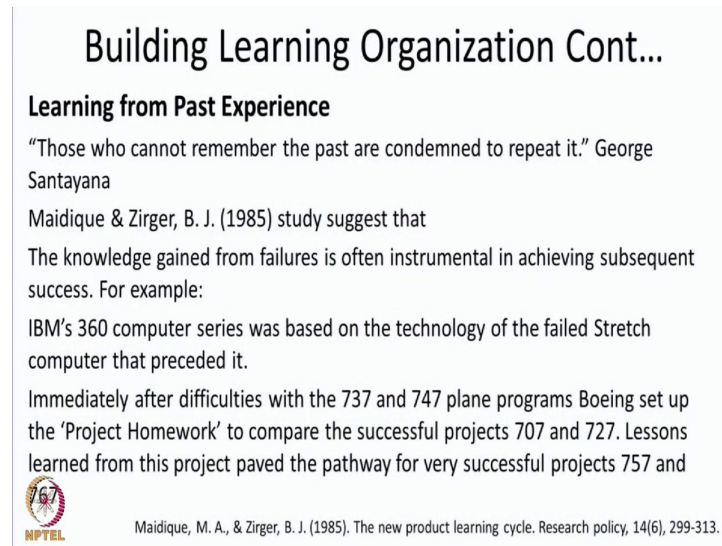
Another example is Bosch India. In 2002 emission related norms or what we call Euro norms about the diesel engine was changed drastically. Now, Bosch India unit, R and D unit which was relatively smaller in comparison to the other Bosch units in different in other parts of the world particularly Europe and USA, they took the challenge.

They decided to change the design of the diesel engine which could be implemented at a very large scale with much lesser cost, and it also meets the new emission norms; and

they became very successful. Indian team, the Indian R and D team in the Bosch group became very famous for this project.

They successfully changed the design of the diesel engine which was low scale change which could be implemented in a very cost effective way across the organization, but it also met the emission norms. So, this was these are the two examples where a demonstration project or one of the project caused major learning in organization.

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Third component is learning from the past experience. There is a famous quote by George Santayana is quoted in the Garvin's paper which goes like, those who cannot remember the past are condemned to repeat it. According to a famous study conducted in 1985, wherein Maidique and Zirger studied one more than 150 product development case studies, and what they found is that knowledge gained from failure is often instrumental in achieving subsequent success.

This principle can be explained again by two examples, first example is of IBM. IBM 360 degree computer series was a very successful and by that time it was one of the most profitable launches of the IBM, but it is followed by it is in some way was based on the failed technology which they use in the stretch computer. So, they learnt from that failure and implemented those learning in the development of 360 computer series and became successful.

Another very important example about learning from the past experience comes from Boeing. Boeing model 737 and 747 had some problem. After facing those problems Boeing top management set up a project they named it project homework.

The project team was given a mandate to compare the successful projects of 707 and 727, and compare the success factors with those of 737 and 747. Learnings were drawn from this comparison, lessons were learned and those lessons were implemented in the new project 757 and 767. Thanks to the implementation of those learning, 757 and 767, became very successful projects for the Boeing.

So, these are the example which suggests that learning need not necessarily be based on the novel experimentation. By reflecting on the previous failures also, organizations can learn and improve significantly. Learning may also need not be based just on self reflection and self analysis.

Sometimes even companies operating in different industry and different businesses can be looked at to develop new ideas and to learn new things. Learning from others is about replacing the not invented here syndrome with steel ideas shamelessly attitude.

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## Building Learning Organization Cont...

**Learning from others**

- Not all learning comes from reflection and self analysis. Sometime even companies in completely different businesses can be fertile sources of ideas and catalysts for learning. This is replacing "not invented here" syndrome with "steal ideas shamelessly". Benchmarking can be across the industry.

Ex.
- Otis Elevator benchmark itself with Carlton Hotels on service parameter.
- Great Place to Work (2019):SAP Labs India, Intuit India, DHL, Tata Power, Music Broadcast Ltd.

NPTEL

What does that mean? It means benchmarking can be a very useful exercise for learning. Benchmarking can be across industry as well. It need not be necessarily related or limited to our own industry. Here also we can give two examples, Otis elevator is an

elevator company. In 70s, they started their operations and in the 80s they decided to convert themselves not as product company, but as service company. This change was also implemented based on technology like Otis line, O star line, etcetera.

In 10 years time the product based company Otis, very significantly became a global service based company and surprisingly to assess their service levels, they do not compare themselves only with the other elevator companies. They started their service indicators with the great service providers in the hospitality industry, like cast and hotel. So, the mattresses used by Carlton Hotel are found to be relevant by the Otis elevators, this is one example of learning from others.

Another common example is that whether it is a Gallup employee engagement survey or great place to work surveys, these are the other these are the benchmarking studies across the industry. If we take the example of great place to work, it assess the perception of the employees on following things; related to their own experience, related to the management and the organizational policy.

If we look at the awardees from India which are top ten according to the great place to work survey, there are organizations like SAP Labs India, Intuit India, DHL, Tata Power, Music Broadcast, etcetera. All these organizations are operating in very different industries, but they can learn few things about the HR systems and processes about leadership and culture by looking scores of each other.

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## Building Learning Organization Cont...

### Transferring knowledge

- This factor is about how quickly and efficiently the personal and team knowledge can become organizational knowledge. Written, oral and visual reports, site visits and tours, personnel rotation program are the useful tools for this purpose.

As we discussed in the beginning of this session that learning is an individual process. It is important for learning to be transferred at the team and organizational level. Organizations which are able to do it fast like Toyota are able to sustain the pipelines of the innovation and process improvement.

So, factors about how quickly and efficiently, the personal and team knowledge can become organizational knowledge are very important that can be done through various processes and systems like, written and oral or visual reports, site visits, tours, personal rotation program. They can be useful tools through which organization knowledge can be spread within its breadth and depth.

Knowledge management system can be very useful tool in transferring the knowledge. Knowledge management is a process of gathering managing and sharing employees' knowledge capital throughout the organization.

Knowledge sharing throughout the organization enhances the existing organizational business processes, it introduces more efficient and effective business processes and removes the redundant processes. So, knowledge management process is an enabling process for creating learning organization.
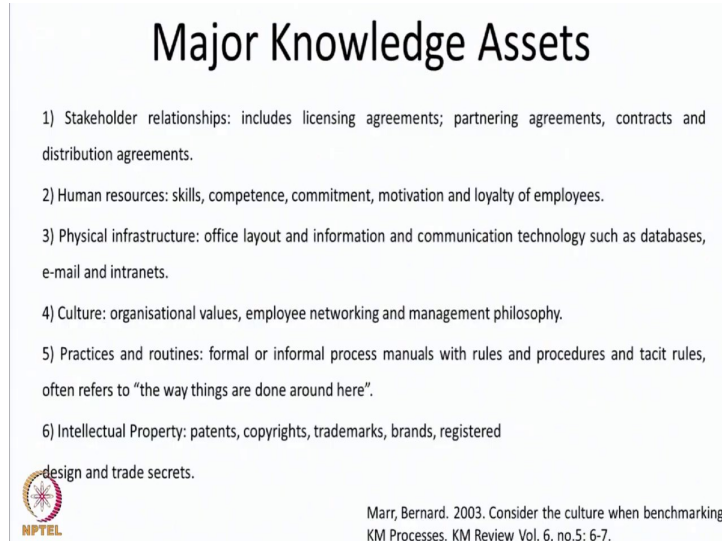
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You might have seen the very famous Gartner reports about several industries or processes. They define KM as a discipline that promotes an integrated approach to

identifying, managing and sharing information assets. We are aware of the assets of the physical nature, but as learning is becoming important, as knowledge work is becoming crucial for many organizations; asset can also be related to knowledge.

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So, what are the information assets? Information assets are stakeholder relationship, human resources, physical infrastructure; meaning office layout, information, communication technology, emails, these are the knowledge assets. In these things layouts, technology, database, important information is nested.

Culture is again a very important knowledge asset, culture by definition means how things are done here. Culture includes lot of tacit knowledge that is why values, employee networking, management philosophy, they all constitute the knowledge information asset.

Practices and routines, the formal or informal process manuals with rules and procedures tacit rules, often refers to "the way things are done around here" - these are again very important component of knowledge assets. Last, but not the least intellectual property patents, copyrights, trademarks, brand, registered design and trade secrets are important knowledge assets.

These knowledge assets have to be utilized properly. if organization has to realize the potential of these assets, they have to do some extra work. If an organization is really

interested in harnessing the benefit of the KM assets, they have to take extra action, they have to put in extra effort and knowledge management process helps to facilitate these efforts.

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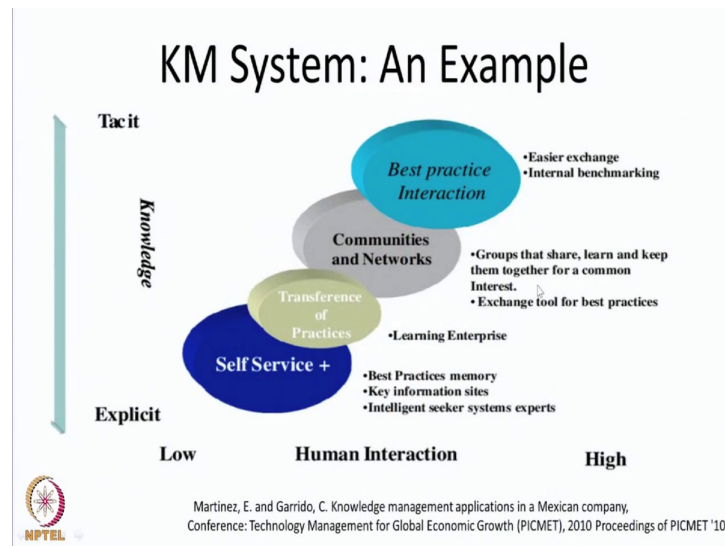


I will give two examples; one is a very simple example to understand the idea of knowledge management, then I will give example of little more sophisticated representation of knowledge management. In this knowledge management system, the overall system is depicted on two continuum; knowledge continuum and human interaction continuum.

If we look at the best practices, in the initial stages more human interactions are involved. Human interactions are involved, because this domain is of the tacit knowledge; tacit knowledge means that knowledge which people have, but they might not have articulated it. They might not even fully aware of that. Others may look at their way of working and can appreciate, they and can identify the tacit knowledge, but person herself may not be aware of that.

So, in order to bring that tacit knowledge into more explicit form, human interactions are essential. It is through human interaction primarily that tacit knowledge start becoming explicit knowledge; until the tacit knowledge becomes explicit knowledge, it is not ready to be shared, ready to be learned by other team members or organizational members, so that is the first step.

Second step is linked to communities and network. Once some part of tacit knowledge has become explicit, then groups have to be formed; group sharing should be done, learning and keeping them together for the common interest becomes important. Exchange tool for the best practices are implemented, these are the ways communities and networks are sustained; and these are the ways communities and networks realize the potential of mutual learning and they create new knowledge.

Once that tacit knowledge through the communities and networks starts becoming more explicit, then it is ready to be transferred at the enterprise level. And then only the knowledge and insights are transferred across the enterprise. Out of those new knowledge best practices are picked up, they have to be documented and they have to be further propagated.

So, knowledge management system involves machine interaction over emails and it also involves interpersonal interaction. This is one process through which tacit knowledge becomes explicit in an organizational setting; this is one example of Infosys BPM.

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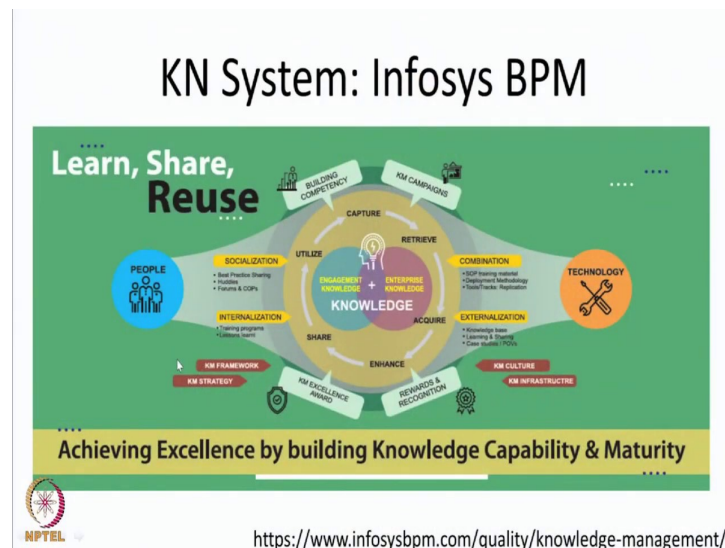


In their business they have used this diagram; this diagram represents the knowledge management system adapted by Infosys BPM. You can see there are at one end there are people, another end there are technologies; they are emphasizing on reusing the insights developed at individual and team level. And those insights are transferred from individual to team and to organization level through socialization and internalization.

So, technology and human interaction results in knowledge; knowledge involves engagement knowledge and enterprise knowledge. This knowledge system focuses on capturing, retrieving, enhancing, sharing and utilizing knowledge. You can see that capturing is a process where tacit knowledge is converted into explicit knowledge, then it becomes retrievable.

Once it is retrievable, we can store it and that can be acquired by others; by acquiring people learn that and they can improve upon that is why, the next step is called enhancing that enhanced knowledge is shared again in the teams and organization, it is utilized again by teams and organization and the cycle continues; this is another example of knowledge management system.

Knowledge management system is something which is an excellent example of human interaction and use of technology. We must reconnect why organizations have to innovate; we know that there are many famous organizations which were very successful at one point of time are not existing anymore.

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These are examples of some of those organizations. Technology, psychographic profile, regulations keep changing. In order to adapt to the changes, in order to pave the pathway for the transformation within the industry, organizations have to innovate and for innovation they have to learn.

So, learning and innovation are intertwined activities these are inevitably connected processes and systems. Knowledge management is a facilitative tool of connecting learning and innovation, there can be different types of innovation.

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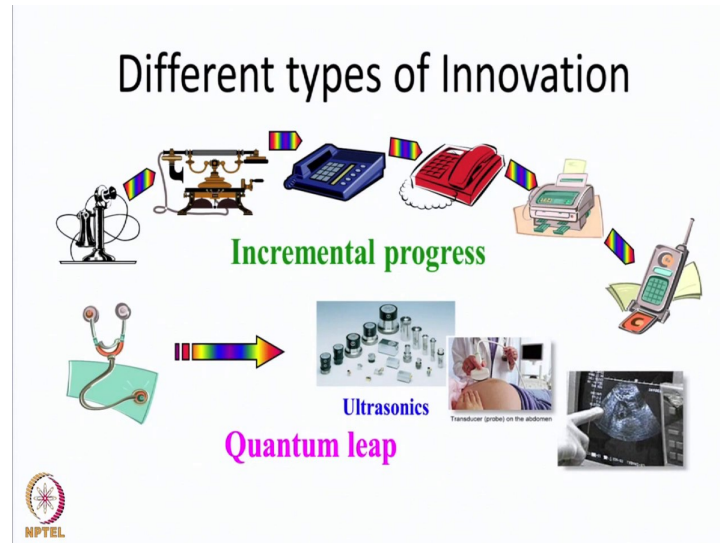


One type of innovation is what we call incremental innovation or incremental progress, wherein some modifications keep happening in the technology and in the instruments, but the basic or core technology remains same. But there are also some quantum leaps which we see in the field of innovation, a stethoscope giving way to EEG or ECG or sonography, these are all together new technologies.

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## Example of Disruptions

| Established Technology | Disruptive Technology |
|---|---|
| Silver halide photographic film | Digital photography |
| Wireline telephony | Mobile telephony |
| Open surgery | Arthroscopic and endoscopic surgery |
| Cardiac bypass surgery | Angioplasty |

So, there are disruptive technologies which we keep seeing coming up in the market. The silver halide photographic film is replaced almost fully by digital photography; the wire line phone telephony is replaced by mobile telephony; the open surgery is now to a great extent replaced by endoscopic surgeries; cardiac bypass surgery can be replaced to a great extent by angioplasty, these are the examples of disruptive technological changes and disruptive innovations.

If organization has to adapt and survive and lead in this era, where technological disruption is defining and redefining the business model, they have to innovate and in order to innovate they have to learn.

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One does not always cope, but transcends. In nature nothing is still, one does not stagnate, either we decay or we grow. Innovation helps us to grow and lack of innovation will help us decay, this is our choice. Organization learning is a way to enhance the innovation to ensure the survival and growth of the organization.

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We know that there are obstacles in organization learning and innovation. Those obstacles are fear of failure. We want to remain successful, we want to show ourselves

successful. Organizations want their people only to be successful and that is why when there is no safety net for the failure, people do not try out new things.

There is also another obstacle that comes from mindset; there is a closed mindset or growth mindset. Closed mindset says that our capacities, our capabilities are limited; but the growth mindset says that we can develop new things, we can learn new things, we can do wonderful things.

If organizational leadership is not of the growth mindset; learning do not takes place, innovation do not take place and transformational changes do not come out of those kind of organization. Often when organizations are very successful, they create empires, it becomes very difficult for them to recognize that there can be other ways of being successful.

There can be different ways of being successful in the change scenario and as a result of that they sit on the laurels of the past performance and do not embrace the changes; and as a result of that they are not able to learn, they are not able to innovate.

In the earlier slides we have seen, examples of those organizations which were very successful at one point of time and were not able to sustain or survive when the disruptive technology entered the market. Then there is something called attribution bias that simply means, we attribute our success to our own capabilities and we attribute our failure to the external situations.

We need to deal with that bias to come out of the inertia for learning. When we come out of this inertia we are able to see ourselves as source for failure as well as success. In those moments we are able to see; what is needed to be done, and what are the new things to be learnt. Attribution bias can be surpassed by a conscious self reflective attitude that self reflective attitude requires openness in culture.

Openness of culture can be possible with the open minded leadership and nurturing leadership. What is called psychological capital is very important part of openness in the organization culture; openness of culture requires openness of leadership.

Openness for the experimentation and learning depends on the psychological safety; if people feel safe to point out what is working and not working in the team setting in the

organizational meetings, then learning can take place. These things are the important factors for learning and innovation.

So, in this session, we looked at organization learning, knowledge management and innovation. You might be reminded of some of the concepts we learnt in the previous sessions, like action learning, like 2 by 2 matrix of the organizational reality, culture, organizational process change, role of HR, team level interventions, etcetera. Organization learning requires all those, organization learning involves our understanding of the subjective aspect of the organization which is culture, personality, values.

It also requires an objective aspect of a organization like systems and processes, and individual behavior that is why this module looks at the range of the OD interventions. In the organization learning we need OD interventions at individual level, group level, at organizational level.

We need to have intervention at the subjective level which is about building new mental models, creating shared vision, it is also about objective aspect of the intervention like setting up a knowledge management system, developing schedule, developing processing systems; for sharing the knowledge, for creating the knowledge and for documenting the knowledge.

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*What all the successful entrepreneurs I have met have in common is not a certain kind of personality but a commitment to the systematic practice of innovation.*

Peter Drucker (1997)

So, this session we will end with a quote of Peter Drucker who said that what all successful entrepreneurs I have met have in common is not a certain kind of personality but a commitment to the systematic practice of innovation.

Thanks very much.