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Lecture - 01 Introduction: Management of Change

Thanks for opting this course. And before we talk about the course outline and assignments and the evaluation process, I would like to start with some basic information about why management of change course is required, what is the urgency of studying the management of change?

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	What are the emerging technologies?
	1- Machine Learning (ML)
	2- Block Chain Technologies (BCT)
	3- Big Data Analytics (BDA)
	4- Small Data Analytics (SDA)
	5- Internet of Things (IoT)
	6- Wearables Technology (WT)
	7- Artificial Intelligence (AI)
	8- Robotics
	9- Additive Manufacturing Technologies (AMT)/RP/3- DP
	10- Virtual Reality (VR)/ Augmented Reality (AR)/ Mixed R
*	11- Cloud based technologies
NPTEL	12-Quantum computing

Can anyone tell when first email was sent? Any wild guesses - 80s 90s 95?

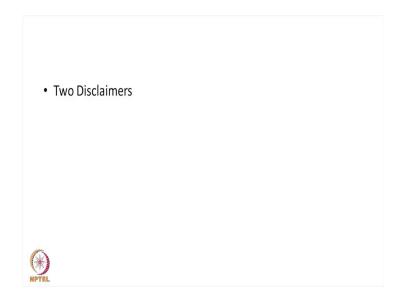
Student: 80s

70s. So, in 1971 first email was sent in NASA (Pentagon) and that is the formal emergence of the internet revolution, that revolutionary technology called internet. Till date we do not know much about or what is or what to do with the internet policy. Still governments are clueless - how to deal with the internet content, how to deal with the businesses, how to tax them based on internet and all that. So, still we do not have very clear idea what to do with the business models based on the internet.

Now, compare the internet policy and compare the internet technology. Many other technologies which are equally disruptive in nature are coming up and going to come in the near future and this is the not exhaustive list. We can look at - machine learning, block chain technology, big data analytics, small data analytics, internet of things, variable technology, artificial intelligence, robotics, additive manufacturing technology, virtual reality, cloud based technology, quantum computing. All these technologies can have a disruptive impact on businesses and organizations.

So, you can imagine one internet technology which has so much disruption compared to all these technologies that are coming up and what impact they are going to have upon businesses, governance, people communication, education, so, on and so forth. So, this is the backdrop in which we are going to discuss about management of change rules.

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There are few disclaimers about the course. It is not about how to adjust and cope with the change process. The very basic of this course is that what we are going to discuss is not to make you cope up with change - it is aimed at preparing you mentally to lead the change process and another thing is that learning is our joint responsibility. So, there will be a lot of exercises. If you think along with the instructor, then there is a possibility of learning. Otherwise whatever we are going to create, whatever we are going to discuss has a zero value until and unless you bring some numbers in front of those zeros then only they will be any value created in this course.



Why management of change course is required? If we look at and if you are going to enter the job market now and if you look at how a job market will look like, what will be the nature of organization in 2040, we have very less idea. There can be changes which we cannot even imagine. For example, how the job market will look like in 2040; either billions of people will be redundant or long run automation will keep generating new jobs and greater prosperity for all of us.

So, what is going to happen we cannot definitely say. A drone does not require any crew, no manpower is required to actually operate it; but at the same time to run a full-fledged commercial drone, you need a big team. So, jobs vanished at one level are created at another level.

What is going to happen, we do not know; but what are the factors going to impact the business organizations and our society are nonetheless these:

There is an increasing globalization and even if there are voices against globalization and localization, globalization is going to remain a force and it is going to come up in different ways. For example, there might be focus on the local production, but the distribution can happen globally.

Similarly to globalization Technological changes are going to remain a factor.: We just talked about so many disruptive technologies which have emerged and are emerging in

last few years that are going to have a disruptive impact on the business models, on the functioning of organizations and functioning of society.

We also see that aging population in diversity; the psychographic profile and the age profile at workplaces in India as not going to be the same. It is going to be very different. There are many countries which are struggling with the changing demographical profile in their workforce and they are trying to find different ways of dealing with that. For example, aging population is an important challenge for the Japanese economy.

Whereas negative population growth is a concern for many Scandinavian countries. So, aging in population and diversity are going to remain challenges at the workplaces. Environment and social factors; are shifting towards the central concerns of businesses.

In the next session, we are going to discuss in more detail about how the sustainability and environmental concerns are actually resulting in altogether new business models and ways of doing businesses. So, these are four important unavoidable challenges, inevitable challenges that are going to redefine the workplace and organization in years to come.

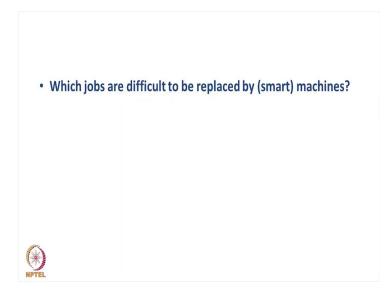
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If we look at how the change process has happened in last 200 years, in the first part of the industrialization process, we see that machines were first competing with the physical

ability of human beings. But now they are not computing on the physical abilities, but they are competing with the cognitive capability of the human beings.

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Can you think about some jobs which are difficult to be replaced by the machines? Can you think about some jobs which are difficult at this moment? We cannot very easily imagine that they can be replaced by the machines.

Student: Design of the machines..

Design of the machines ok.

Student: Surgery.

Surgery.

Student: Psychology.

Psychology, counseling, what else; legal advice?

Student: Medical advice.

Medical advice.

Student: It can be done by machine.

It is.

Student: (Refer Time: 07:37).

So, there are lot of things like counseling, legal advice, medical advice, we think that cannot be done by machines are now being taken over by machines.

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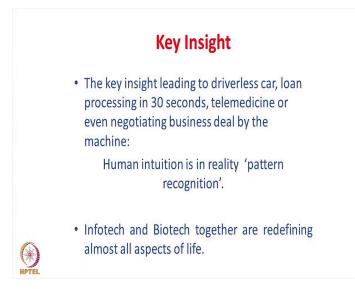


Till very recently we thought that driving is a very human skill, but now we know that it can be replaced by machines to a great extent and a lot of successful experiments have taken place in this regard.

Legal advice is something which we think is difficult to be replaced by machines, but the IBM systems, Watson is found to be effective for legal advice in large number of situations. Medical advice: again, there are studies which have proved, which have demonstrated that on certain type of medical cases and medical problems machines are accurate in more than 95 percent cases; whereas, human beings, the skilled professionally qualified doctors are right in 75 percent cases or at most upto 80 percent cases.

So, what we have realized that our initial idea about jobs that require intuition is not correct. This intuition is actually not the intuition of sixth sense; but this is based on getting insight and pattern recognition.

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So, a key insight leading to these of all these machines are that human intuition in reality is a pattern recognition.

If we have enough data, it can be fed into the system, and this system is intelligent enough now to get the insights and draw conclusions. And those conclusions and decisions can be as accurate or probably more accurate than human experts we currently have.

So, Infotech and Biotech together are redefining almost all aspects of the change process all aspect of life.

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This is an example of old news and very old news. Old news is that in 1996, machine defeated the world champion in the chess. Whose picture is?

Student: Garry Kasparov.

Garry Kasparov yeah. So, blue deep; this is the name of the machine which defeated Kasparov and Kasparov had a cult like status in the then USSR, now Russia. People felt, huge disappointment that machine is able to defeat Garry Kasparov, but this is very very old news.

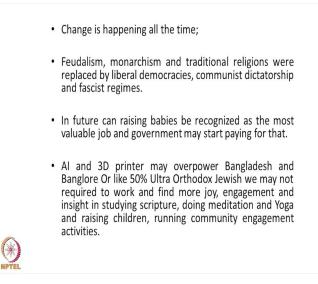
The old news is that competition and championship has started amongst the machines. So, the competition was how to create smarter and more intelligent machines and people kept creating new and new programs which were better than other programs. Stockfish8 was one of the programs, that became world chess champion in 2016. This is old news. There is very old news and old news.

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The new, the news is that Google AlphaZero program defeated the Stockfish. And what is so special about the AlphaZero program is that it learned to play how to play chess in 8 hours. It did not require lot of moves being fed into the machine (that is how earlier machines were taking decisions); because lot of patterns were fed and they could recognize that pattern - they could look at thousands and lakhs of the moves.

And then based on those moves they could identify their future moves. This machine the AlphaZero program is based on the machine learning principles which it learnt by playing with itself. And as a result of that it had sudden moves which were unthinkable by human beings. So, within 8 hours this machine learned how to play the chess and then it defeated the world's best program. So, this is the kind of pace of change we have we have seen in the current times.



So, change is happening all the time. If we look biologically, most of our cells get replaced by new cells in 7 years time. Except few WBCs and neurons most of our cells are replaceable. The only problem is when other forces and external forces want us to change, we resist. We see that feudalism, monarchism and traditional religions are replaced by liberal democracies, communist dictatorship and fascist regimes.

In future it is possibility that raising babies can be recognized as the most valuable job and governments may start paying for that. Artificial intelligence and 3D printing may overpower Bangladesh and Bangalore and they became very prosperous. Or like 50 percent orthodox Jews, we may not be required to work and we may find more joy, engagement and insight in studying scriptures, doing meditation, yoga and raising children and in running community engagement activities.

So, in Israel we see this situation. Israel is doing a cutting edge work in many fields, whether it is robotics, machine learning, agriculture computing, it is doing fantastic work. Israel has one of the most vibrant start up ecosystem. It is challenging any existing technology in the world; but at the same time, a large number of Jewish youths are not engaged in the so called cutting edge technology, but they are finding comfort, solace and meaning in being orthodox and studying the scriptures.

And many of them are actually supported by their wives, who go out and earn bread. So, very different patterns can emerge in years to come, as a result of the technological changes, demographical changes, political and social changes.

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So, now you need to think what are the big changes that you and your organization which you are likely to work with, are facing or going to face in the near future. So, can you think about some examples? So, now, we see that the claims like in two minutes loan processing is possible. So, idea is that we need to think about it, what are the patterns, what are the factors that are going to redefine your work and the work of the organization which you are likely to join.

Why we need to think about it? We need to look at it from the strategic perspective. Why should any organization bother about? This is because no organization can keep on harvesting its existing competitive advantage. We all know that business survival, business profitability sustenance and growth survives on the competitive advantage, but like product have life cycle, competitive advantage also has life cycle. So, we need to know and how we can go systematically about it that is what we are going to look at in the session.

If there are so many changes at the technological. demographical and social level how to think about the business systematically and is there are some heuristic available? So, one of the heuristics available is the change in the competitive advantage. So, like product, competitive advantage also goes through different stages.

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An organization launches something. It is a launch phase. Then it start reaping the benefit if that competitive advantage is really value adding. Then there is a ramp up phase, where the returns increase sharply. Then comes a phase of exploitation. Exploitation means, the investment is less and cash generation is more. In the ramp up phase there is a cash generation, but in this phase we also require more and more investment. Exploitation is different because it does not require so much investment - a cash rich situation occurs in the exploitation phase.

We know that no organization and no competitive advantage can be up to be exploited forever. They will always be challenged, there will always be competition, there will always be alternatives and as a result of that every organization has to reconfigure its competitive advantage.

The organization which are able to reconfigure the competitive advantage extend the life of the competitive advantage. If they are not going to reconfigure the competitive advantage in that segment, in that category, then they need to gracefully disengaging with that business. (Refer Slide Time: 17:20)



And disengaging business is not a defeat, but it can be a strategic move it can be a strategic choice.

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One example is of a company called Miliken in 1960s. It is a very old company and till 60s it was largely focused on textile in the chemicals. When competition started coming in, when the competitive advantage started to erode, they started looking at the different avenues and the different markets and in 90s they became better known for the advanced materials flameproof products. Same organization faced with competition in this

segment which is materials and the flameproof product. In 2000, it became leader in the specialty materials and high IP specialty chemicals.

So, an organization which was known to be a textile company became a specialty chemical company. This is one classical example and the logo which is visible here is the reflection of its journey. So, in 60s and 70s and 80s they were having this logo and now they have this logo. If you look at the structure nature of the design of the logo - here it is more like fluid and here it is changing - it is not fixated, it is not that structure role. So, that unstructured approach to the business and responsive nature of business they wanted to communicate in the logo as well. So, no organization can hope to exploit the competitive advantage for forever and all the organizations have to reconfigure and reevaluate their competitive advantage.

What do I do? How do I know whether I need to rethink about the competitive advantage? There are certain questions like when I do not buy my own company's product that is the time we need to think about the competitive advantage. When we are investing at the same level and not getting better margins or growth in return that is the time we need to think about the competitive advantage.

Customers are finding cheaper or simpler solution to be good enough and they are not looking at our sophisticated products then it is a time to look at whether we need to rethink our competitive advantage. Competition is emerging from places we did not expect. Customers are no longer excited about what we have to offer. We launch a campaign and there is a lukewarm response or no response then it is the time to think about the competitive advantage.

We are not considered the top place to work by the people we would like to hire. If we look at certain companies which were most sought after employers in 80s and 90s are not sought after employers in current times that is a reflection that they are not the leaders in the field they are not considered to be the best places to work. And when we are not considered to be the best places to work we need to look at where is the action? Where are people looking forward to join, looking forward to work. When some of our very best people start leaving, then also this is the sign that we need to think about competitive advantage.

So, if we out of these 7 questions, if there is a yes for 4 questions then this is certainly a case for organizations to think about or rethink about the competitive advantage. Probably, what is giving edge to them in the marketplace is not attractive enough and there are substitutes coming up.

In spite of knowing all this, in spite of this knowledge and this science being well established that no competitive advantage can give benefit for very long time - why organizations do not respond timely?

Ultimately, there are very smart people working in the business organizations. These organizations are managed by some of the most qualified mind, some of the best minds. Why do they miss out on some of the weak signals? Why do they fail to change their way of looking at business? Many times, they not only ignore weak signals, but they also ignore strong signals (that are about their business and business approach).

What might be the reason? They all are smart people coming out from IITs and IIMs. It requires reallocation of the resource and when organizations are functioning, they function in a certain way which sets some kind of inertia and then there is a commitment for certain projects and getting out of that project has a sunk cost effect. To avoid that people do not give attention to the new or emerging field. What else? Is this the only reason, is economic reason the only reason?

Student: Inertia is the reason.

Yeah. So, inertia other than economics where else the inertia might be.

Student: People.

In people, why? Because if I am working with an organization and if I am not able to see the change that is required, then it is eventually going to affect me as well, but still people do not want to give sufficient attention to these things because of several factors.

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And as a result of that there are certain traps which they get victim of. And first of these traps is first mover trap. If I am a leader in the marketplace, if I started this business, I tend to believe that I know business the best and because of that if new competition emerges, I have a tendency to ignore that.

Student: Right.

That is called first mover advantage. Then there is superiority trap. If I am a player in the market for very long time, naturally I am providing a better finished product. Whenever substitute come, they are not very sophisticated and very well packaged. And established players sometime confuse sophisticated packaging with customer value and as a result of that they get trapped in the superiority complex.

There is an example of e-Commerce site. The fact that e-Commerce is going to be the redefining feature of business field, was conceptually known 10 years before. Still not many companies had invested sufficiently to build their e-Commerce platform and they did not build their e-Commerce supply chain because they were thinking that their product requires some personal touch, their product requires some human interaction and e-Commerce can never replace them.

If we look at the ecommerce site 10 years ago and what it is today, we see a drastic change. The earlier e-Commerce site were not so sophisticated, now they are

sophisticated. The organization which invested 10 years ago, now has developed a sophisticated site and that is how they are able to give a better experience to the customers. The organizations which have not invested in that learning curve, still do not have the sophisticated interaction and they are not able to provide the best experience.

The quality trap is very similar to superiority trap, which is sticking to quality which customers are not willing to pay for. Many times, when we think of quality, we assume that customers look for x things, but many times these x thing have been replaced by some other things and the quality by definition is a perception of the customer. What is considered to be quality at one level may not be considered quality at another point of time.

For example, in the fashion industry, in the cosmetic industry, packaging was considered to be a very important factor in terms of the quality, but in last few years natural ingredients became the major defining feature and packaging has not remained the most important quality feature. But, if a player keeps investing on the packaging without looking at the changing taste of the customers, it is said to be trapped in quality paradigm and this "quality" is being defined not by customers, but by the marketers.

Fiefdom - "my market, my space" is another syndrome, that many managers suffer from. It is a choice between mass market product or a product like iPad. There is another example of Nokia. In 2004, in Nokia some smart engineers came up with a product which was very similar to iPad. Not only the product was very similar to iPad, they had also developed some rudimentary apps, but this product was not given sufficient attention and investment. Because it was a new thing and they could not convince the management to make investment and to take this innovation in more seriously. Now, we know where the Apple is and where the Nokia is.

In the organizations, the number of people one controls and number of products one handles or size of product and market that is handled by a person - has become a sign of the power, influence, and importance. People want to keep their team large. Secondly, changing their managerial position from leading a large team and established product to a smaller team and a new product is not considered very smart move because it has a risk involved in it and not all the new product lines are successful. So, when in an organization, success is defined based on the number of people one is managing and the

amount or the monetary value of the portfolio or the product one is managing. Then naturally, the best talent may not go for the new product and new businesses and new market.

Organizations are subject to structure and processes. Structures and processes help organizations to carry out their functions and structures and processes become very rigid with time. And as a result of that, even if it is known to people that we need to bring about change, organizations at times are clueless about who can take that responsibility of innovation.

Everybody has a set job rule, everybody has a job description, everybody is working for their KRA, everybody is working for their half yearly, yearly goal in this kind of climate - who has time to innovate? If it is not in my KRA, why should I invest time energy and my teams' time and energy for the innovation. This mindset becomes a major obstacle in winning about change process. And last, but not the least is the issue of empires to protect.

If I am leading a big project, if I am leading a big market, if my product size is huge, I continue in that area; even if I see that the product or the service or this line of business may not have a very bright future. I tend to prolong somehow and continue to lead that instead of creating a panic or pressing urgency alarm and going for the innovation with full force.

So, these are some of the misconceptions which prevent any organization to go for innovative products, innovative business lines and innovative ways of doing business.

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Is	Your Company Prepare	d	fc	ort	the	e 1	Fra	ns	sient-Advantage Econo	my?
	Focused on extending existing advantages							Capable of coping with transient advantage		
	Budgets, people, and other resources are largely controlled by heads of established businesses	1	2	3	4	5	6	7	Critical resources are controlled by a separate group that doesn't run businesses	
	We tend to extend our established advantages if we can	1	2	3	4	5	6	7	We tend to move out of an established advantage early, with the goal of moving on to something new	
	We don't have a process for disengaging from a business	1	2	3	4	5	6	7	We have a systematic way of exiting businesses	
	Disengagements tend to be painful and difficult	۱	2	3	4	5	6	7	Disengagements are just part of the normal business cycle	
	We try to avoid failures, even in uncertain situations	1	2	3	4	5	6	7	We recognize that failures are unavoidable and try to learn from them	
	We budget annually or for even longer	1	2	3	4	5	6	7	We budget in quick cycles, either quarterly or on a rolling basis	
	We like to stick to plans once they are formulated	1	2	3	4	5	6	7	We are comfortable changing our plans as new information comes in	
	We emphasize optimization in our approach to asset utilization	۱	2	3	4	5	6	7	We emphasize flexibility in our approach to asset utilization	
*	Innovation is an on-again, off-again process	1	2	3	4	5	6	7	Innovation is an ongoing, systematic core process for us	
	It's difficult for us to pull resources from a successful business to fund more uncertain opportunities	,	2	3	4	8	6	7	It's quite normal for us to pull resources from a successful business to fund more uncertain opportunities	
	Our best people spend most of their time solving problems and handling crises	,	2	3	•	5	6	7	Our best people spend most of their time working on new opportunities for our organization	
	We try to keep our organizational structure relatively stable and to fit new ideas into the existing structure	,	2	,	4	5	6	,	We reorganize when new opportunities require a different structure	
	We tend to emphasize analysis over experimentation	1	2	3	4	5	6	7	We tend to emphasize experimentation over analysis	
NPTEL	It isn't easy to be candid with our senior leaders when something goes wrong	1	2	3	4	5	6	7	We find it very easy to be candid with senior leaders when something goes wrong	

So, what we are talking about? The competitive advantage is not fixed in nature and what organizations have to operate on is the transient advantage. So, we are actually operating on the transient advantage economy. There is no fixed competitive advantage and there are systematic ways to look at whether my organization is ready to operate on the transient advantage economy or not.

So, if I am focused on extending my existing advantage or I am capable of coping with the transient advantage, there are ways to look at it. For example, budgets, people, and other resources are largely controlled by heads of the established businesses. If there is a very tight control by the established businesses on the budget, people, and other resources then probably I can focus more on extending my existing advantage.

But if the critical resources are controlled by a separate group that does not run businesses and which can have an overview of the business then probably, I am more capable of coping with the transient advantage. So, some organizations which are able to harness the capability of transient advantage are the ones which have strategic thinking groups as well and strategic thinking groups are not directly responsible to one business.

So, in the strategic business group there might be experts in the HR, Finance, Marketing etcetera, but they look at not one business, but they look at the portfolio of the businesses. And based on their observation and readings and understanding about the

market, they critique the nature of the portfolio and also identify the new business opportunities.

I have seen it happening in the Yes bank. So, Yes bank is one of the new banks, which has not only harnessed the conventional ways of banking, but they have connected the social and natural development as well with the banking goals. And this kind of linkages is not possible without an independent group observing the marketplace and actively scouting for business opportunities which at the same time address the business and sustainability goals as well.

Another example is we do not have the process for disengaging from the business, if business house does not have any idea how to disengage with the business. Whereas another business house might have a systematic way of exiting business. We try to avoid failures even in uncertain situation and at another level, another outcome is that we recognize that failures are unavoidable and try to learn from them.

So, how are robust processes available to draw the learning from the failures? And there are some organization which have which have worked not only in the business opportunity, but the learning and knowledge management as well. So, for many years Tata Group Companies were giving awards for the successful innovations and in last few years they have started awarding the most promising failure as well. It is just to convey that it is not necessary always to be successful in the innovation. And there might be failures in the innovative projects which were really unthinkable, but the process involved in approaching the innovation process, if it was robust, then it is worth appreciating.

So, likewise there are series of questions. Innovation is an on again, off again process versus innovation as an ongoing systematic core process that is the sign of organization which is capable of coping with the transient advantage. It is difficult for us to pull resources from a successful business to find more uncertain opportunities. Whereas, in some other organization, it is quite normal for us to pull resources from a successful business to fund more uncertain opportunities.

Our best people spend most of their time solving problems and handling crises comparing to our best people spend most of their time working on new opportunities for the organization. Likewise, there are series of questions and any organization can look at these questions and position themselves to what extent they are ready and capable of coping with the transient advantage.