Social Innovation in Industry 4.0
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Lecture 01
Why is Social Innovation necessary? (Part-1)

Welcome friends to the lecture on 'Why is Social Innovation Necessary'? The talk of the town across the globe both by international bodies and local government is always focused towards Social Innovation.

Earlier, we were talking more on innovation, then we were talking about scientific innovation, now we are talking about Social Innovation. The differences in scientific innovation, we were more focused towards developing products such that it can be helpful to mankind. For example, polymer, plastic bags, polymer parts. We were more and more focused towards developing solutions. We were more and more looking forward for innovative solutions, energy efficient solutions.

Today we are trying to talk about sustainable solutions and Social Innovation. This lecture is very important from the introductory point of view.

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In this lecture we will try to cover Introduction to Social Innovation, Addressing Complex Social Problems. Why is this a talk of a town, is because there is complex social programs or problems involved in it. For example, if government giving a freebie today to cater to the needs of the existing solution is a stop gap arrangement. When we try to do the stop gap arrangement, it is not sustainable. For example, giving mineral water or providing portable water, 1 litre bottle for 10 rupees or for x dollars is as of today. As and when there is large amount of unemployment and people's salary dwindling down, it is not going to be sustainable. So, we should understand what is the Complex Social Problems, then Encouraging Collaborations.

Today, innovation cannot happen in a small closed room. If we wanted to have a sustainable solutions, then we have to look for collaborations. For example, if you are a start-up company, if you have a brilliant idea to solve a customer problem, develop a technology, then what happens is, we always try to develop alpha prototype in the lab scale.

Then, maybe we go for an improvised version 'beta prototype' discussing and developing the innovation, but when it goes for mass production, there is a clearly different ball game. And, after producing in mass, connecting with people is a biggest challenge.

Many a times you would have felt that when you go convince your colleague, your family members, things will not move, but whereas, your elderly person or an experienced person when he tries to negotiate, the solutions will be accepted. So, here the collaboration is very important. Today, we have to be work in teams, the teams can be in various geographical locations.

Next is Fostering Entrepreneurship. Finally, whatever innovation you do this must lead to entrepreneurship. So, what is for me is a very very simple sentence which everybody has to be satisfied, then you become a very good entrepreneur. Then we will try to look of improving lives and finally, a precise conclusion for this lecture.

Social innovation is nothing, but development and implementation of new ideas, approaches, and solution to social problems or challenges. Today, I move from place A to place B, I have multiple routes to take. The starting point and the ending point is the same, I can also use various medium for commuting.

Now, you are supposed to look at an innovative idea how will I get connected between A to B, when I said connecting A to B two different locations in a plane. So, now, the solutions can be road, maybe go by water and in road try to go by cycle, by some powered vehicle, etcetera, but we did not think of using an air space.

Today, what is happening, people have started using the three-dimensional space which is available for commuting between point A to point B. So, this is an innovative idea of using human drones to commute from place A to place B. So, person will be sitting in a drone and it can commute from A to B without losing much of time, but reaching the destination much faster. But, is it energy efficient? Definitely, no.

So, now, we have developed an Innovative Idea or a New Idea, but it is not energy efficient. Now, what you do? You integrate solar to it. So, when we integrate solar to using the three-

dimensional air space, it is a New Innovative Idea or it is a New Idea this leads to innovation. And, when it has an impact for a huge spectrum of people, then it is called Social Innovation. Let me take another example from the social perspective.

So, one is, there are several clusters of pottery available in different parts of the country. Cluster A, this is cluster B. So, there are different types of clusters, and each cluster try to work on innovative products like one works on cup, the other works on developing toys. There are potteries, they make toys. For example, you can have a bird, now, this bird is used as a whistle.

Now, the potters make these type of toys, fill it up with water, and when you try to blow it, it will try to create different sounds. If I try to make a bird and if I try to sell it only as a bird, it will give you maybe 1 dollar, US dollar 1. When I make it into a toy, I convert this into 10, selling prices 10 dollars. When I make it as a whistle, it can go up to 50 dollars.

- You see a simple product using the same raw material, how have you added value to it, and, how proportionally or exponentially you are trying to get money or generate money out of it. The idea is new, for example, 1 dollar is normally known to every potter, then 10 dollars, then from there you move to 50 dollars, it is an innovative idea.

Let us take another cluster of pottery where they make terracotta toys, cluster C, they make terracotta toys. Terracotta toys are like you would have seen around Jaipur or many places or if you go to star hotel or maybe in movies, you can see that there will be a model of a horse, a terracotta model which is around about 1 feet tall. So, here what they do is, they try to make this horse, and then there are 2 processes involved. One is basically Wet Process, the other one is called Dry Process.

Wet Process is, what all major modification shape form you have to give, you try to give it in the wet because it is not energy demanding. What are wet processes here? Basically, Wet Process is nothing, but, you try to take clay, and then add ingredients, and then water. So, it is soft, basically.

So, now, after making it, what do we do, we try to go to dry. Wet process, as I have already explained, has maybe n ingredients and it is soft. So, you can make shape, but it is soft, you cannot commute. So, what we do is, we try to undergo a process called Treatment. And then, it becomes Dry Process or Hard Process. What is Heat Treatment? We try to maintain temperature and time in a closed volume. Basically, an oven, what we are trying to talk about is oven here, So, we try to use oven, and try to play with temperature, and trying to convert the soft into a hard toy or a hard terracotta. So, here you cannot do any change in shape, basically, you can add color to do secondary operation such that the product can sell.

Now, in this Heat Treatment there is lot and then, later stage will be packaging. Currently the major challenge happens in Heat Treatment and in Package. These two are already experts, Dry Process, Wet Process. Heat treatment, because of time and temperature we are not able to get an energy efficient process. So, now, people are looking for different alternatives apart from electricity, use solar, use microwave for oven treatment, such that the time and temperature can be optimized. And, you can also get a good quality output, then do Dry Process.

And, in packaging, they are looking for, what are the different materials to use for packaging? and they are also looking for optimized packing factor, such that without breaking they can commute for a very long distance. Of course, it looks very trivial for you. Today Amazon and Flipkart whatever online purchase you do, they give proper packaging and send, but this packaging material is now becoming a major threat for environment. So, now, they are looking for innovative ideas in pottery, such that the value addition can be done, and lot of innings of money they can make or their livelihood can be changed. So, we are looking for new ideas, these are all new ideas.

- Approaches, you have already started enjoying the online purchase, where in which lot of Indian traditional toys are sold through online. For example, a small village in India they are making particular toys or they are making some wood carvings. These carvings, earlier used to have only a local market, today after the invasion of online, they are having international market. So, that means to say, the way they are reaching out to customers, the multiple approaches they do are new approaches which are part of Social Innovation.
- And, the last one is Solution to the social problems. There are the social problems can be, for example, now government gives lot of freebies. Freebies are not only given in our country, it is even given in developed countries. The biggest challenge is, how does it reach the genuine person. So, in India we have been started doing digitization in a big way. So, this digitization helps the needy person or the person to whom the money or the scheme has to be transferred, is directly transferred from the government. It is a Solution to the social problem or challenge which earlier used to have several middlemen, and there used to be hard cash which is transferred from one place to the other all these things are killed and a sustainable solution is developed. So, this is part of Social Innovation.

And, why are these things very important? They are very,

- Effective
- Efficient
- Sustainable

Today, when you are started working in the paradigm or in the space of Social Innovation, try to keep these things in your mind, the solution should be effective, the solution should be efficient and the solution should be sustainable.

As part of Social Innovation, we have to look for effective, efficient and sustainable. Let me take a simple example of myself. My father started a sweet shop, where in which every day he used to make 50 sweets, and those days, I am talking about 80 years before, the customers were few, their requirements were little. So, 50 used to be a big break, even for my father.

Today, if I am trying to use the same sweet, use the same process and try to cater to 500 people, the solution is not sustainable. So, now if it has to be sustainable solution, I have to think of a concept called Modularity and I have to think of Collaboration. These things are very important, such that I can make my Social Innovation sustainable.

So, in order to have a better more clarity about Social Innovation, if I have to precisely place the definition or more about Social Innovation, let me write it down, Social Innovation seeks to create positive social change by finding creative ways to tackle complex social issues, that are not adequately addressed by traditional methods.

This will be a proper definition for Social Innovation, 'creates positive', then 'finding creative ways', 'complex social issues', 'that are not adequately addressed'. So, first, second, third are important, and fourth is completing the definition. For example, RO (Reverse Osmosis) filter which are used for making water into portable is a very good technological solution, but it is not a sustainable solution because there is almost 50 percent of water rejection happens in this technology. However, it tries to give me a portable water. So, in social what we do is, we try to take the same solution and reduce the wastage.

The second thing is, today the cement constructions which are going around in building industry are huge. Earlier, they used to make through cement, gravel, sand getting mixed and they used to do manual mixing. Then, they used to do batch production machine mixing, and then, they used to do it in bulk large scale mixing.

Today what has happened, we have come to modular concept of taking building blocks, make these building blocks with in-between spacing filled with air, and, try to make same good sustainable structures, this is a Social Solution.

So, this is the definition which precisely covers about Social Innovation. It seeks creating positive change, then finding creative ways, not the existing ways, a creative way, in trying to develop solutions, that is Social Innovation.

The Social Innovation can take many forms which includes:

- New technologies
- New business models
- New policies, for example, every month you start paying a flat 100 units price for electricity. So, nobody comes to your house, monitors your meter-reading, and then they punch-in what the amount of money you have to deposit. It is done by looking at the previous statistics and they say a flat 100 units you pay for electricity bill. So, end of the year what they do is, they try to send it only 1 percent once, and he tries to balance the consumption and what is bill till now, if there is a positive balance, then he says last month do not pay, if it is a negative balance, in the negative balance they try to add all the features, and in the last month they say please pay it. So, here there is a big policy change.
- The Social Innovation can take many forms like programs and services. For example, starting midday meal in rural schools, it is a service which was implemented 10-20 years back in several states in India. So, now what has happened, children are attracted to come to school for enjoying their mid-day meal, while enjoying, they are also been taught education. The service, which is offered now, the students come to school to enjoy food plus education, they are all now trying to get themselves educated, which is what the government wants. So, there is a program which is established and Social Innovation is spread through it.

The Social Innovation can be driven by 3 kinds of people. It can be:

- Individual
- Organization
- Complete community.

So, an individual can do. For example, there are lot of Women Self Help Groups, which are getting established across the globe to get connected with the house engaged women. They join hands as a team, government of India, or any other government, or world organizations, or NGO organizations give them a starting money, they start some business, and   they   sustain,   and   they   make   innings.

So, an individual can be a leader, it can do, or an organization a banking can do, or a government can do, or a region, or a religion can do. So, that is what I said, Social Innovation can be driven by an individual, can be driven by an organization, can also be driven by a community.

So, lot of CSR grant of big companies are given for Social Innovation today, where in which the companies are also involved in uplifting a society, and educating the people, giving them a knowledge for a business, and then they start making their livelihood. They are often involved in cross-sector collaboration and partnership. So, some of the examples, for cross-section collaboration and partnership are,

- micro finance initiative taken by government, taken by banks
- social enterprise
- digital platform that provides civic engagement
- social inclusion
- innovative approaches to health care, water, etcetera.

So, these are few of the examples which are part of the Social Innovation, where in which cross-sector collaboration and partnership happens in moving towards Social Innovation.
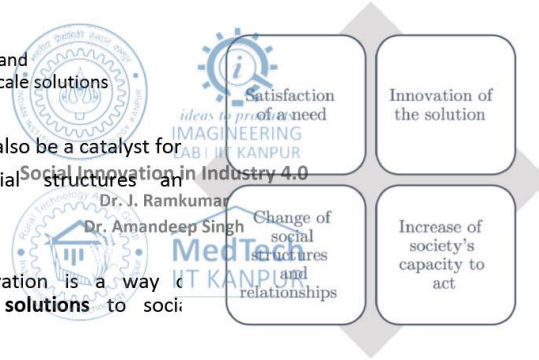
- The Social Innovation is often characterized by its focus on social impact. If I develop a solution, how is my solution going to impact, and, create revenue or livelihood to segment of people social impact. For example, today there are lot of tribes, they have native intelligence, they know medicinal plants, if I can come with a solution, such that I integrate all of them, teach them an energy efficient way of extracting those medicines, packaging it properly and selling it, is a project, which is a social innovative project, where a community of people are involved. Now, what I do is, I try to make a solution which can give or make an impact for a segment of people, may be few hundreds of people, they get a benefit.

So, that is what is focus on social impact, collaboration and the ability to scale solution. What I try to develop with them, may be good for extracting 50 kilos of leaf, extract into 5 liters, but if I wanted to have an international business. So, then this 50 kilos has to be made 500 kilos.

- So, whatever I do, it has to have an ability of scale solutions, so that, it tries to address systemic social problems.

Social Innovation is often characterized by its focus on social impact, collaboration, and the ability to scale solutions, such that it address systemic solution social problems.

- The Social Innovation can also be a catalyst for change of social structures and relationship between some modifications by challenging existing system and structure, and empowering individuals or organization and increasing the society's capacity to act. So, if you see the Social Innovation can also be a catalyst for change in the social structure and relationship, Social structural change and relationship

change by challenging existing system and structure. So, you keep asking, why is it happening like this, what stops me from changing, ask five times why, you will go towards a root solution. So, five times if you keep asking why, assured that you will try to understand what is the root cause.

Now, when you understand the root cause, you challenge why is this? This is the bottom neck. And, why from here we cannot come up with innovative solutions? Earlier, people used to say all these tribal people are lazy, they do not work, they do not execute to the expectation, but you should understand they did not have the knowledge, they were shy, they were hesitant in talking to people. So, the root cause for their laziness or under performance is their basic approach which has to be liberalized. Once they start moving with people, they understand their expertise, they understand their limitation. Then, they try to figure out a balance between them, and start producing the requirement what is expected from them. So, it is not their laziness, it is their exposure, it is their inclusive society, which they wanted was not given. So, that is what it is.

So, if you start ask challenging them, you will try to come up with innovative solutions by challenging existing systems and structures and empowering individuals if there is a system and if there are several stakeholders, what you do is, you try to give each stakeholder some responsibility, for taking a decision, then everybody feels that they are part of a big system. So, that is, what is empowering individuals or organization and increasing the society's capacity to act is nothing but Social Innovation.

Overall, Social Innovation is a way of applying innovative solutions to social challenges. Let us expand it little bit with the goal of creating positive social change. Innovative solutions to social challenges with the goal of creating positive social changes. So, if you look at it, the Social Innovation elements have to have this four which satisfying of a need, innovation of the solution, change the social structure and relationship and increase of society's capacity to act. So, these three are very important. Everything you do, you first come up to identifying the need, and by doing so, you try to satisfy the customer.

So, satisfaction of a need, innovation of the solution, then change the social structure and relationship, Earlier, women were not given freedom to a pain on decisions. Today, every family feels that all the stakeholders, let it be father, mother, children, child one, child two, everybody are part of the family and everybody has to appoint on any decision the family takes.

Ultimately, the father or the mother takes a call, but the change of social structure and relationship has to be maintained, and increase the society's capacity to act is also one of the most important element of Social Innovation. Thank you very much for attending this lecture. Thank you.