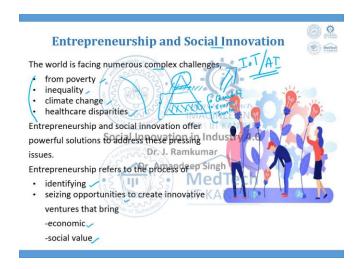
Social Innovation in Industry 4.0 Professor J. Ramkumar Professor Amandeep Singh Department of Mechanical Engineering and Design Indian Institute of Technology, Kanpur Lecture 16

Social Innovations Case Studies, Entrepreneurship and Social Innovation (Part-1)

Welcome to the new lecture on Social Innovation. Here, we are going to see some Case Studies, then we will move towards Entrepreneurship and Social Innovation.



Entrepreneurship and Social Innovation, the world is facing numerous complex challenges. Wherever there is a human being there is a society, wherever there is a society there will be humpty number of problems. So, these problems are societal based problems, few of them are individual based problems. The societal based problems are our prime focus.

So, we always keep focusing on the societal needs and find out what are their unmet needs, and then we try to do a Social Innovation, and then become an Entrepreneur. So, the world is facing numerous complex challenges because of poverty, because of inequality, climate change, lot of ice which is in the northern pole is getting melts.

So, once it gets melts, there is a rise in sea level, moment there is a rise in sea level, the entire shore area across several countries will be hit very badly. And, today we used waterway as also one of the most powerful transportation mode.

So, there while transporting oil or while transporting medicine, while transporting toxic material, if the ship gets into a wreckage, then the entire area where the ship undergoes a

wreckage is very badly hit. Today, the biggest challenge is, we do not know how to extract the oil spillage which has happened across the seashores. Because of that the biodiversity is very badly affected. This makes a climatic change.

So, the other thing is now lot of plastic is getting dispersed along the seashore. When fishermen go to sea for fishing, they get lot of plastic bottles and plastic garbage instead of getting fish. More and more garbage in the seashore the fish has started moving inside. Fish always looks for a warmth for multiplying. This warmth is not available.

So, then that hits the people who are doing fishery. The community of people get affected and that pushes them towards poverty. So, that is the climatic change. The climatic change happening because of pollution.

The last one is healthcare disparities. Until now, the healthcare was always thought it is not for bottom of the pyramid, wherein this bottom of the pyramid people are more in number.

The healthcare was always focusing for the top people who are there at the top of the pyramid and to some extent to this portion. So, because of that the medicine or the expenditure which are involved in treatment was always expensive, but now, the world has realized that there is a huge population here, and this population has to be taken care.

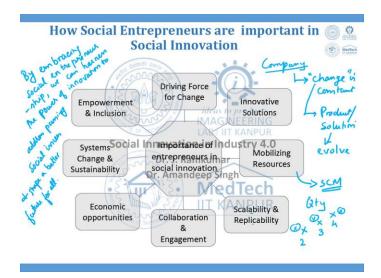
Their healthcare has to be taken care more because they are huge in population, if they do not have a proper healthcare that leads to other problems in future. So, now the world is looking at bottom of the pyramid healthcare measures.

Here, they are trying to maintain quality, they are trying to give it in a economical price, and they are looking for sustainability. So, here what is happening, people are now started exhaustively using IoT techniques and AI techniques in healthcare to understand, and do quicker diagnosis and try to do the operations in modular fashion, such that the best of best can be given to the patients at an economical price. And, today we are looking at sustainability.

Sustainability means people are looking for an economical model, where there is less amount of wastage which is getting dispersed back into the environment. So, healthcare so, in all these places, today digital technology has come up in a big way because of the intervention of digital technology now IoT, AI, ML are exhaustively used.

The Entrepreneurship and Social Innovation offers powerful solutions to address these pressing issues. Entrepreneurship refers to the process of identifying, seizing opportunities to create innovative ventures that brings economic and social values together, very important. Everywhere you see, it is only identifying the problem, many of us do not identify the problem by the root cause, we always look at symptoms. So,

identifying the problem, seizing the opportunity to create innovative ventures to bring economic and social values.



When we look at social entrepreneurship, how important it is for Social Innovation? So, these are the building blocks which leads to the importance of entrepreneurship in Social Innovation.

The driving force for change, innovative solutions as I told you the company whoever comes today or entrepreneur whoever comes today a start-up company, they should always be very clear, change is constant.

For this change the products or solutions should evolve, should keep changing. You do not have to do a major change, but keep changing it little by little, such that the expectation of people can be fulfilled.

So, innovation of solutions, mobilizing resources are very very important, that is why today supply chain management is the buzzword which goes around. So, supply chain management, interestingly we have started working on a very small project with an MSME company.

Initially what we used to do is, we used to look at allocation based on quantity. For example, if at a x location they want 2 books, at a y location they want 3 books, at a z location they want 4 books.

So, it is x, y and z. So, now what we do is, we typically go ahead doing a lot seizing, and then we try to give it, but here we have not considered weight, we have not considered volume. Why is it important? Because the weight and volume is used for loading a truck.

So, now reallocating space in a truck which can take overall maybe 10 tons, or 15 tons, or 20 tons, reallocation of space has to be done depending upon the weight, and depending upon the volume.

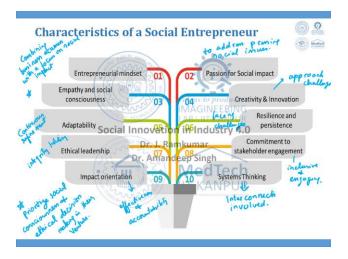
Now, supply chain management is trying to integrate along with the numbers plus the specification of the book in terms of weight and volume. So, now that plays a very important role. So, now corresponding to that comes your packaging. So, there is a huge drive in supply chain management which leads to mobilizing resources.

Then, scalability and replicability is very important. For example, if you see, you try to have a pizza either in India, or in Africa, or in US, or in Europe, the taste is almost the same. So, what they have done is, they have standardized their process and after standardizing the process, they are able to replicate the same process at multiple locations with a small modification towards customization. So, the taste is almost the same. So, that is nothing, but scalability and replicability, but pizza does not fall under Social Innovation.

So, now we are trying to copy the model of pizza, or KFC, or what not. So, that into scalability and replicability. Scalability and replicability is a major challenge for Social Innovation. So, that is why many of the Social Innovation gets confined to one particular society or one particular country alone.

Next, collaboration and engagement is very important with academia, with individuals, with society, with government all these things. Economic opportunity is the another major thing which is to be looked at it. Then, system change and sustainability, and empowerment and inclusions by embracing Social Entrepreneurship.

We can harness the power of innovation to address pressing social issues and shape a better future for all. So, that is what is the gist of this slide, by embracing Social Entrepreneurship, we can harness the power of innovation, whatever we have put the building blocks, to address the pressing social issues and shape a better future for all.



What are the Characteristics of the Social Entrepreneurship? There are 10 different Characteristics.

So, let us start from the first one, the entrepreneurial mindset. So, this mindset is basically combining business acumen with a focus on social impact, that is what it is. The entrepreneurial mindset is combining business acumen with a focus on social impact is the first characteristic.

The next characteristic is passion to social impact. See, Social Innovation cannot be forced, it has to be a passion. So, to address the pressing social issues is nothing, but a passion for social impact.

The third one is empathy and social consciousness, basically it is going to talk about prioritize social and consciousness and ethical decision making in their venture. This is the empathy and social consciousness, this is a point which goes with that.

Then, four is going to be creativity and innovation, this has an approach challenge. Fifth one is adaptability, adaptability is continuous refinement for a better approach.

Resilience and persistence is facing challenges. Challenges can be in terms of monetary, it can be in terms of acceptance, many of time and majority of the times, it is more and more of customization happens.

So, we try to develop a product, then when we try to implement the product, we feel that there is a difficulty, then we change the product to meet out to the customer requirement, when customer starts using, we find out something more.

So, it keeps on reiterating, it is not that your solution is bad, but your solution at the right time, to the right audience, if it has not reached, then you should have resilience of accepting. So, resilience and persistence is very much required as part of Social Entrepreneurship to be very successful.

Ethical leadership is upholding your integrity, integrity holding is very very important. So, you should not start doing something else which was not your prime focus to reach out to the goal.

Try to have ethical practice, and try to take actions it will be very tough, when I meet several of the most successful CEOs. They only say there will be several challenges, but you should not leave your ethos and values. So, ethical leadership is very very important.

If you do a compromise in the ethical leadership, you might be successful temporary, but for a long time sustenance, it is not going to come in your way. So, do not compromise on your release dates, but try to work hard in making your product more ethical. So, if you say, tomorrow I am going to release the product, and you find out something.

So, do not do some unethical ways of releasing the product with some small compromise in your product performance. You can work hard, you stretch yourself and try to produce the best of best, and give it at the time.

Next one is committed to the stakeholder engagement. So, this is a very challenging task, even in a family you will see, every decision, if all the stakeholders are together, it becomes easy for implementation. Our intentions are good, but maybe time or situation does not allow us to keep all the stakeholders together, but keep committed to your stakeholder engagement.

Try to pull them, try to talk to them, involve them in the solution, make a collaborative effort, make them also co-innovators, start working with them for a better future, this will try to help you in a long term. So, committed is ensure, the solution is inclusive and engaging.

Impact orientation, impact orientation is, it has two things which are effectiveness and accountability. Today many of the government projects failed in several countries is because the accountability was not there.

Today, world is moving towards accountability, moment money starts flowing and you take the responsible, you are accountable for deliverables. Accountability and effectiveness are very important to always have a impact orientation and the last one is going to be systemic thinking, to understand all the interconnects which are involved in the system.

Try to have a bird's eye view, understand the problem from a bird's eye view, then jump into a space where there is a need for intervention, jump into the space, work on it and

again, come back to the bird's eye view, start looking at the problem what is going on, and then start doing it.

If you just go by micromanagement alone, you will not be able to be a successful social entrepreneur. Because by the time you come with a solution, if the people have got more maturity, or they are not interested to work with the product, then there ends the matter. And many a times working with social is challenging.

For example, if you start working with agriculturist, agriculturist is a seasonal business. Let it be horticulture, let it be a farming, let it be even normal agriculture, it is all seasonal business.

It is for 3 months, 6 months, 1 year, some of them can go for 3 years, some of them can go for 5 years. For example, coconut goes for 3 years or 5 years. For example, banana goes for 1 season, paddy goes for 1 season, wheat goes for 1 season. The season can be 45 days, 6 months, 3 months whatever it is, and if you go for vegetables, it is 15 days. If you go for flower, it is maybe 3 months.

You should understand what are the problems they face and how are they moving with respect to time. And, by the time you come up with solution, they say no we do not need it, it is of no use. Second thing, you come up with a very high tech solution, which they find it very difficult for acceptance, then it is a challenge.

The grass cutters which are used today very efficiently, they are all made it standalone systems. These standalone systems are attached with fossil fuel for example, petrol.

So, now if you want to electrify it, so that you can have a better control, electrical controls are much better than a mechanical control, then you need to have a battery. So, battery for that power is very challenging.

Now, you have to customize your grass cutter to a weight, such that the battery can also be accommodated, and then do it. Then, comes recharging of these batteries. We have to come up with a business model, If you do not come up with a business model of recharging and giving a full solution for a system, you will not be able to do it.

For example, we are also trying to work on a passive water filter. This passive water filter can work efficiently for an intake of 250 liters per minute. So, here the function of the filter is, to filter the particles varying the rain size of 75 micron to 100 micron. It is a passive filter, without having any of the normal filter. Say for example, normal filters after a period of time it gets blocked.

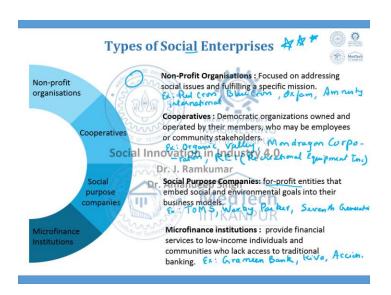
We are trying to play with these signs, we are trying to play with vortex creation, and then we are trying to filter the water. Here, filter alone if I sell, the filter needs a motor for trying to pump the water to 250 liters per minute then only the filter can work. If I say try to have a pump and if the pump is not working efficient, then the filter will not work efficient.

So, now, I have not to try to sell the system as only a filter, I have to integrate a motor pump along with the filter, such that my system is very successful. So, that is understanding the system in totality, and then giving solutions.

So, these are the 10 basic Characteristics of a Social Entrepreneur. He has to have entrepreneurial mindset, he has to have a passion to solve social problems, then he tries to have an empathy study proper, he is creative, he is adaptive this is very important.

The biggest challenge is, people trying to adapt to the needs, adapting then resilience, persistence, then ethical practice, then stakeholder commitment, impact orientation and system thinking. All these things are very important to be a very successful entrepreneur, but the underlining is passion. If you do not have a passion to solve societal problems, then sorry gentlemen and ladies you will not be able to be a good social entrepreneur.

You should have a passion, you should not take it for money, you should take it as a passion. Try to solve somebody's problem and solving somebody else problem if you take it as a passion, then there is no stop for it, you start living with it.



Now, let us look at Types of Social Entrepreneurs. It can be Non-Profit Organization, it can be cooperative, it can be social purpose company, it can be microfinance institution.

So, these are the Types of Social Enterprise. In recent past, there are lot of cooperative societies are getting established, such that this cooperative societies are with combination of people.

It is almost that every member is the owner of the company and every member tries to look at some passion in trying to solve societal problems. Let us look at them little deeper. So, for example, Non-Profit Organization, it is focused on addressing social issues and fulfilling a specific mission.

For example, Red Cross, Blue Cross, the mission is protecting animal and there are a community of people they do it as passion.

The money comes from good hearted people. The Non-Profit Organization is able to sustain for few decades or maybe even a century, it is able to do it. So, Red Cross, Blue Cross, then we have Oxfam, then we have Amnesty International. So, these are some of the examples for Non-Profit Organization.

Let us look at Cooperative. Cooperative means, it can be within that particular zone. So, democratic organization owned and operated by their members who may be employees or community stakeholders, that is what I said. So, there are 10 people. Now, we form a Cooperative.

These 10 people, all of them are members, all of them are owners, and by rotation, they can have an election process and identify a leader for 3 years or 5 years, and everybody tries to work in solving a societal problem, is cooperative.

This cooperative can be taking or collecting food from one place, and then trying to deliver it in another place, or collecting raw material from a lot of places, and then trying to deliver.

For example, milk. In India there are several pockets where rich milk sources are available. Now, what they do is, the farmers form a cooperative. The milk is collected from all the individual vendors, brought it to a centralized point, and in a centralized point, they do all sorts of processing on it, pasteurizing and other things, and then they try to sell it.

So, that is a Cooperative model. So, it is democratic organization owned and operated by their members and you can also give a service, a service can be given. For example, a cooperative society can be formed, and then you can ask all the members to be part of the cooperative, and this Cooperatives major objective is to keep city clean, keep school clean.

So, the entire contract will be given to this cooperative, and this cooperative has members, they will try to do it. Like that, you can also form a cooperative for milk, you

can try to form a cooperative for honey, for horticulture, for vegetable, you can do anything. For example, if you want to do for only protein, for only paneer, yes possible. So, that is cooperative.

So, the examples are going to be organic valley. You can have Mondragon corporation, you can also have REI which is nothing, but recreational equipment INC. I am giving you intentionally international organization because I expect you, out of curiosity to go back and see lot of Indian companies are also in this domain.

I gave you an example of Amul milk, one example of Cooperative. There is a small thing which is there in my way back in my home town which is called as Chintamani.mIt is again a Cooperative Society. Several Cooperative Societies can be made.

Then, the third one is going to be Social Purpose Companies. So, these are for-profit entities that embed social and environmental goals into their business models. For example, the TOM Shoes model, you buy one, somebody gets contributed.

Now, ITC is also doing the same, you buy one notebook, 25 of this notebook or one another child gets it. So, you buy one notebook one fourth of the profit goes to them. It is all Social Purpose Company, but for-profit.

Next one is, Warby Parker for Social Purpose Companies. The next one is, Seventh Generation. All these things are there which is more focused, they are all Social Purpose Companies, this is this part. They are also part of Social Entrepreneurship.

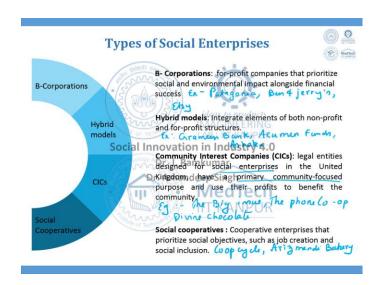
Then, the last one is going to be, Micro Financing, provide financial service to low income individuals and communities who lack access to traditional banking. So, example here is going to be Grameen Bank, and it can be Kiva, it can be Accion. So, these are all international organizations and intentionally giving it.

So, that you will go back to a Indian mapping for it, or your country mapping for it. The country can be Africa, Bangladesh, Europe, then it can be Asian countries. So, you can try to figure out some mapping thing for this.

So, Type of Social Enterprise, these are some of the enterprises which are there, we have many more to come in the next slides. So, Non-Profit Organization, Cooperative, Social Purpose Companies and the Microfinance Companies.

Microfinance companies, a capital money will be given for starting your own business where there they do not have any assert. The money is given based upon the trust of the group and the objective, that is the mission, and vision, and the goals what they fix for their self-help group, they give the Microfinance.

And, there is a huge success story for the Microfinance, by the way, because community of people join together, like minded people join together, and they focus on one. So, the society gets the benefit, they also get a financial benefit, it is a sustainable model.



The next one is going to be B-Corporations. For-profit companies that prioritize social and environmental impact alongside financial success. So, for example, you have Patagonia, it is a company which does it, then Ben and Jerry's, they do it, and then there is Etsy is also doing.

So, these companies are for-profit companies that prioritize social and environmental impact alongside financial success. So, you look at the previous one which we saw in similar one is for-profit entities that embed social and environmental goals into their business models.

This is different and B-Corporations are different. So, B-Corporations are that prioritize social and environmental impact, but there you sell one, you transfer one, something like that. Hybrid model. Hybrid model are integrate elements of both non-profit and for-profit structure.

What is non-profit? What we saw is, Non-Profit Organization is Red Cross and Blue Cross. Focus on addressing social issues and fulfilling a specific mission is Non-Profit Organization. Now here, it is a hybrid mode where we are trying to integrate elements of both non-profit and for-profit.

So, what is for-profit? B-Corporations are for-profit, and social purpose companies are for-profit. So, try to mix these two with an NGO to make it a hybrid model. So, in the hybrid model example again, you have Grameen Bank, Acumen Fund, and you have

Ashoka. These are some of the hybrid models, and then you have the other two, which are Community Interest Companies (CICs).

So, here, legal entities designed for social entrepreneurship in the United Kingdom have a primary community-focused purpose and use their profit to benefit a community. So, it is a legal entity designed for social entrepreneurs, which we are seeing in the United Kingdom.

So, this is particularly for one country that has a special community focus. Whatever I earn out of this business, I give it back to society only by educating underprivileged kids. So, have a primary community-focused purpose and use their profits, whatever they generate, to benefit the community. So, this is interesting.

A lot of companies, like CSR, make profits. From their profit, they say, whatever comes out, I give it only for the benefit of this community. Whatever I earn, I give it back to my similar-language people, my classmates, or my schoolmates overall needs. So, please identify or underline that for a set of people, that is what they say to a community. To use their profit to benefit the community. So, examples, here is the big issue, the phone coop, and we have divine chocolate.

These are some of the companies that are already under this umbrella. The last one is going to be Social Cooperatives. Cooperative enterprises that prioritize social objectives such as job creation and social inclusion, as their entrepreneurship. So, I start a company, and I want this company to be started only to make sure women are given jobs. And, when the women are given jobs, they sit together and try to produce a product, then I will try to sell the product.

So, this is what is done in the tribal villages of Chhattisgarh. So, they have a lot of skills, people have a lot of skills, they have a lot of medicinal-value plants. They have a lot of knowledge. So, what I do is try to establish a Cooperative Enterprise that prioritizes social objectives. The objective is to give money, but not to give free, give some work, and then give them money.

And, through which, we develop a product, and the developed product will be sold. So, Cooperative Enterprises that prioritize social objectives such as job creation and inclusion. Many of them try to give education, that is also there. So, examples of this are, you can have a co-op cycle, it is a company.

And then, you have Arizmendi Bakery. These are a few examples. There are many more, I am just writing out a few so that you can understand. So, these are the different types of enterprises. So, Non-Profit Organization, Cooperative, this is very important slide, You should understand, which category you will fall.

Non-profit organization, Cooperative, Social Purpose Company, Microfinance, then you have B-Corporations, then Hybrid Models, Community Interest Companies, then you have Social Cooperatives. So, you have to figure out which one do you fall and you can try to easily pick up one, and then try to have one.

So, if I had been you, I would have picked up Social Purpose Company. So, somebody buys one, I give one shoe to a needy person, that I would have happily done. The other way around is, I would have also tried to look for B-Corporations.

For-profit companies that prioritize social and environmental impact, but it is left to you to choose. People who are in remote villages, they always go for Cooperatives. Milk, vegetables, textiles, BD, and food processing, all they from under Cooperatives.

Thank you very much.