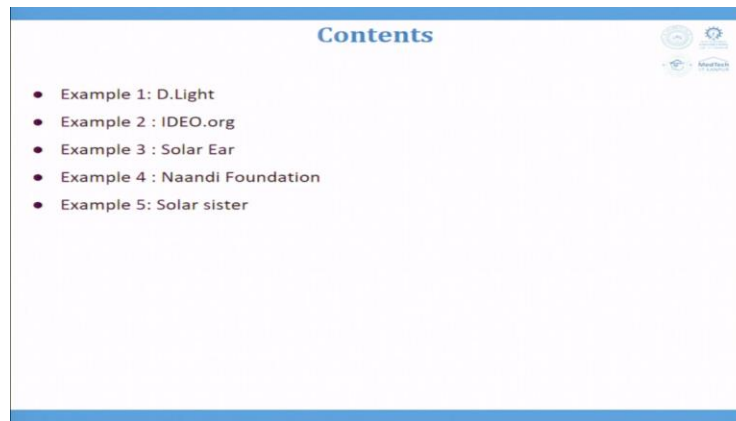


Social Innovation in Industry 4.0
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Lecture 20
Design for Social Innovation: Examples

Welcome to the next lecture on Design in Social Innovations. We are trying to cover few examples, so that you will have more insight.



So, we will try, to have 5 examples. So, D-Light is one, then IDEO.org, Solar Ear, Nandi Foundation and Solar Sister. So, these are the 5 examples we will see.

All the 5 are Social Innovations, which has been very successful, which is a scale up model, which is replicable, reliable and which has done good to community.

Example 1: D.Light

Social enterprise for clean energy solutions that are,

- affordable ✓
- reliable ✓

Impact on the society:

- Improved lighting and energy access for households
- Reduction of reliance on harmful and expensive kerosene lamps
- Positive effects on
 - health ✓
 - safety ✓
 - education ✓
 - livelihoods ✓




image source: <https://images.goo.gl/QZL2Hd8rH5ZPF9w2>

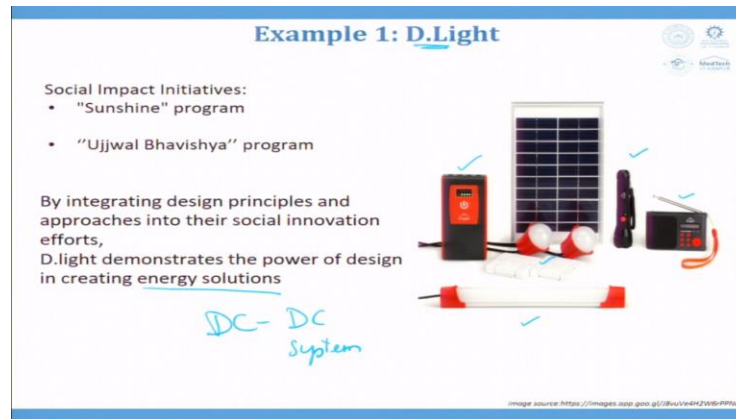
And, all these things, started with a design thinking approach, people wanted to solve a community need. The social enterprise for clean energy solution, that are affordable and reliable was the theme for D-Light. They wanted to make electricity as economical as possible, and as reliable as possible.

Giving an economical solution, and only for part of a day is not the total solution. So, they try to work on providing solar energy or clean energy for affordable and reliable way. The impact on the society was, it wanted to improve lighting and energy access for all the households. In marginalized area getting electricity connection is difficult due to various limitations. So, here, trying to identify the location and trying to find out what are all the best possible solution, and then choosing a solution is good.

So, improved lighting and energy access for household, that was the impact on the society. Reduction on the reliance of harmful and expensive kerosene lamps. See, if you want to look for a passive system, electrification, the first thing which comes to your mind is going to be use fossil fuel. For example, use petrol, use kerosene, use diesel. When you use this, it is going to burn, and it is going to release carbon dioxide, but, these three are the best fellows which can give stand alone, passive electrification, that means to say, passive here is, stand alone.

So, in order to get out of that, and then try to establish a clean solution is move towards solar. The current best practices are use harmful and expensive kerosene oil to burn the lamp or to drive the engine. So, because of that, and providing the clean energy, the positive impact to the society is, give them good health, give them safety, give them education and give them livelihood. Moment you have electricity, all through the day or all through 24 hours, then the biggest boon is going to be education. Livelihood, they can keep working, whenever they want, whatever they want, and then try to produce the required output.

One, there is light, the safety of the society improves, and the next one is, the health also goes out. So, all these things are positive impact to the society keeping all these things. D-Light was a company, solar innovation, which came into existence in providing clean energy solutions. Which is affordable and reliable.



So, the solar impact initiative are 'Sunshine' program is one, and 'Ujjwal Bhavishya' program is two.

These two programs they did so that they could try to have a positive impact to the society. By integrating design principles and approaches into their Social Innovation effort, D-Light demonstrated the power of design in creating energy solutions. These energy solutions are clean energy solutions. This is full of Social Innovation, so much of work. So, they have integrated radio, because radio was the source of information, when there is a natural disaster.

They could use microwave, they could use radio waves. So, what they wanted was, light for studying, a torch light and charger, a LED tube light. So, they try to make it DC-DC system. They did not have a battery in between, they had DC-DC system during the day time it could work, and when they wanted to have it during the night time, they tried to have a battery in between. So, that they can try to do, or during the day time they were able to make DC-DC, and push it into the grid, if they wanted a weather free of cost and other things.

So, D-Light was a Social Innovation, even today it is very successfully running, it tries to give health care, education, clean energy and safety for public there in the society.

Example 2 : IDEO.org

IDEO.org

- ❖ Applying design thinking to address social challenges

Projects:

- Clean water solutions
- Innovative health services
- Financial products for underserved populations

- ❖ Design Thinking Approach
- ❖ Human-Centered Design




image source <https://images.app.goo.gl/m7i2h0RFE24q79k6t8>

The IDEO-ORG is another thing. Here, applying design thinking to address social challenges, like clean water solution is one thing, which they wanted to have. Then, innovative health services, financial products for underserved population, all these things were projects, which were done under IDEO-ORG for Social Innovation. Design thinking approach was used, human-centric design was done. So, water, healthcare and financial products for underserved.

Awards and Recognition:

- Fast Company Innovation by Design Award
- AIGA Design for Good Award

IDEO.org empowers

- individuals
- organizations

in the social sector through design capability building.



image source <https://images.app.goo.gl/3z4VfKxLC4jxH528>

See, the awards and recognition for IDEO were fast company innovation by design award And, AIGA design for good award was given to them. IDEO-ORG empowers individuals as well as organization, in the social sector through design capability building.

Example 3 : Solar Ear

- ❖ The project was initiated by Tendekayi Katsiga, a Zimbabwean electrical engineer.
- ❖ Solar Ear employs innovative design principles to create
 - low-cost,
 - solar-powered hearing aids
- ❖ The design of Solar Ear has a positive social impact by
 - promoting inclusion
 - reducing stigma
 - empowering individuals with hearing impairments




image source: <https://images.app.goo.gl/W936L703C9Fu5LKP>

The next one is Solar Ear. So, this project was initiated by Katsiga in Zimbabwean electrical engineer. The solar power empowers innovative design principle to create low-cost, solar-powered hearing aids. Hearing aids have battery, these batteries will be charged using solar panels or solar energy, and then that can be fitted. A very good initiative, very good thought process, it made a super-duper hit. So, that is why, it is called a Solar Ear.

Example 3 : Solar Ear

- ❖ Solar Ear's design is scalable
- ❖ The company's commitment to making hearing aids affordable and accessible is making a difference in the lives of millions of people around the world




image source: <https://images.app.goo.gl/1qgAe00rH6N48L28>

The design for Solar Ear has a positive social impact by promoting inclusion, reducing stigma, and empowering individuals with hearing impairment.

So, this was a Social Innovation, which could make it for inclusive society people. The Solar Ear design is scalable. The company committed to make hearing aids affordable and accessible in making a difference in the lives of millions of people around the world.

Example 4 : Naandi Foundation

- Empowering community members to take ownership of their
 - water resources
 - hygiene practices
- Naandi Foundation exemplifies the application of design principles in social innovation
- Through their initiatives, Naandi Foundation has been able to
 - drive positive change
 - improve the lives of marginalized populations




image source: <https://images.app.goo.gl/0mJpVWMSAEV9H9ouD>

The next one is Nandi Foundation which is empowering community members to take ownership of their water resource and hygiene practice. So, NANDI foundation exemplifies the application of design principles in Social Innovation.

Though their initiators, NANDI foundation has been able to drive positive change and improve the life of marginalized population.

Missed Opportunity: Naandi

- Design flaws in water system-
 - not considering the culture
 - needs of all community members
- Inaccessible safer water
- Heavy and impractical containers
- Wastage and higher costs



image source: <https://images.asp.gov.pl/h1K0Qah8YC3E3b9>

The design flaws in water system is not considering the culture and needs of all community members. So, here, it is through participatory approach. Next one, inaccessible safer water is fixed hours for water distribution. So, they had a fixed hour for water distribution.

Here, heavy and impractical containers. So, what they did was, they limiting its usability, this is also part of it. Wastage and higher cost was purchase the required amount. So, purchase required amounts of water per day. Earlier they used to bring big containers, and then do it.

So, now, what they did was, they standardized the containers, and they said for each container of this size, you will have to pay x price, and do not try to buy excess water and keep it. So, all those things were part of their thought process and NANDI was a huge success. A Social Innovation, where in which the focus was towards water and hygiene.

Example 5: Solar sister

- A social enterprise that empowers women entrepreneurs to distribute clean energy solutions in off-grid communities.
 - ↳ Several African Countries
- Offers a range of clean energy products
 - ↳
- Women Empowerment
 - ↳ lanterns
 - ↳ Solar home systems
 - ↳ Clean Cook stoves
 - ↳ Phone charging
 - ↳ laptop charging facility




image source: <https://images.app.goo.gl/8kMoo9eHm0Cg17s>

The Solar Sister is a social enterprise, that empowers women entrepreneurs to distribute clean energy solutions in off-grid communities. So, here, it is operated in several African countries, it is a Social Innovation.

Offers a range of clean energy products, the products are lanterns, then they have solar home systems, then they have clean cook stove, then they have phone charging, and they also have laptop charging facility. So, lantern, solar home system, these are the range they had. Clean cook stove (solar cooker), then phone charging, and then laptop facilitating. So, here, what does the women folks do? The women folks have been given training, how to assemble the solar products. And then, they try to go to the market and sell the products.

And, after sales, if there is a maintenance issue they also try to do service. Through doing so, they have their livelihood. So, this is a very successful project, which is falls under solar innovation called as Solar Sisters.

- ❖ Social Impact:
 - Improving energy access,
 - Reducing environmental pollution,
 - Enhancing the overall well-being of communities
 - Economic Opportunities.
- ❖ By applying a design thinking approach, Solar Sister creates sustainable and user-centric solutions that-
 - empower women entrepreneurs,
 - improve energy access, and
 - contribute to social and economic development in off-grid communities.



image source: <https://images.app.goo.gl/F5xG3Bngm0B0L4>

So, the social impact is going to be improving energy access, reducing environmental pollution, enhancing the overall well-being of communities, economic opportunities are given. We have discussed all these things.

By applying a design thinking approach, Solar Sisters created sustainable and user-centric solutions, that empower women, improve energy access, and contribution to social and economic development in off-grid communities.

These are some of the examples, where in which solar innovation has been very successful. The assignment for this small lecture is going to be try to look at few solar innovations which has social impact in India. Try to prepare a 5 page assignment, and try to make a case study for it. Few solar innovations which creates social impact in India.

Thank you very much.