HSL704
Solar Lantern Assignment

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What additional technical improvements/innovations can be made in the product?

1. Fast Charging: Increasing the sensitivity of the solar panel to the sunlight. The current product requires very bright sunlight to get fully charged.
2. Battery level indicator while charging to show how long does the user requires to keep the solar panel in the sunlight.
3. Addition hook for hanging : The current model requires a loose end of a string or rope on which it can be hung.
4. Phosphorescent Material can be used in a part of the product so that it is easy to find in the absence of light.
5. The given design contains a lot of empty space inside which can be reduced to make it more compact.
6. An alternate way can be used to light the lamp by using non rechargeable cells.
7. Changing the port to micro USB as most people have phones with micro USB ports.
8. Additional removable strap can be used to carry it.
9. Sliding switch instead of button switch as it is easy and more comfortable for most people.
10. Most of the solar devices contain elevated stands for solar panels as sunlight is not perpendicular to the ground.
11. Cheaper and lighter material for Solar panel which could reduce its weight and cost.

Can the product be modified minimally to meet any new unmet need?

1. People who generally travel in cycles do not have a headlight so the product can be modified to be attached to a bicycle while travelling during night.
2. The product contains a lot of empty space which can be used to keep some belongings of the user like cash.
3. Non Unidirectional mode : Even in the ceiling mode to cover the whole area it requires a certain height to cover the whole area which can be alternatively done by creating a mode in which more than one led is used to cover different directions.

How can the end user cost of this product be reduced further?

1. Approaching NGOs. NGOs and society can also borne some cost of the project as a part of social responsibility.
2. Giving Subsidy. Like other rights of citizens, “The Right to Light” i.e. every citizen should have the necessary light required for good quality of life. Thus, the government support in the project will allow the project to be made affordable to the user.

3. Local manufacturing. Involving the local communities in each and every operation like training locals to assemble and distribute instead of having a manufacturing unit which will also give us cheap labour and more accessible repair service.
4. Reduce supply chain cost by increasing scale and thus reducing the cost of operations like assembly/repair/distribution etc

What marketing channels can be explored to reach out to potential users?

1. Advertisement in news papers
2. Electricity Office (Billing booth)
3. Pamphlets
4. Salesmen
5. Solar Energy awareness
6. Panchayat
7. Fairs(hunar haat, trade shows like Vibrant India etc.)
8. NGOs

Any barriers of entry which need to be overcome?

1. Cost. The purchasing power of the population depends on how much they earn, thus the cost of the project may not be affordable to the population in villages, towns.
2. Size
3. Climate dependence. Seasonal distribution(The Rainy Season has more cuts and thus the distribution in other season may not be high)
4. Target customers & awareness.
5. Competition with cheaper cell based models.
6. Too complex and expensive for a normal customer : A customer's need is restricted and he does not want to buy such an expensive product which contains some extra benefits which he doesn't want or need to use.

Do you think PSS model can be successfully implemented in this case to increase the user base?

No the PSS model can't be successfully implemented in this case to increase user base as the product need is not very uniform. One needs the product in the absence of light which can't be predetermined. Considering the unavailability of electricity depends on season, it would take too long to recover the cost of the product using PSS. However letting people purchase the product using emi could be helpful.

The PSS model can work in areas like adventure sport places or in trekking areas where users can get the product for a short period of time, but that is a very small area and would not significantly increase the user base.