

# Sethu sethunarayanan



**ASSIGN  
BUSTER**

1. Explain in detail what theories and concepts you learned in class are helpful to understand the case. The case discusses an entrepreneur named Sethu Sethunarayanan, who invented and marketed an innovative trap to help poor Irula people (an Indian tribe) catch rats more efficiently. He is the founder of the Center for Development of Disadvantaged People (CDDP) - one of a few recognized non-profit organizations in India. The case is an example how technological innovation and human capital can be used to improve the life for the poor.

This rat-trap entrepreneurship was a social entrepreneurship because the inventor used the resources to cater to the needs of poor people. Prior to the innovation of the new trap, Irula villagers needed to use their mouths and their hands to catch the rats directly; their health was severely affected when touching the rats. After talking to a rat-catcher's wife, Sethu realized that there was a problem and with the instinct of an entrepreneur, he knew that there would be an opportunity for him to solve the problem and improve the lives of Irula people.

With the help of a mechanical engineer, Sethu developed a new trap to help people catch rats without contacting directly to the rats and the hot area of the trap. The values created from this innovation were a better health and a better income for rat-catchers. A concept test was implemented to fifteen rat catchers to see whether it worked. This was an important process to determine whether the entrepreneur needed to revise his innovation. After six iterations in eight months, the trap met most of the needs of the rat catchers. Sethu then applied for the grant from the World Bank to commercialize the innovation.

It was a good choice of raising fund since social entrepreneurships usually do not attract numerous investors (because the aim is not for profit but for a better life of people). Sethu also planned various processes for the implementation of the project. Firstly, he identified the market which consisted of 1, 500 neediest villagers and communicated the benefits of the new trap directly to this segment by visiting their villages. Secondly, Sethu created more values for customers by creating the women's microcredit funds, which operated like loans and enabled women to afford a trap.

These funds helped bring the traps to more villagers. Thirdly, he chose the right people to take care of the production. Since the young and unmarried women were selected to be the workers, the men and the boys were kept for catching the rats. Finally, he already thought of the exit strategy when the demand for the traps decreased. In such a situation, the factory would produce other steel products that were useful for Irula people. 2. What were crucial factors that determined success or failure? The success of the rat trap entrepreneurship was contributed by numerous factors.

Firstly, it was due to the human capital: Irula people. Although Irula young women were illiterate, they were able to produce the traps by themselves after being instructed. Selecting these women to operate the factory was a wise strategy because it made Irula people feel proud of their tribe. These workers might also persuade and instruct their relatives and neighbors to use the traps. As a result, the customer base for the business would be enlarged. Secondly, the technology innovation was also an important factor. It was the simplicity of the trap that made it usable for Irula people, 99% of whom were illiterate.

Sethu and the mechanic engineer spent eight months inventing and testing the trap before it met all the needs of the rat catchers. If the trap was more complex, Irula people could not use it and the entrepreneurship would become a failure. Thirdly, the \$98,500 grant from the World Bank served as the source for Sethu to implement his business plan. The plan included many costly processes such as health checks and treatments for the beneficiaries, building factory, training employees, and production. Without the fund of the World Bank laying the foundation, Sethu might not be able to start the business.

Lastly, Sethu seemed to be the first one who addressed the problem in how Irula people catch rats, so he had the first-mover advantage. In addition, it was not likely that other social entrepreneurs would come and compete with Sethu in the near future. Hence, the Irulas did not have other choices but use Sethu's new traps if they wanted to change the way to catch rats. 3. What characteristics of the entrepreneur enabled their success? Sethu had many characteristics of an ideal social entrepreneur. Among those characteristics, the thing distinguishing him from others may be his concern for the community.

Being inspired by Mahatma Gandhi - the Father of the Nation, Sethu always thought of ways to bring a better life for the poor in India. This is probably the reason why he realized the problem of the old way of catching rats of the Irulas and did not stop thinking of a solution. In addition, Sethu obtained an appropriate education and experience in doing social entrepreneurship. Sethu studied in Gandhi's school in India, where he was instructed to use

Gandhi's method to improve lives for the poor, solve human conflicts and introduce new ideas.

After graduation, he worked for an NGO to accumulate experience before establishing his own NGO in 1998. His education and experience were the foundation for his innovativeness, which contributed to the invention of the rat trap. Finally, the most vital factor leading to the success of the entrepreneurship was Sethu's risk-taking attitude. What would happen if the trap failed when applying to a large extend even though it was successful in the concept test; or if the Irula refused to use the trap anyway?

In such a situation, Sethu would lose all the costs in health checking and treatment for the rat catchers, building the factory, training the employees and so on. More importantly, his prestige would be adversely affected since he was awarded the grant from the World Bank but failed to use it effectively. Despite all these risks, he still continued with the business because he believed in his idea and in the Irulas. 4. What were problems encountered by the entrepreneur and how did the entrepreneur deal with the problems? How did the entrepreneur overcome the problems?

When implementing the project, Sethu did face some problems. Firstly, it was the resistance from the Irula people. They refused to meet Sethu and CDDP volunteers because they think Sethu and the volunteers were from some politic parties. Knowing that Irula people wanted to involve and did not like free things, Sethu triggered their interest by approaching them personally, explaining the serious health problems with the old trap and asking them whether they wanted to change their lives. The second problem was the selection of the workers for the factories.

Because the men and the boys needed to catch rats while the wives and the old women were taking cooking roles in families, Sethu chose young, unmarried women to be the workers. He even transferred the ownership of the factory to these women so that they felt more motivated to control the production. The third problem was that Irula people were not be able to afford the trap at \$25. CDDP solved this problem by launching the women's microcredit collectives. In particular, a group of 12-15 women contributed money to form a fund.

When a woman wanted to buy a trap but could only afford 50% payment, she received the trap and paid the rest to the microcredit fund. Such a fund made the traps become more affordable for the Irulas. Perhaps the most serious problem was that the business did not bring profit, at least in the recent future. The production cost per unit was \$27 (\$22 for raw materials and \$5 for labor) but the selling price was only \$25. To deal with this problem, Sethu used bootstrapping as the financing method for the entrepreneurship when he tried to save unnecessary costs. For example, he asked the Irulas to return the trap if they did not use it.

In addition, Sethu's son successfully negotiated with the supplier to lower the material cost (from \$28 to \$25) and the cost savings was then reinvested in the factory. 5. Given the knowledge and skills you acquired in class, would you have done anything differently and if yes, what? There may be some alternatives to deal with the mentioned problems. Firstly, we can use the power of the influential group to persuade the Irulas to use the trap. By identifying some influential people, for example the tribal chief, in a village

and convincing them to use the new trap, we can spread the benefits of the new trap to other villagers faster.

It is because the Irula people still live with tribe culture, they will likely to follow what the tribal chief does. Secondly, instead of selling the traps to the Irulas people, we can employ them as our employees and pay them salaries. The salaries will have one fixed portion and one variable portion based on the number of rats a person can catch. We will receive money from the farm owners and distribute to the catchers. By employing the Irulas as our employees, we solve the problem that some Irula people wish to use but do not afford the new trap.

What is more, when putting them in a company and considering them as our employees, we also help educate them and reduce their illiteracy. 6. What would be the next steps you would take to successfully proceed? To continue the success of the entrepreneurship, firstly, we must find ways to earn money because no business can maintain forever without profit. Initially, the selling price was at \$25, which was \$3 lower than the production cost. We can continue working with the supplier (the steel maker company, in this case it was Tata Steel) or even change to other suppliers to further reduce the cost.

On the other hand, we could provide new complementary products/services to earn profits and help offset the losses in the rat-trap product line. Notice that the new trap helped catch rat 95% efficiency and helped doubled or even tripled their incomes, the Irula people would earn more money to spend for their living expenses. For instance, we could provide maintaining services for the traps and charge a certain level of money, depending on the current

economic situation of the rat catchers. Or it might also sell hand sanitizers for the Irula people to wash their hands after using the trap.

When the Irulas' income increased, these complementary products were likely to be purchased widely because the Irula people cared more about their health. In addition, we can work with the owners of the farms to increase the payoffs for Irula people. The old method of catching rats is extremely inefficient, affects the plants on the fields and causes pollution. We will approach the farmers explain to them the efficiency and the benefits of the new trap, and convince them to employ rat catchers who use the new traps. Lastly, a more efficient trap can be produced.

The current new trap can only catch one rat at one time, which is very inefficient. We can apply new technology to catch many rats at one time. For example, rats are affected by certain electromagnetic waves. By putting some wave generators at the fields, the rats are hurt and will come out of their burrows. Then the Irulas might catch the rats more easily. Because the costs for such systems might be high, we will need to obtain a certain level of profits before trying the new technology. Furthermore, we can also seek funds from external sources.