

Technology for people, who are in real need of it

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Abstract : *We have seen that technology affecting and transforming various aspects of our life all over the world. Everywhere from Govt/ Non Govt./ MNC's/ Private Corporations want to computerized all the villages in the country. But most of the people those are in real need of technology are not availing the benefits of technology. So for providing the real benefit of technology to the people who are in real need of it, in this research paper we have proposed a 4 way tree leveled structure in parallel execution.*

Keywords: *Technology, Technology for people, Information Technology, 4 way tree level structure.*

1. Introduction

We all know that India's companies and well-educated people enjoy the benefits of information and communication technologies, these technologies are still not accessible or affordable for the majority of the population in the country. The technology is far away the reach of the rural un-educated people who are in actual need of the technology. The divide is exacerbated by the deeply ingrained disparities of gender and social class, which tells who can or cannot use technology. Development initiatives, especially in rural areas, are hampered because we are lacking in technological infrastructure. Accessibility is also hindered by language barriers, and a lack of suitable content, applications and user interfaces in local rural languages.

2. What is the need for technology?

Here are some questions arise in our mind,

1. Does putting computers in every village in country solve the problems of people?
2. Will the people easily adopt the technology change?
3. How we can make aware people of technology and its use?

We have pointed various problems like accessibility, illiteracy, awareness and economical solutions which are barrier for successful implementation of Information Technology & Communication Technology in rural India. Our paper covers a proposed frame work to help solve this problem.

A huge amount of efforts have been put in order to promote Information Technology amongst people. The Governments are spending millions in trying to promote activities that promote Information Communication Technology to common man of India. Various research Institute like CDAC, an entrepreneur of Indian Govt., NCST, IBM research labs etc. are implementing various projects to promote the Information Technology. Various private companies are also engaged in implementing these types of projects.

But the problem for Rural India is the illiteracy, the people cannot understand the language, which was used in the projects. So they are unable to communicate with technology.

1. The solution we have pointed out for this problem is to develop the projects in more advanced user interfaces. So that people can make benefit of technology by using it.
2. The projects and technology should be implemented with graphic based user interfaces. Due to illiteracy, people those are illiterate can use the projects or technology by interacting with graphics.
3. A number of KIOSK based projects have been implemented by n-logue, ITC, E-choupal, Media lab Asia etc.
4. Using E-choupal initiative, ITC aims to confer the power of expert knowledge on even smallest individual farmer. The E-choupal services reached 31,000 villages having 52 KIOSKS.
5. Using village internet KIOSKS, Information about weather, market prices for crops, farming practices, seed choices etc. will be distributed to people.

6. This information should be made in the form of local languages to make adoption. But, here graphics based user interface can be used so that people who are not aware of language can also make the benefit of this information.
7. This will lead to enhanced farm productivity and higher profits. There is one more project implemented by government to provide e-govt. solutions to rural India called Drishtee.

But implementation of computers in every village of India will not solve the problem till the technology will not reach the people, those who are in real need of it. But implementation of technology in meaningful manner will make real difference.

To put computers in every village of India will take lot of time e. g. ITC currently planning to implement e-choupal in six villages per day. India is having 6 lac villages, which means it takes 200 years to install e-choupal project in all the villages. Using this project farmer can take benefit from more accurate weighing, faster processing time, and prompt payment, and from access to a wide range of information, including accurate market price knowledge, and market trends, which help them decide when, where, and at what price to sell. Farmers selling directly to ITC through an e-choupal typically receive a higher price for their crops than they would receive through the mandi system, on average about 2.5% higher (about US\$6 per ton). The total benefit to farmers includes lower prices for inputs and other goods, higher yields, and a sense of empowerment.

It has been also observed that people visiting this projects for only some of their tasks. But these projects can do lot more than that.

So the need is to make people aware about all the tasks, which are possible through these projects. So that people start doing all of their tasks using this project online to avoid wasting time standing in long queues.

3. The 4 way leveled tree structure

Our proposed 4way tree structure will really help to distribute technology to people to make them able to take benefits of technology. The solution of problems of rural people is to help people understand their needs & think solutions themselves. Because this is the need that people understand and find the problems they are facing and sometimes it happens that people having problems, gives the solution at their own because they are well aware of problems and also it will help technical experts to solve the problem using technology.

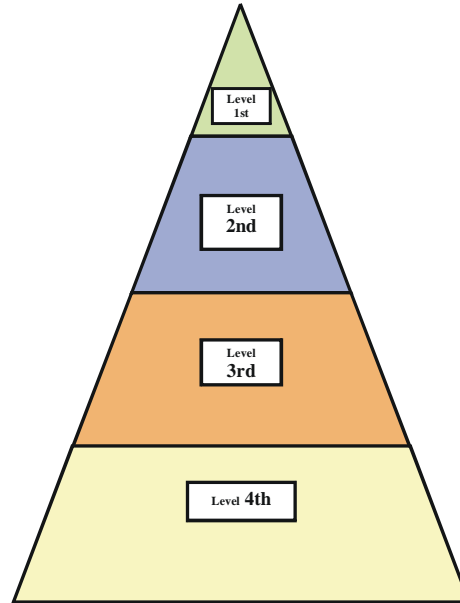


Fig. 1 : Proposed 4 way leveled structure

In our 4 way tree structure as shown in above diagram at first level there will be various Govt./Non Govt. /MNC's/Private companies which will support this whole proposed project.

At second level there will be technical experts which will really implement the problems of people in S/W projects using various technologies.

The level first will provide training to the expert technical at regular interval about new technologies.

At third level, there will be people from villages which are literate, have some knowledge of technology

At fourth level, where will be rural people which want make benefits from the Information and communication technology, which really are in the need of technology.

4. Process / Working

The 4th level will find out their problem, which are becoming barrier in their prosperity.

The 4th level people interact with 3rd level, which will include educated young people of rural villages.

4th level people will discuss the problems with 3rd level, people which has some technical knowledge.

Sometimes it happens the some people find the solutions of their problems at their own. As in one village one guy started operating his tube wells using his mobile phone from very far distant by using only one button of mobile, which saves his time coming to farms. By using this innovative idea he made use of technology to save time and increase in profit. Because using Mobile he can switch on/ off the tube wells at appropriate time, which increases the productivity of his crops. A number of cases have shown that the most innovative & wonderful solutions to help farmers have come from farmers themselves.

The 3rd level will interact with second level, which includes technical experts in various domains. The third level will discuss the problems of the 4th level rural people with 2nd level. So that technical experts can understand the problems clearly of villagers. So that they can come up with solutions using some technology. It is good proposal to take educated young people for villages between technical experts and villagers because educated people from village know local language as well as they can clearly define the problems of villagers to technical experts. It might be there that technical experts do not know the local language.

The 2nd level will directly interact with top level consisting Govt./ Non Govt./ Institution/MNC's /Private firms to fund for the projects which they want to implement for villagers.

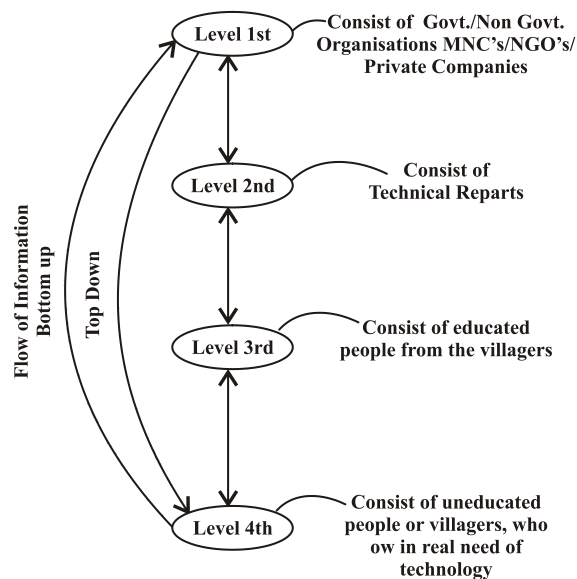


Fig. 2 : Proposed 4 way leveled structure with flow of information

In this proposed framework the information/knowledge will flow in both directions top down as well as bottom up.

The flow of information in both directions would be very useful to solve the problems. In this framework the lowest level would think of problems and their innovative solution which will implemented by higher level.

In this framework the top level consisting of Govt./Non Govt./MNC's/Private firms will fund for the projects as well as provide regular training for technical experts.

The technical expert 2nd level, will develop or implement the projects and technologies. Also 2nd level will train the 3rd level consisting of educated people of village regarding new technology or project they develop.

The 2nd level will guide and communicate with lowest level consisting of villagers regarding the technology of project:

How to use the technology?

What are the benefits to using that technology? Etc.

So this 4th level tree structure will really solve the problems of star or 2 way tree structure.

5. Parallel Execution for the proposed architecture:

Parallel Execution of Proposed Framework

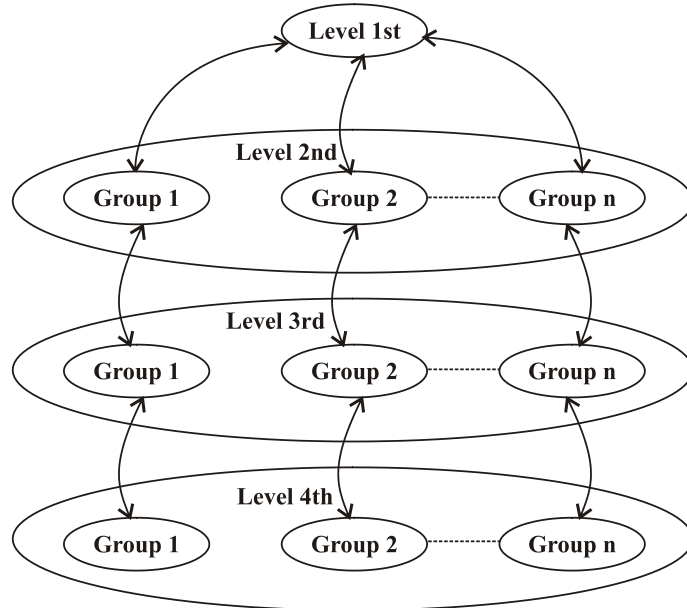


Fig. 3 : Parallel execution of proposed 4 way leveled structure

Now we are trying to implement this proposed architecture / framework in parallel tree data structure. Because we have found that ITC currently planning to implement e-choupal in six villages per day. India having 6 lac villages, which means it takes 200 years to install e-choupal project in all the villages of India. But if we will implement this architecture / framework in parallel tree, then technology can be implemented at various villages in parallel manner at same time. In this architecture or framework different levels can be created in parallel as shown in the diagram, so that at same time technology can be implemented in different villages in parallel. With this amendment in the proposed architecture or framework, technology can be implemented in multiple villages in parallel and in faster way.

6. Who will take responsibility?

Now final task is to successfully implement the proposed framework, different organizations/ Govt./ Non Govt./ MNC's/ Private firms have to work together.

Govt. will do funding for framework, as MNC's and IT companies provide necessary H/W, S/W or technology. Also it includes cost to train and help technical experts for successful implementation of various projects.

The role of media is also important here to spread the knowledge regarding these technologies and projects and their benefits amongst the people of villages. Also there can be small type of workshops that can be conducted at regular intervals to aware the village people regarding the projects, their benefits and how to use the projects. e.g. How the people can book online tickets?

How video calling can be done?

How to use KIOSK based project? etc.

Also need is to motivate people to participate in this framework that can be possible by rewarding and respecting the people really doing their best in this framework. Different levels in our proposed structure will play different roles in making this dream come true, in which we want to spread the technology to people in real sense. For the sake of nation, let's hope this framework will come into existence sooner rather than later.

7. Conclusion

In this research paper we have found that people from rural area are in real need of technology, but due to various barriers we have discussed in this paper, they are not able to take benefit of the technology. If they start using the technology for their tasks, they can really increase on their productivity and profits. If the architecture we have proposed will be implemented, will really break those barriers. But important thing is the successful implementation of architecture.

8. References

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