Technology and Think Tanks

Center for Study of Science, Technology and Policy
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'Technology for society' is an oversimplified concept. Everything from analysis reports, dashboards, and command centres to self-service websites are put forward as the holy grails of e-governance. Governments are demanding more and more digitisation and technology companies are fulfilling this demand with matching enthusiasm. On the face of it, everything seems alright. So why am I complaining?

Well, more often than not, there is a missing link in the design of these applications: the citizen. We get so wrapped up in the governance and policy implications of a

technology solution that the needs of a poor person or that of a grassroots fieldworker are ignored.

Here, think tanks can play the role of a mediator, critic and facilitator, by exploring technology beyond the designer's tunnel vision to look at the big picture.

As it happens, there are some principles that can be of immediate help to do this — although most of them are barely discussed beyond academia.

For instance, in the field of science and technology studies (STS), a fundamental concept that must be used under all circumstances is the avoidance of 'technology determinism'. Any social scientist who pursues STS will emphasise that a technology solution imposed from the top, irrespective of good intentions, is destined to fail.

Social science provides several alternative frameworks to understand the social implications of technology much better. For example, Social Construction of Technology Theory emphasises the fact that all technology is socially constructed. Actor-Network Theory allows an understanding of the agencies involved in the use of technology much better.

Sadly, these social frameworks are seldom applied before a technology related decision is taken.

As an example, enforcing the use of a mobile app by a grassroots health provider to improve efficiency in health services is a technology deterministic approach as it imposes technology without understanding the needs of the user. Its success is dubious. On the other hand, assuming that a mobile app can contribute to efficiency if combined with process and policy improvements, is a social approach. There have been well quoted failures of technology deterministic initiatives like the 'one laptop per child' initiative.

Social problems are complex, and more often than not, there is no simple policy or technology solution that comes close to addressing them. In the 50 1970s, Rittel and Weber proposed the concept of 'Wicked Problems' — complex social and policy issues typically found in health, agriculture, and gender issues. There is no good way to tackle these seemingly impossible problems, yet, the 'Wicked Problem' framework does help to understand them better.

In recent years, there has been a renewed focus on ‘systems approaches’ that are most suited for technology solution implementation in the context of complex problems. In systems terms, such problems are often called ‘Messy Problems.’ A systems thinking approach focuses on the individuals, as well as the big picture, in an effort to ensure that the solution addresses ‘real’ issues, ordinary citizens and the grassroots workers.

The Center for Study of Science, Technology and Policy (CSTEP) has successfully utilised a bundle of tools like this to manage the complex problems of health and malnutrition of children and women. One example is an integrated tech platform called Solution for Nutrition and Effective Health Access (SNEHA), designed to collate data on health, nutrition and other parameters for service delivery programmes aimed at improving outcomes for mothers and children, that is being piloted in Karnataka.

The tools, concepts and frameworks mentioned in this article are just some among many that can be used. Many other frameworks like ‘inclusive design’ and ‘design ethnography’ also go a long way in ensuring that the solution has addressed issues on the ground.

Think tanks may not necessarily be the creators of the technology based tools and solutions. But they often have a voice of influence with governments and other stakeholders. Using a structured framework to understand the problems and implications of the technology can benefit society.