

Technology innovation: Focus on localization and the digital divide

Introduction

With a large technical talent pool, it is only natural that we debate on how we create technology innovations that impact a large number of people. Let us take a look at some path breaking work that companies in India have been doing.

Some concepts

To start with, let us look at some concepts that are being talked about in technology innovation.

'**Disruptive innovation**' is used to describe the process that businesses use to produce cheaper alternatives of products and target consumers at the lowest end. The road map adopted here is to start with capturing markets at the low end and move up the value chain and thereby put pressure on market leaders.

'**Anytime-anywhere**' is a term used in the context of web based e-marketing where information is pushed especially to create a market place, ensure efficient price discovery and offer an economy of transaction for agricultural trading.

'**Paper and IT convergence**' is a concept that is used to simplify data entry especially for local languages and is very useful to help include the local language users who are not well versed in English.

'**Affordable mobility**' is another area that is hotly debated with the universal acceptance of mobile phones yet lack of the ability of mobile phones that are affordable and can carry data and help the user transact.

'**Mass Service automation**' is a high focus area given the need for using the available technology to pool in information across diverse departments and agencies and offer a single window service.

Each of these is illustrated below using examples of technology that work in India today.

Example 1: Tropicalized low cost PCs and notebooks

Companies like VIA technologies have setup technology innovation centers in India to produce low cost PCs that are optimized for power usage and fluctuations, are rugged, low cost and can be used in rural conditions/dusty environments. Intel has recently announced a low cost PC as well as a notebook targeted at students which is based on making technology affordable very early on and to a larger set of people.

Example 2: Transforming Rural marketing and technology

HP's Kuppam project using info-kiosks to provide information about several environmental and market parameters to the rural markets in a vernacular format or ITC's e-Chaupal that has caught the fancy of mainstream marketers so much so that a lot of goods are now sold to the rural audience through the portals and kiosks. Another example is of BPL telecom's mobile weather updates for fishermen which proved to be an extremely useful yet simple service innovation using technology.

Example 3: Personal productivity and mobility

Sight, touch and audio are the keywords for the Simputer which is India's answer to affordable mobility and targeted at users who can leverage the power and enjoy the mobility. Most important, since the device is locally developed and produced, support is not an issue. A good example of Simputer usage is by the traffic police in Bangalore. Even from a software perspective, since it uses Linux, it is more affordable than more such mainstream products.

Example 4: Pen based low cost text entry in vernacular and local language software

India is a country with many languages and scripts. This has challenged technologists for many years. While local language keyboards have been around for a while, there is a lot of focus on rendering software in local languages (e.g. Microsoft, Tally) and input devices such as the GKB device from HP Labs India that allows pen based text entry in vernacular languages. This will certainly help in expanding the user base where English is a barrier to computer usage.

Example 5: E Governance and automation of utility bill collections

It is not unusual to see examples of E Governance centers in India (e.g. Bangalore One) which are a single point of contact for most citizen related services such as those pertaining to land records and related paperwork, births & deaths and several other services all offered under one roof all made possible with technology. Another pilot that has been done both in Bangalore and Hyderabad is that of automated electricity billing and payments at your doorstep.

Challenges in such innovations

Such innovations are not easy since they involve conceptualization of the technology, competitive pricing, a significant focus on localization and long gestation periods for incubating the concept. However, as can be seen from the above examples, technology innovation is here to stay and is catching the fancy of companies and entrepreneurs of all sizes and shapes.

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