

# Usability

## Making Innovation Truly Effective

Many are the products that have come a cropper simply because they were too complex for its users. We take a closer look at one of the factors that determines a product's success in the market—its usability.



**h**ave you ever used a tech product and found it hard to figure out how it works? You try various buttons for a while, not desiring to ruin your first-time experience by resorting to a boring manual. Eventually, shaking your head, you sigh in exasperation and say, “If only they had asked me!”

This, essentially, is the crux of the concept of usability. One of the major reasons for the failure of a product or software solution is its rejection by the intended user base. Users shy away from products that are too complicated to use, or that repeatedly require them to resort to manuals, help menus and customer support helplines. Going by the same definition, users give a thumbs-up to products that are fun, easy-to-use, and enable them to feel immersed in the experience of using the product. The iPod is a perfect example of a product with mass appeal.

## Technology orientation gives way to user orientation

This positive user perception of a product is termed usability, a notion that is rapidly gaining ground as markets become saturated with tech solutions. In technical parlance, especially in the specialist field of human-computer interaction, this desirability or simplicity of a product or software solution is its usability.

Like all other aspects of innovation, usability may also be assessed. In fact, this process answers the question—will this innovation work or not, not insofar as its functionality is concerned but in terms of its other design components. The ROI of usability is yet another yardstick that is hard to come by, but increasingly spoken of. Besides resulting in a waste of funds sunk into R&D, a product's negative usability translates into a waste of time spent in figuring it out, or correcting errors, a feeling of being a failure, et al. Hence, the economic impact of usability involves a wide study of various direct and indirect factors.

Usability thus implies that there is more to technological research and development than the mere creation of a product that works, or fulfills its purpose. A product must be seen to function ideally, in the eyes of those it is intended to be used by. Likewise, software that drives a solution or a website must be aimed to enhance users' experience.

### What does the user think?

The beauty of usability is that it is a measure that lies in the user's hands, and is not determined by the head of an R&D unit. As the concept of usability catches on, R&D teams are increasingly realising that innovation is a two-pronged process—on the one hand, a team innovates, on the other, it

### Usability defined

The International Organisation for Standardisation has defined usability in several of its documents as:

"A set of attributes that bear on the effort needed for use, and on the individual assessment of such use, by a stated or implied set of users"—by the ISO 9126 (1991) Software Engineering Product Quality

"The extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use" - ISO 9241-11 (1998) Guidance on Usability

#### Sources:

<http://www.issco.unige.ch/ewg95/node69.html>

<http://www.usability.gov/basics/whatusa.html>

<http://en.wikipedia.org/wiki/Usability>

### World Usability Day

There is now a Usability Professionals' Association that seeks to spread awareness and share experiences of experts involved in various aspects of usability engineering and user-focused design. The association organises a World Usability Day, during which such activities are organised across the globe.

World Usability Day was last held on November 14, 2006. As its website says, the day is for all those who have ever asked the questions, "Why doesn't this work right? What am I supposed to do with this now?" In short, the day celebrates the right of every user to ask for products that work better, and thus make life easier.

Mark November 8, 2007, in your calendar, to celebrate the next World Usability Day. In India, contact UsabilityMatters.Org, the local coordinator of the day, to participate.

Visit <http://www.worldusabilityday.org/about> for more details

must carry along those it innovates for.

It would seem obvious that an innovator thinks of the user during the process of development, but this is not always the case. R&D teams often remain closeted in their labs, unaware of user preferences. Now, there is no point in innovating without user feedback. But while this sounds practical from the perspective of ending up with a usable product, how easy is it to actually reach out to users during the process of developing a new product, and incorporating their inputs?

The concept of usability has given rise to a new breed of user-experience professionals. R. Muthukumar, a user experience architect in the xDesign team of Sun Microsystems explains, "User experience professionals are involved in every stage of the product development lifecycle, as user and product requirements must be based on strong qualitative and quantitative research. Further, the adoption of participatory and predictive design methodologies encourages collaboration between the management, marketing, engineering teams and users."

### A new approach to R&D

Essentially, as Muthukumar highlights, "A design ensuring a positive user experience needs to be 'built-in' and not 'tested-in.' Prototypes need to be iterated, validated and tested with potential users throughout the lifecycle. Design decisions must be centred around user needs, goals, tasks and the context of use."

Hence, the need for user experience professionals, who steer an R&D team to adopt a user-centred design paradigm. When participatory design approaches are implemented, it is these experts who ensure that accurate user profiles are constructed, and who subsequently interact with users and use their feedback to recognise design flaws needing rectification.

As a product's usability is initially registered in a user's mind, the psychological skills usability professionals bring to the table are invaluable. They are able to gauge a user's perception of a product—and answer the question 'does it appeal or not?'

## Focus on the user

Usability is thus what brings the focus of a design team back to users—their comforts, needs, experience, learning capacity and satisfaction. For instance, the aspect of usability will determine whether the intended user has sufficient exposure to technology to easily pick up the usage commands of a tech product. If the users encounter an error, how easily can they work around it? If a product is aimed at disabled persons, would they really find it easy to use?

In fact, as we are veritably flooded with technological products, it is the usability of a product that stands out as a selling point. Muthukumar cites the example of booking a return ticket



**"I do believe that in the next few years some great products will emerge out of India—but these are more likely to be from the MNC stable."**

—Anupam Mukerji, founder and chief executive, Media Marketing Innovators

online at [www.irctc.co.in](http://www.irctc.co.in) as a product (application) that does not meet its intended goals. These goals he lists as helping passengers to book/cancel tickets anywhere, online; increasing the number of transactions in order to decrease the cost of operating 'brick and mortar' establishments; increasing repeat online purchases; providing easy access to information on train schedules, etc; and providing a good seamless user experience.

He points out that the site fails because its design, task flow and performance are very poor and not centred around user needs. For instance, if a user wants to book a 'return ticket' from Bangalore to Chennai only if both the tickets are available (and not on a waiting list), there is no provision to easily do so. One has to first book the onward journey and then the return journey or

vice versa. This kind of task flow does not reflect a user's natural expectation from this application. It doubles the task completion time and doesn't reflect a user's mental model.

As a result, users have no choice but to spend long hours to perform a simple task like booking/cancelling a ticket. The number of transactions that could happen online is restricted by poor usability and site performance.

## Usability = fanatical care for the user

Founder and chief executive of marketing consulting firm, Media Marketing Innovators, Anupam Mukerji, succinctly describes usability

as 'fanatical care'—care for users, their needs and absorbing these into the product, while giving attention to detail in the design.

According to Mukerji, "Creating the perfect user experience requires all of the four key factors to be met—a deep understanding of user needs; thorough usability testing right from the start till the end—through every phase of product development; extremely high design standards and benchmarks; and finally, top management vision, investment and support. If even one of these is not met, a product like the iPod cannot be created."

When Mukerji was asked to name a product that has bad usability, he was ready with an answer. He'd bought a Moto Razr, a very sleek phone with lots of features. A few days after buying the phone, it failed to work. He wanted to open it and check the battery but

it was 'so well-designed' that it was impossible to figure out how to open the panel. Anyway, after a lot of effort, he managed to open the panel, only to find instructions describing 'how to open the panel' on the inside.

Evidently, the designers concentrated so much on 'looks' that they decided to put the 'ugly' but useful instructions on the inside, without realising that this defeated their very purpose.

Mukerji also quips, "Every PC has a Start button, but there's no End button. The funny thing is—if you want to shut down the PC, you have to do so via the Start button."

## Usability in India

This takes us to an interesting question: how far has India progressed in this regard? Is the country equipped to create products conforming to the diktats of usability?

Mukerji replies, "Can you name any good product invented in India in the modern era? I can't, and it's not because we do not have professionals capable of invention. To my mind, our days in the License Raj cost us dearly in our roadmap to product inventions. During the License Raj, the demand was always more than supply. Hence, user experience was the last thing on the minds of product developers. Even after liberalisation, we don't have much indigenous design coming out of India. The biggest problem, to my mind, has been a lack of top management conviction in building world-class products. Products are a high risk, high investment game, and somehow the Wipros, Infosys and TCSs seem to be happy making their billions in services but reluctant to invest in products."

But he sees reason for optimism. "I do believe that in the next few years some great products will emerge out of India—but these are more likely to be from the MNC stable. Indian R&D centres and labs of companies like HP, Motorola and Sun Microsystems

are doing a lot of interesting work in the space of new product design and development. So, it is quite possible that a next-generation handheld device may be invented in India. The good news is that every global company is eyeing India as a big market for its products. So, products tailor-made to Indian user needs are definitely on the anvil, and these will definitely be invented and user-designed in India," he explains.

Muthukumar echoes this sentiment, saying, "We are not there as yet but we have made rapid progress during the last five years. At this point of time, loads of high-quality work gets partly designed out of India, but strategically, we haven't yet arrived. We are still playing catch-up."



**"User experience makes or breaks a product. [So] if we don't concentrate on usability, we'd only be catching up with the rest of the world—doing low-end work and paying royalty for patents."**

—R. Muthukumar, user experience architect, xDesign team, Sun Microsystems

## A make or break situation

Of course, India does not have the luxury to play catch-up forever. Muthukumar emphasises, "User experience makes or breaks a product, so if we don't concentrate on usability, we would only be catching up with the rest of the world—doing low-end work and paying royalty for patents created by other countries instead of inventing newer realms."

Focusing on usability will undoubtedly pave the way forward for Indian technologists. Muthukumar translates this as a need to "...nurture an innovation-friendly work environment, institutionalise usability, continuously evangelise usability in organisations and consistently perform user research. Further, every organisation should

have a Usability Strategic Business Unit and have representation in the management, at least at the vice-president level."

## Indian usability experts service the world

But until we reach that stage, our home-grown usability experts are being increasingly sought after by overseas technology firms to "make products look better and feel smarter," in Mukerji's words.

Mukerji highlights the increasing participation in international design of a unique band of Indian usability specialists who are right-brain oriented,

yet analytically sound; keen observers of individual and social behaviour, with the ability to spot patterns, and with a passion to innovate.

Thanks to these professionals, India is fast becoming a destination of choice for usability. So much so that Mukherji says, "Companies like Human Factors International (HFI), who have already created mature processes, templates and frameworks for usability, have leveraged Indian talent to service companies globally. Standardisation has rendered usability easier to offshore."

## A usability specialist in every Indian home?

What is it about Indians that makes them natural usability specialists? Knowing their strengths is the first step towards leveraging these for their

### Links of interest:

<http://muthuonline.com>

[http://blog.fastcompany.com/experts/amukerji/2006/12/usability\\_in\\_india\\_usable\\_ever.html](http://blog.fastcompany.com/experts/amukerji/2006/12/usability_in_india_usable_ever.html)

benefit - to develop an Indian range of successful products.

Mukerji traces India's strengths to three core reasons—he first speaks of Atithi Devo Bhava, an Indian proverb that means, 'A guest is a form of God,' and which is invariably the root of the world famous 'Indian hospitality.' Indians go out of their way to accommodate guests and make them feel comfortable, by understanding and then catering to their special needs. In other words, this translates to sensitivity, a character trait that makes for a successful usability practitioner.

Second, he says, "Life in India is a constant battle between needs and resources, with needs almost always being more than the resources available. In the chaos that life in India entails, the only way to survive is to be creative and find simple solutions to life's complex problems." This, again, is the hallmark of a usability expert.

Lastly, India's diversity in every sense of the word has contributed to its people's "ability to find patterns in order to follow the 'lowest common denominator' principle, that of making things acceptable to the maximum number of people. This makes Indians natural usability practitioners."

Evidently, all India needs to do is to play to its strengths. It may sound quirky in a technology write-up, but Indians need to look inwards to come up with the next big innovation. Undoubtedly, it's all there. 

### Charu Bahri

The author is a freelance writer and part-time LAN administrator at J Watumull Global Hospital & Research Centre, Mount Abu. She may be contacted at [charubahri@gmail.com](mailto:charubahri@gmail.com)

*Disclaimer: R.Muthukumar would like to clarify that the views expressed here are his alone and do not necessarily reflect the views of his employer.*