

IT in India : Challenges and Opportunities of the Past, Present and Future

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ABSTRACT

The marketing and management aspect plays a vital role in furthering the benefits of technology. Effective marketing that helps convey the advantages that the technology brings does half the work and the rest lies with the effectiveness and efficiency of the technology. As discussed above a general opinion of co-operation and adaptability is crucial for the penetration of technology in the lives of general public. That general widespread opinion can be generated by means of well placed and well managed marketing. Effective marketing has been accepted to play a pivotal role time and time again but it doesn't take away the fact that effective and efficient tech always finds a way to glory and becoming an integral part of day-to-day life of the general public.

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Introduction

Up until the 19th century popular belief across the world was that Information Technology is the Achilles heel for India. The internet, the first supercomputer, even desktop PCs came to India when they were already a common item across several nations of the world. The list does not end there. The same can be said for a lot of things. But the real issue / drawback / problem (unique to India) that had contributed the most to the delay in the latest technology making its way to India was the resistance to the acceptance of new technology and its application in the various walks of life which further made matters worse and therefore prolonged the journey for India to become a key avenue of Research and Development in terms of not just technology but into the research into the implementation of existing technology to improve the quality of life of people at large. During the course of the past decade though; tech developers, researchers and companies at large (both

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indigenous and international) have moved ahead in the direction of not just developing new technology but also making it easy to use for one and all. This attitude owes its existence partly to the growing ease of access to information about the latest technologies and partly to the fact that international tech giants have realized that India is an untapped market for them with opportunity of huge returns and therefore developing tech and designing its application in ways specifically to address the Indian demographic. Nevertheless, it has allowed people from all walks of life, irrespective of their knowledge of science and technology) . to accept and include technology as a regular part of their life and thereby adding to improving the quality of people's lives by making things easy for them

However, there may be some limitations along the way but "Rome wasn't built in a day". The challenge of making the use and inclusion of technology in day to day functions as convenient for a tech savvy teenager as for an elderly citizen who is very much foreign to any kind of tech; still stands before the tech developers and researchers while going forward with their tasks but the inclusion of this approach and identifying the aspect of ease of use of technology has helped India grow and move forward with the Technological Revolution and achieving more in the past decade than it has achieved since Independence.

Understanding the scope of technology and its implementation

It is rather interesting that the word "tech" though being a short word for "technology" has evolved so much and has a meaning of its own. "Technology" is the way something can be done / achieved by means of implementation of scientific logic whereas "Tech" has become synonymous with various applicational user-end products that employ a certain technology to either attain a goal or perform an action etc.

It is also crucial to note that when there is talk of implementation of technology it does not necessarily mean just one field or avenue. Technological advancements are not limited to a particular field and over the years they have found their way across all walks of life such as Finance, Communication, Astronomy, Medicine, Research and Analytics to name a few. However, in view of recent trends in the Indian perspective the Banking sector has went through a thorough and detailed overhaul with the introduction of UPI and not to mention the streamlining of the existing tools such as Debit and Credit Cards, Internet Banking, Quick Fund Transfers. In addition to this security protocols and procedures have also been put into

place to curb unauthorized transactions thus strengthening the trust of consumers to encourage the use of non-cash or digital tools to perform day-to-day sale / purchases, thereby strengthening the economy in terms of keeping a check on the circulation of money which is in turn putting a noose on black money.

It is important to point out that the use of technology in a particular day to day activity, apart from the obvious benefits of ease of performing the activity, leads to enrichment of day-to-day life and also tends to snowball into a collection of benefits. Case-in-point being that the inclusion and implementation of digital tools of payment has lead to

- Ease of doing banking transactions.
- No need for physically visiting bank for banking activities.
- Services to cater 1 hour needs of money for emergency situations are now easily available.
- Reduced dependency on bank officials.
- New avenues for public service and governance. For Example Direct Benefit Transfer for subsidy distribution.

The Challenges

The discussion on the downside of the use of technology in banking (or in any field for that matter) can be done at any time and to any lengths. These issues can be valid concerns but that is issue with the implementation of something new in any field of work and activity. Yes! There will be pros and cons to it but what also needs to be kept in mind is that when the technology and its implementation is made easy to use while keeping in mind all the stakeholders involved in [he process then the first and most crucial hurdle of all i.e. providing a "welcome alternate" to the end-users is crossed which in turn counters the inherent resistance to

usage and acceptance of new technology. The discussion of the impact of inclusion and employment of technology in the banking sector in India to such lengths in this paper and specifically at this time [July — August 2018] and that too in the context of a discussion for "Leveraging IT for a Rising India" is essential because it is the ground breaking revolution of the 21s' century for India and it gives an idea of the varying levels and depths upto which the implementation of science and technology can affect not just every single citizen individually but the entire nation as a whole as well.

Govt. of India has taken the cue and has finally recognized that a push from the governing authorities towards the implementation of technology in various areas / fields is the need of the hour; if India wishes to stand shoulder-to-shoulder with other developing as well as developed countries. The Govt. of India has also recognized the potential that the country possesses in terms of a technology market that can help strengthen the country's economy to a great extent. Another thing that is pertinent to mention here is that the depression of 2008 had been a big blow to the economy and it can be said that the road to recovery was not at all easy going but the one good thing that can be taken from it is that there rose a need for self-sufficiency. When a large number of educated individuals was let-off and rendered jobless with their futures hanging in the balance then there rose the idea of "being your own boss". This can be debated to lengths but it is safe to say that the "Entrepreneurial" surge of today in India and across the globe can trace its origin back to the depression of 2008.

Use of technology not only brings ease and comfort into the lives of those using it: but it also brings about a key factor that is "accountability". Anything done using technology; for example a

purchase made by digital means, a receipt of funds, an updating of records etc. can be traced back to wherever and whoever has done it and thus in event of a wrong-doing assist law enforcement agencies in investigating the matter and help bring the culprits to justice.

Now, not all things having to do with technology and its implementation in all walks of life is all smiles and happiness. When there is talk of the good; there needs to be talk of the bad. The recent feats of advancement in technology although had a positive impact all around but this had revealed a plethora of vulnerabilities in the cyber infrastructure of the nation. It has become more convenient to conduct cyberattacks owing to increased and convenient availability of information across the internet. Therefore it can be stated that though it is important to know how to use the available technology but more importantly it is crucial to be aware of the intent for which it is to be used.

The whole theme of "Leveraging IT for Rising India" is sufficient to address the issue which in its core is about utilizing the technology of today to build a better India. However, it is pertinent to mention here that this does not mean only to focus on all the positives of technology of today and its implementation. Instead it means that there is need to identify the challenges that are unique to the Indian demographic in the field of Information Technology and keeping that in mind find solutions that may help in overcoming those challenges and help India to move forward.

The IT scenario in India

What needs to be kept in mind is that though a great deal of responsibility for the research and development into the field of technology as well as its successful implementation and making it easy to

use lies on the shoulders of the developers and researchers but it also relies upon the flexibility, adaptability and cooperation from the public at large to be more welcoming towards steps taken towards the inclusion and implementation of technology in different fields of day-to-day life.

The unique problem in India faced by any effort in the direction of technology implementation in any field is the hostility towards technology in the event of an un-foreseeable circumstance or glitch in the system. Although any glitch is the responsibility of the implementing agency involved but the fact of the matter is that there is a need to realize that no-one is perfect and for any inconvenience there are policies and checksums which need to be in place so as to not make it a regular thing.

Flaws are an inevitable occurrence in anything new or old. But what is important is that the flaws not be left unattended and uncorrected. If left un-checked these flaws, however small they may be: can spell disaster and therefore it becomes vital that the tech community accepts that technology, though unbiased and irrefutable in terms of logic, is not perfect. Bugs i.e. unintended outcomes and vulnerabilities can be due to any reason either on account of human error or simply a technical glitch but the fact remains that the tech community needs to address the fact that any system can never be perfect therefore there always is and always will be a need for constant debugging i.e. checking and eradication and prevention of erroneous and unintended outcomes and actions in a system. Thus it can be easily stated that there is truly never a true completion or final stage in the field of tech development. Technology is that field of study, research and creation that will always have something more to offer and will always have the possibility of offering something better. It is just a matter of who does it and when.

The Big Picture

It is pertinent to mention here that not all developed technology can be complete in itself. But this does not de-motivate the developer or inventor. Though their efforts may not bear the fruit / outcome / breakthrough that they had anticipated but it may be a step in the direction of a new development or invention. Failure is a part and parcel of life. Even if failure is encountered in the endeavor to achieve something then it is not the end rather it just means that they have narrowed down the options and pathways to the successful achievement of the goal. It is this kind of attitude that is bound to achieve positive results and thereby giving a push to the technological advancements in the right direction.

Technological saturation can never be attained. As long as humans and humanity exists; there will be better ways things can be done and to do that there will be a need for a newer and better technology.

Technology has found its way in every field of life and therefore its scope of implementation has grown exponentially. For Example Computers have come a long way from the ABACUS to the SMARTPHONES of today i.e. from doing simple mathematical calculations to bringing the entire world at our finger tips.

One simply cannot ignore the fact that innovation is a part and parcel of the present and the future. If one doesn't innovate someone else will that is the law of the land. How else can one explain the ability to be able to talk face to face despite being miles apart. It is the result of big dreams and constant innovation that has made such things a reality of today which used to be wild fantasies of people long long ago.

The marketing and management aspect plays a vital role in furthering the benefits of technology. Effective marketing that helps convey the

advantages that the technology brings does half the work and the rest lies with the effectiveness and efficiency of the technology. As discussed above a general opinion of cooperation and adaptability is crucial for the penetration of technology in the lives of general public. That general widespread opinion can be generated by means of well placed and well managed marketing. Effective marketing has been accepted to play a pivotal role time and time again but it doesn't take away the fact that effective and efficient tech always finds a way to glory and becoming an integral part of day-to-day life of the general public.

Conclusion

The idea of "Rising India" is a general public opinion and everyone supports it but what needs to be done to actually achieve the goal. The 21st century can be easily termed as the century of technology where the ones having the upper hand in tech can claim dominance but at the same time technology is what unites everyone across the 'world as it sees no borders or politics. In order to further the cause of RISING INDIA it is essential that we, the citizens of India, in our own ways try and utilize technology to fight the limitations / problems / issues that India faces in terms of economic, social and political aspects. Also, to

attain a RISING INDIA doesn't mean necessarily to be in competition with the world. It can be simply about finding ways to enrich the lives of the citizens of India using technology.

We need to remember that when each citizen of the country lives a fulfilled and enriched life then it gives incentive to the each citizen to live with a sense of pride and duty towards the nation and voluntarily contribute in his own way to make India a better place.

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