

The Top Information Technology Trends in India

There is no doubt that the world of technology has grown into very fast pace. Perhaps thirty years ago, the primary type of computer was the mainframe. The programming languages that went with it were that of COBOL, and the Job Control Language (also known as the "JCL").

About twenty years later, the birth of the microcomputer came into play. As the name implies, these computers were much smaller, and for the first time, could literally sit on top of a desk.

One of the most popular of these was the TRS-80, which was developed by Radio Shack. It pretty much had the same processing power as the mainframe, but the programming language that went with it was more powerful.

This is was known as BASIC, which stands for "Beginners All Purpose Symbolic Instruction Code". The popularity of the TRS-80 grew when its pocket version came out.

Over this time period, computers got smaller and faster, and of course even more powerful. Then came the advent of the Internet in the late 90's. The personal computer took a back seat to the server, which was required to host all of those .com websites.

In this regard, Sun Microsystems made its splash here with its ever famous tagline, "We're the dot in dot com". During this time frame, just about any business which had an online store and which could conduct E-Commerce based transactions had Venture Capital Funding being pumped into it.

But like all good things, this era came to an end by 2001. Then, the tragic events of 9/11 took place, and Security was now on everybody's mind. This included everything from Physical Access Entry to Logical Access. In this time period, the evolution of the Cyber based threats start to precipitate, with that of Malware, Spyware, and Adware threats starting to precipitate.

The growth of the Internet and the miniaturization of the personal computer occurred in parallel, and thus, the advent of the wireless device came into play. People could now take a much smaller version of their personal computer or workstation everywhere they went, and could communicate whenever and wherever they wanted to.

The trend towards making technology as small and portable as possible kept on growing, giving rise now to one of the most in demand trends right now: The Smartphone. Cellular devices have existed for quite a while, but never to the point where they are at today.

Everything is now crammed onto the Smartphone, and in fact, it has become in a literal sense, an extension of both our personal and professional lives. It has come to the point now where going to the office is no longer required, all of the required job functions can be now done on the iPhone, Samsung, Windows, or Blackberry brands of Smartphones.

This is a trend which is not just occurring here in the United States, but also in the Asian countries, especially that of India. This should not come as a surprise, as India has, and will

continue to be a hotbed for Information Technology (IT) growth and development. But, there are other trends which are occurring as well in this geographic region, which include that of Big Data, Data Analytics, Business Intelligence Tools, and the latest buzzword, the Internet of Things.

Here they are:

1) The adoption of Mobile technology:

As it was mentioned earlier in this article, the Smartphone is literally becoming a mirror of ourselves. Although one may think this already a huge adoption rate, it is only expected to grow further when it comes to the Indian consumer. For example, the rise of Mobile technology is expected to take precedence over any other form of technological growth, especially where E-Commerce is involved. In this regard, India possesses the third largest E-Commerce system in the world (right after the United States and the United Kingdom). The major fuel for this is that the average Indian citizen are ditching the traditional brick and mortar stores and shopping online with the use of their Smartphone in order to purchase the goods and services that they desire. In fact, it is expected that E-Commerce revenue from online transactions will be as much as \$38 Billion. It's not just the E-Commerce front that is picking up steam, but so is the Mobile Health (also known as "M-Health") service industry as well. In fact, the Indian Government has already launched four such services, known specifically as the Kilkari, Mobile Academy, M-Cessation and TB Missed Call initiative.

2) The awareness about Security:

Yes, the world has become much more Security conscience than it has ever been before. A lot of this has been triggered by not only geo-political forces, but also by the Cyber attacker as well. It is the latter which the average Indian citizen is concerned with the most about the present time, and the Indian Government is being very proactive in protecting the people. Also keep in mind that since India is still considered to be one of the "Silicon Valleys" in the world for software development, there is a lot of Intellectual Property which also needs to have a high level of protection as well. The trend here is going to be on securing the Network Protocols which are used nationwide by the Smartphones. These include in particular the Network Access Control Protocol (also known as the "NAC") and the Virtual Private Networks (also known as the "VPNs"). Also, the Indian Government has instituted permanent restrictions on both Wi-Fi and Bluetooth usage in certain parts of New Delhi which are deemed to be Security sensitive.

3) The usage of Collaboration Technologies:

As previously described, many businesses and corporations in the United States are turning to India for their software development needs. Apart from the cost savings

standpoint, by outsourcing to India, American based companies can now have a 24 X 7 X 365 operations. For instance, as it is time to go to bed in the United States, the software development teams in India will be starting their daily routines and tasks. Because of this trend, the demand for Collaboration Tools is expected to grow greatly in India, so that instant communications can happen whenever and wherever needed with their American counterparts. These tools include the likes of Web Ex, Go To Meeting, Skype, as well as other types and kinds of Instant Messaging (IM) packages.

4) An increase in the usage of Data Analytics:

Since India is now the prime market for both software development and the adoption of E-Commerce, there is a common denominator in all of this: An explosion in the sheer amount of data which is coming out. A lot of this is the information which surrounds the buying trends of Indian consumers, and also trying to model it as well in order to predict future trends when new products and services are launched. But Data Analytics also involves examining datasets which are related those to market intelligence about the competitive Indian business landscape. A subset of Data Analytics is Artificial Intelligence, which mimics the thought and reasoning power of the human brain. This new field is exploding in India, especially when it comes to predicting covert Cyber based threats and risks.

5) The growth of the “Indian Stack”:

With the heavy usage of mobile technology in India, the trends towards using Virtual Payments is increasing, with the dream one day that it will be a totally “cashless” society. This simply means that there will be no more hard currency left (which is the Indian Rupee), rather all E-Commerce and business transactions will occur on the Smartphone. The ultimate goal is to transform into a one hundred based digital society, where everything is all virtual and connected by the Internet of Things (also called the “IoT”). The basic crux of this is a set of Application Programming Interfaces (APIs) which include the Know Your Customer (eKYC) process, the Unified Payment Interface (UPI), and the Digital Locker Facility (this is used to issue, secure, and verify digital documentation). These APIs have become affectionately known as the “Indian Stack”.

Conclusions

In summary, this article has examined some of the major Information Technology (IT) trends which are expected to occur in India this year and also into the coming future. Although these trends are unique in their own right, the common theme is the move towards a digital and mobile world where pretty much all Indians will be literally tethered to their Smartphones. Just imagine all those of Wireless tools and devices which will soon come into play in a land of over one billion people!!!