

## Megatrends that will shape the future of learning

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The world is undergoing an exponential and rapid change at virtually every level and there are several megatrends at work that are altering life as we know it.

These trends span micro and macroeconomics, politics, science and technology thus creating a big impact on individuals, organizations, society and governments.

Leaving no area untouched, these megatrends are creating upheavals in the learning sphere, which is under compulsion to evolve in order to align itself with the future of work.

Learning and education have become crucial pillars that nations are now banking upon to survive and thrive. Singapore's work on making people skills as a differentiator and the many strides made by Scandinavian countries on skilling and repurposing are well documented. Learning has become synonymous with skills and talent development and countries that have invested in learning and in building knowledge societies can expect to enjoy a rosier future. There have been many voices on the urgency for nations like India to invest in skilling and development to realize the fruits of their demographic dividend.

In recent years, however, as digital technology pervades the world, the manner in which learning happens is undergoing a tectonic paradigm shift as well. New methodologies, platforms and technological tools are coming up. These make learning more flexible, accessible and affordable.

These megatrends require individuals, organizations, society, the community and governments to delve into the future of learning, anticipate the shape of things to come and prepare for the future.

In my view, the future of learning will be defined by three important megatrends.

### **The 100 year life!**

Yes, longevity will be a primary trend. A hundred year life is expected to become reality for a growing population across the globe. According to a recent research, 50 percent of the babies born after 2007 in G-7/OECD countries are expected to live to more than 100 years!

While this grand extension of life is good news, it will also throw up immense challenges for the healthier nations, as they grapple with issues related to their aging populations. Countries that are now "retiring" citizens at the age of 58-60 years, will have to find new ways of keeping them up-and-about, productive and "employed" in some kind of activity or another as they continue into their 70s and 80s.

Individuals who believed that investing in about 20 years of learning, at one stretch through school and university, hoping that this would see them through for the next 40 years, will have to do a rethink to survive until their 100s. They will have to plan for the next 35 years, post their typical retirement age of 65.

In order for all generations to have longer productive careers and contribute to society in the sunset years of their lives, they will require to be constantly reskilled/upskilled. They will have to learn and unlearn, handle multiple transitions and basically stay abreast of the developments taking place in the realm of work. Most importantly, they will have to embrace lifelong, or continuous learning in order to stay relevant until they finally call it a day.

Corporations in fact, will have to go beyond training people on just knowledge and skills but also on the transformational capabilities so that they can make transitions. HR in enterprises will have to gear up to deal with the challenge of managing such an eclectic group of workers.

As far as governments are concerned, they will have to step in with regulations that protect the rights of workers, (especially those with 'flexible' work profiles). Policy makers will have to worry about unemployment, especially among older citizens. An individual may move swiftly across modes like being a trainee, intern, employee, business owner or simply on a reskilling break.

### **Transformation through technology**

The second important trend that is likely to impact the future of learning is technology, which is evolving at an extremely rapid pace and causing disruption. Going forward, we can expect to see an invasion of Intelligent, Digital and Virtual technologies that will have a massive transformational impact on education and skilling as we know it.

Here we are talking about the latest buzzwords including Applied Artificial Intelligence (AI), Advanced Machine Learn (read

that as Neural networks and Natural Language Processing), Intelligent Applications (AI-powered Virtual Personal Assistants and immersive, conversational and continuous interfaces) and intelligent machines such as robots, drones and Autonomous Vehicles.

Robots too will exhibit a lot of potential in learning. Intelligent machines have already overturned conventional notions that machines are only good for black and white thinking and that they cannot handle fuzziness. As for Virtual Reality/Augmented Reality, these technologies are expected to be central to what is going to happen to learning going forward. Just as was the case with office Productivity software in the 90s, the Internet and Social media in the last decade, competence in the next level of more advanced technologies will soon become the norm for different age groups. Additionally, the generations ahead will need to learn to interact,

collaborate (work as symbiotic teams) and integrate with co-workers who are not necessarily human!

### **The rise of the Exponential Organization**

The third dimension in the future of learning will be the new kind of Enterprise, or what is being referred to as the Exponential Organization. Author Salim Ismail in his book called 'Exponential Organizations' describes them as companies that are learning to adapt and thrive in a world of abundance by diving into new structures that leverage exponential technologies and a shifting global business mindset. Typically, these companies are 10 times more impactful in terms of speed, efficiency and productivity owing to their adoption of new organizational techniques and their utilization of network technologies.

An important characteristic of these organizations will be their workforce, which will encompass few highly empowered employees, intelligent bots, and expert staff on demand.

### **Learning Science to rescue**

One challenge that organizations and their world of work will face, will in fact revolve around the co-existence of bots and humans on their turfs. The fact is that Machine Learning systems gather knowledge rapidly at a mind boggling pace, quite unlike humans. The difference between Machine and Human learning is quite stark. Not too long from now Machine Intelligence will become relatively stronger than Human Intelligence and this gap will only get wider and wider. It is crystal clear that that the learning community will have to bridge this chasm. The community will have to work on strategies centered around Learning Science. The focus will need to be on making humans learn much faster – for example, we need to ask the question, 'Can we compress in one year, what would typically take decades'?

Investments in Learning Science will have to go up, and organizations will additionally need to focus on Engagement Science, Design Thinking and AI/Machine Learning. They will also have to ensure that learning remains real time and long term.

Learning, therefore, as we go forward, will remain on a gallop. It will become more advanced, tech-led and ubiquitous, becoming available to a diverse workforce within milliseconds, and on devices as handy and easy-to-use as their smart phones.

With all this change taking place, individuals, companies and governments will all have to take greater responsibility for learning and knowledge strategies.

I see three key responses that will emerge to address the challenges posed by these megatrends.

- Firstly, there will emerge a framework and model for Human Life-Long Competency Assurance, similar to the model of medical or healthcare insurance. Governments, Companies and Individuals will invest in "insuring" the continued competence of their citizens, employees and selves respectively. Some governments are already debating adding lifelong competency assurance into the social security coverage of their citizens.
- Secondly, there will emerge the concept of a Human Real-Time Competency Index for every individual which can accurately measure & report the competency of each individual in real time using real time big data (almost like a Fitbit reports today on one's health index), and understand where they stand in the roles that they are meant to perform.
- Finally, the current traditional offline & online learning models will be replaced entirely by Multi-Sensory Real-Time Training Simulators, where live feeds from the world of work for every role, as well as access to the entire historical repository of past knowledge and past transaction big data, will feed into a set of purpose built training simulators for every role, that run in a closed loop system using big data and machine learning, thereby delivering learning outcomes at many orders of magnitude better than today.

The future of learning is at a critical juncture, with megatrends such as 100 year life span, transformation through technology and rise of exponential organizations shaping the entire ecosystem. It is for mankind to embrace the necessary changes to realize massive and possible gains by riding on these defining developments.

*(The article is authored by Rahul Patwardhan, CEO, NIIT Ltd)*