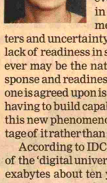
Is our education system gearing up for the Big Data boom?

Uma Ganesh

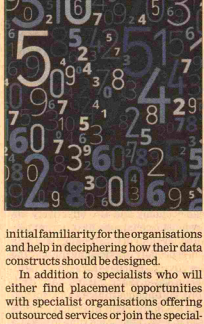


THE explosion of Big Data and the impact it has created on the businesses—big or small has rattled every one resulting in awe and amazement in some quarters and uncertainty and realisation of lack of readiness in some others. Whatever may be the nature of current response and readiness, one thing everyone is agreed upon is the inevitability of having to build capabilities to embrace this new phenomenon and take advantage of it rather than getting left behind.

According to IDC estimates the size of the 'digital universe' was around 130 exabytes about ten years back, which grew to 1,227 exabytes by 2010 and by 2015 it is expected to become 7,910 exabytes. What is unique about this data growth is that more than 90% of the data has got created in just last two years. With more and more sophisticated tools and methods being made available to extract as well as analyse data from customer interactions, emails, web browsing, social networks and machine sensors and a variety of new device options continuing to be made available enabling more and more web transactions, the data deluge is expected to impact every aspect of the economy. No business or for that matter even not for profit businesses can ignore the significance of Big Data. However, there is a yawning gap in terms of capabilities that businesses possess to take full advantage of the opportunities emanating from their web presence.

Many businesses continue to believe that Big Data is the 'business' of IT. While IT strategy and tools are extremely important to derive the essence from Big Data to facilitate better understanding of customer profiles or for identifying new business opportunities, what is most important is to get Big Data embedded as part of every business role. These functions should learn to define and set expectations of their respective data requirements and interpretations in order for IT to build frameworks and provide tools for analysis. While intuition will always play an important role in decision making, ignoring data that could be tapped and made use of would lead to sub optimal decision making. This approach has to be inculcated with employees across the board. This leads us to the question of how is our education system getting geared to produce talent which is equipped with skills to think and act around the use of Big Data.

Currently very few business schools have started to incorporate Big Data and analytics as part of their curriculum. Some IT programmes offered at M Tech level include data science and data architecture as core or electives. Except for these disciplines, practically almost no other discipline has included this subject as part of their curriculum. Faculty of sociology, sciences, engineering, psychology to name a few have to be familiarised with the relevance of analytics for their respective disciplines and new curriculum frameworks are urgently required to be designed. It would benefit both organisations and the students if internships and projects could be created around this theme which will create



initial familiarity for the organisations and help in deciphering how their data constructs should be designed.

In addition to specialists who will either find placement opportunities with specialist organisations offering outsourced services or join the specialist departments of businesses, there would be a demand for them with corporates in their central functions catering to various businesses and also for getting embedded as part of the business functions. The demand for data scientists and analytics professionals is ever increasing and the shortage for such skills globally is expected to be fulfilled by India. According to a study conducted by Mckinsey Global Institute, there will be approximately 140,000 to 190,000 unfilled positions of data analytics experts in the US by 2018 and a shortage of 1.5 million managers and analysts who have the ability to understand and make decisions using Big Data.

With the need for data centered thinking with every type of business expected to increase exponentially, and the necessity to inculcate the analytical flair and the thinking around data receiving high attention, it would be essential to examine multi-tiered avenues to introduce data analytics in the current education system starting from high schools to universities. Bringing together quantitative techniques, domain understanding and methods of analysis, tools for interpretation and presentation capabilities in schools would mean considering multidisciplinary approach to teaching. This is not easy to implement at schools but if we have to develop analytics talent pool on a large scale, this would be essential.

Software or hardware related education has been conceived as specialised areas of undergraduate programmes and universities have been reasonably successful in presenting a talent pool from which the industry could make a selection to meet their requirements even if it meant they had to be put through additional top up training programmes.

Building the talent pool for Big Data and analytics requires a blend of mass and customised approach. The mass training and orientation should be planned at high school and undergraduate levels. Customised or advanced techniques and curriculum could be introduced as part of the post graduate studies. Hence interventions should be planned in select schools, develop the proof of concept and train the teachers to tune their minds to the eventual areas where their students are expected to be contributing.

Once the system is ready to take off, one may also be worthwhile to consider setting up special schools for high school education with the objective of nurturing multi-disciplinary approach to teaching and lay a strong foundation for exploring the new frontiers of computing power leading to careers in research, applications and product development. The pre-eminence of the Indian businesses in the global knowledge services driven by Big Data and analytics is possible to be realised when we are able to create entry barriers for other countries and therefore we need innovation and the will power to have a radically different approach to education, skilling and talent pool development.

The writer is CEO, Global Talent Trust, a corporate training solutions company.