Education

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EXPERT VIEW

Indian universities can play a global catalytic role for promoting a sustainable future, given the significant demographic situation in India.

—Prof C Raj Kumar, V-C, OP Jindal Global University

NEW SCHOOL

From liberal arts to natural sciences

Ashoka takes its Project Nobel ahead with a Rs 100 crore donation for Trivedi Centre of Biosciences

ISHAAN GERA

DESIGNATED AS A start-up university, Ashoka has gained reputation as one of India's leading research institutions. While the university started as a liberal arts centre, it soon delved into natural sciences, making it one-of-a-kind institution in India focusing on fields other than engineering and medical. Keeping with this view, the university on Saturday announced it will be hosting a School of Biological Sciences with ₹100 crore grant from Ashok Trivedi (one of its founders).

"We have a small biology programme and the focus has been on teaching; this school makes it a full suite," said Ashish Dhawan, founder, Ashoka University.

It will have Nobel laureates Sir Venki Ramakrishnan and Jack W Szostack, and Satyajit Mayor, Ron Vale, James Collins and Helen Skaer as advisors. "With the school, we will have facilities to conduct top-level research that is globally recognised," added Malabika Sarkar, V-C, Ashoka University.

Going back to school

Why women entrepreneurs are returning to B-schools

SURESH BHAGAVATULA

IN THE PAST, entrepreneurs believed that having a practical experience is enough for growing their ventures. But that is changing. Today, many of them feel the need to go back to school. Some join to get energised by understanding new business and financial frameworks, improve the network by interacting with fellow entrepreneurs, and to expand one's functional skills. Others join to solve a pressing problem at hand. The focus of a B-school course is to provide a broad-based skill set that would expand the vision of an entrepreneur, so that they can return to their business mentally-enriched. Consulting, on the other hand, is about solving a specific problem that the venture may be facing.

Compared to some years ago, today one finds an increasing number of women entrepreneurs in B-schools. Most schools are also offering women-specific entrepreneurship and management content.

Research on women entrepreneurship in India shows that women-led ventures are usually smaller than those led by men. There are many reasons behind this. Women do not have the necessary degrees of freedom to grow their ventures because of societal and family pressures. And, comparatively, they do not easily receive financial support—around 6% of VC funds are provided for women-led ventures. But when women entrepreneurs join management programmes, they are likely to find other women entrepreneurs who could be their customers or service providers. This could offer new opportunities of growth.

Women-led ventures usually remain small because they do not find enough talented employees to work, especially men—it's been seen that not all men feel comfortable working for a woman boss, usually in smaller towns. Over the years that we, at IIM Bangalore, have offered the women entrepreneurship programme, we have noticed that women find it easier to identify employees and co-founders from fellow participants of the cohort or by leveraging the networks of the cohort.

Entrepreneurship is a roller-coaster ride for everybody involved. Given that few mentors have the experience of interacting with women entrepreneurs, by joining a management programme women find mentors in one another. Mentorship need not be business-focused—many women find it challenging to navigate the societal and family compulsions and may find support from their fellow participants.

Finally, we have seen that most women who have joined and completed our programmes obtain high levels of confidence because of new knowledge, skill sets and networks they acquire. This high confidence naturally translates into better venture management and growth.

The author is chair, Entrepreneurship Area at IIM Bangalore

Indian V-C shares ideas at WEF 2020

Prof C Raj Kumar addresses global panels at WEF Davos

FE BUREAU

FOUNDING VICE-CHANCELLOR of OP Jindal Global University, Prof C Raj Kumar, spoke to a global audience in three separate sessions at this year's World Economic Forum (WEF) in Davos, Switzerland, from January 21-24. He was the only V-C from India invited to speak at Davos this year.

"Indian universities can play a global catalytic role for promoting a sustainable future, given the significant demographic situation in India," Prof Kumar said. The sessions he addressed included Caspian Week and Times Higher Education (THE).

As part of Caspian Week, Prof Kumar spoke on the theme 'Education & Leadership for Sustainable World' focused on educational leadership, sustainability, inclusive development, institutional cultural change, and pedagogies of sustainability, and another panel on the theme 'The Role of Global Universities in Promoting Sustainable Futures'.

He also took part in THE's debate on 'What is the power of place?', aimed at interrogating the point of 'place' for universities in a hyper-connected world.

This year, 11 global university heads were invited to be a part of WEF.

Improving the state of teaching

VIKRAM KAPUR

MORE THAN 50% of India's population is under the age of 25. Compare this to America's at 33%, Britain's at a little over 29% and China's at a little under 30%. The demographics are in our favour, but this dividend is useless without a well-educated workforce. For this, we need a good school system. Herein lies the conundrum.

While we have enhanced school enrolment, the same cannot be said about our ability to impart learning. According to NGO Pratham, most Class 8 kids struggle with simple division, while only half of Class 5 kids can read Class 2 text. These results reflect our failure to address structural problems related to teaching. Case in point: In Madhya Pradesh, in June 2019, eligibility tests were conducted for teachers from schools that consistently gave results of under 30%. Of the 5,891 teachers that appeared, as many as 1,351 failed. Also, the issue of teacher absenteeism, especially in rural areas, is endemic.

We need an army of good teachers. But isn't that too much to ask when you look at how poorly teachers in India are paid?

We need good teachers. But isn't that too much to ask when you see how poorly teachers in India are paid? According to Naukri.com, the average annual salary of a teacher in India is just ₹2.01 lakh. The worst culprits here are private schools that charge exorbitant fees from students, yet pay their teachers miserably. I have heard stories of teachers hired out of colleges for a mere ₹10,000 a month. Thankfully, the situation in government schools is better, due to Seventh Pay Commission—the starting grade for a primary teacher is ₹35,000 a month and a PG teacher can draw ₹1.5 lakh a month.

Teachers have been expected to rise above such pecuniary considerations since teaching is viewed as a calling, not profession. But it is quixotic to expect that view to have much currency today. Even now we have plenty of teachers who lack the passion or commitment for teaching. They settle for it because they can't get anything better. This could become endemic in the days to come if nothing is done to make teaching a more attractive proposition.

Good teachers inspire students, unlock a talent; it is essential to rescue teaching from the abyss in which it languishes. For as the former US president Lyndon Johnson said, 'Yesterday is not ours to recover, but tomorrow is ours to win or lose.'

The author is professor, Department of English, Shiv Nadar University

HUMAN RESOURCES

How AI will change HR

Workplace trends to look out for in 2020

SHIRIN SALIS

AS TECHNOLOGY IS evolving, so is work culture. With the rise of the gig economy and decentralised workspaces, employees are beginning to look for meaningful work experiences. This year, HR will step back and invest in solutions that enhance employee experience, going beyond looking at just productivity and efficiency.

Seamless learning & development: Companies will invest in micro-learning models, AI assistants who could recommend modules or answer questions, and a platform that connects employees with mentors within the organisation. Companies will also increase investment in upskilling their workforce by introducing advanced learning modules and even collaborating with other companies for training. Managing user-generated content is a big focus for many companies, and curating existing open source content like TED and YouTube is on the rise.

AI to streamline HR processes: AI would be able to help recruiters screen and summarise resumes to fit job descriptions in an unbiased manner. AI chatbots can also be used to answer questions on company policies, assist in navigating through tasks like letters or applying for leave, or helping employees understand tax implications by various combinations of the company's flexible benefit plans. AI-driven processes provide companies with more data to be able to understand employee behaviour and accordingly make decisions on hiring, engagement, policies and enhancing culture.

Investment in HR tech to continue: Cloud-based employee experience platforms will offer better employee experience, real-time data and better insights. Well-being is also going tech with AI tools and platforms. Apart from bots, NLP (Natural Language Processing) will support HR in making better decisions through the employee life cycle from hiring to engagement to training.

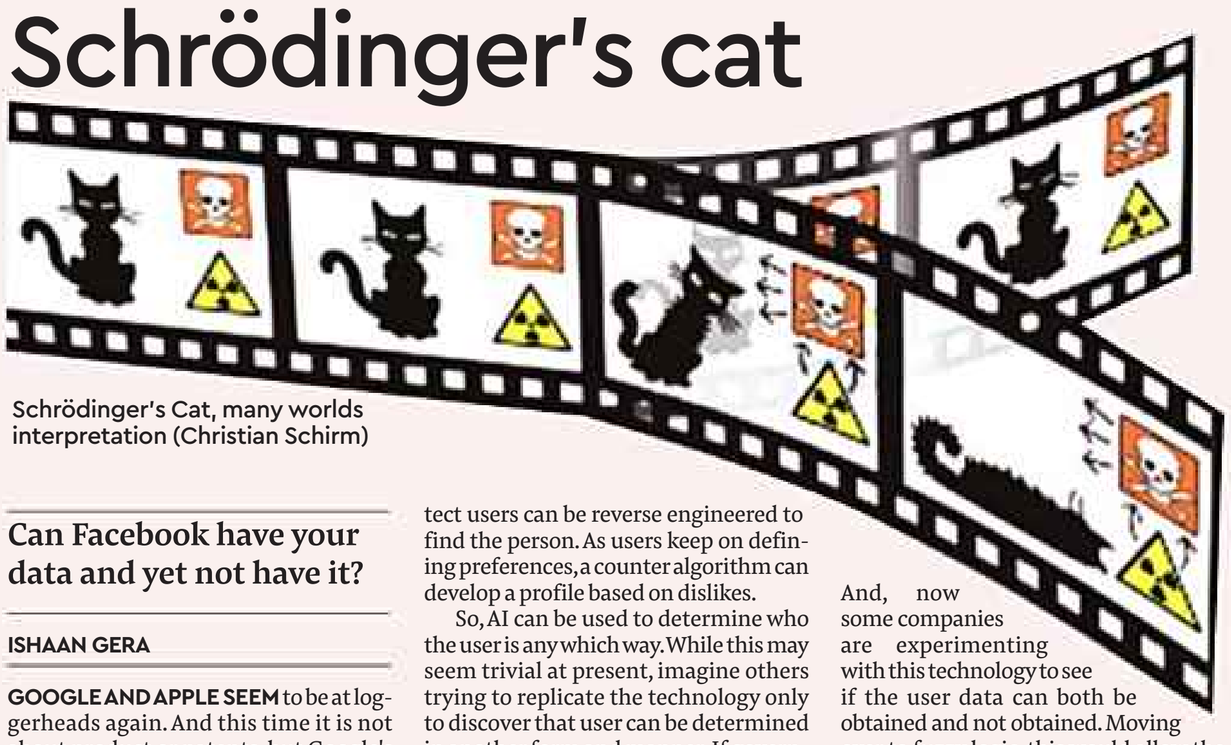
Diversity and inclusion: Practices to become a more diverse workspace will remain a focus area this year and beyond. The epitome of the modern world lies in diversity. Workforce talent is a competitive advantage for companies, and when employees feel 'included', it builds a virtuous cycle of success. Companies would, therefore, focus on either introducing impactful solutions or sustaining previous initiatives to ensure a lasting impact.

The author is vice-president, HR, Ingersoll Rand India. Views are personal

Science & tech

EAVESDROPPER

Schrödinger's cat



Schrödinger's Cat, many worlds interpretation (Christian Schirm)

Can Facebook have your data and yet not have it?

ISHAAN GERA

GOOGLE AND APPLE SEEM to be at loggerheads again. And this time it is not about product or patents, but Google's advisory group asking Apple to alter its intelligent tracking protection based on which Apple is claiming that its browser is safer than any other. Safari, Apple, is contending is safer, as the AI can evolve and protect user interest. Google pointed out chinks in Apple's claims. Apple even thanked Google for highlighting these mistakes and made changes, but Google says not much has changed as Apple has only addressed a few bugs. It believes that the algorithm that Apple is using to protect users can be reverse engineered to find the person. As users keep on defining preferences, a counter algorithm can develop a profile based on dislikes.

So, AI can be used to determine who the user is any which way. While this may seem trivial at present, imagine others trying to replicate the technology only to discover that user can be determined in another form and manner. If governments better this technology, they don't need data on what the user likes, but what she doesn't. Facebook, on the other hand, can be even richer. It can determine your profile more accurately based on not only what you like or love or comment on, but also what you pass or do not look at. A win-win, in either case.

Ultimately, data can be monetised a thousand different ways. So, is there a way out for the user? This is where blockchain and a decentralised AI can be beneficial.

And, now some companies are experimenting with this technology to see if the user data can both be obtained and not obtained. Moving over to fuzzy logic, this would allow the company to have user data and not have user data to build profiles.

The easy way to understand is to look at blockchain. At present, blockchain works like a spreadsheet storing one information in one block. While the access to information is for both the creator of sheet and the user, without the consent of both changes can't be made. If I were to change my name on the sheet, it won't be possible unless the creator of the sheet assents to this change.

Similarly, for companies to share my data, I will have to give approval allowing what can go and to whom.

Now, adding a decentralised AI to it will ensure that companies can extract data characteristics for advertisers by revealing preferences, but not the user. So, if a group prefers A to B, companies can sell that data to advertising without ever revealing who all belong in the group. Meanwhile, AI can create profiles for social media companies using data, but not reveal what the users like or dislike, by signaling that a set of users prefer A to B.

So, an advertisement can be both targeted and not targeted. Why would a Facebook or Amazon agree to this? While this would ensure a steady flow of advertisements for the companies, which means revenue, it shall also mean that users' privacy stays where it is. Governments would be happy too, not too much though. As companies will still be able to block hate messages, and point inflections to authorities without revealing too much about other users.

Plus, every time a user asks to be revealed companies can share in the revenues from advertisements. But a decentralised AI will have its disadvantages as well. For an AI to perfect itself, it has to learn and learning would require it to remember certain data points. This means a trial and error method with user data. Which will have to violate some sort of user privacy.

Whether companies adopt it or not will depend on how serious users get about data privacy. Ultimately, till we don't open the box, we won't know what what happened to the cat.

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Wireless power

COMPANIES WANT TO make it easy for their products to be mobile. For this to happen, it is important that appliances are rid of wires. First, it started with WiFi. Bluetooth and infrared further transformed the landscape. Companies are now going gung-ho on wireless. Charging of phones is possible using wireless technology. Oral B started this trend with its toothbrushes, but now phones incorporate wireless charging features. Although Nokia Lumia was the first to have this capability in 2012, Samsung and Apple have furthered this technology. The latest entrant is said to be OnePlus—it is believed, OnePlus 8 pro will host wireless charging.

What is wireless charging?

The concept of charging without wires is not new. Nikola Tesla had suggested electromagnetic induction charging in the 1890s, and it is a variation of this technology that is used in wireless charging even today. Where a primary coil interacts with secondary coil generating alternating current, which is then turned into direct current using plates and the device is charged. While it all seems easy, the technology powering this is expensive and hence is only available on select premium models.

How are phones using it?

The coils fitted in the phones get charged using this mechanism. There are two standards in charging the Qi wireless charging standard and PMA or AirFuel wireless charging standard. Although Qi has acquired more notoriety, with the likes of LG, Google, Apple and Samsung adhering to norms, but both companies are now collaborating with standards that can work with the other. Samsung, for instance, has been developing phones that are both Qi and PMA compatible. Here also there are two approaches. While some companies are engaged in building large devices like furniture that is wireless compatible, Apple's and others focus has been to create smaller pads.

Will it be inter-operable?

At present, most chargers need a primary and secondary coil, but we are moving past that stage. Samsung has released something called PowerShare in its devices, which will allow a phone to charge other Samsung accessories like earpods, watch. Although this is limited to Samsung ecosystem, as the technology evolves, we can hope to see more devices that can power each other. So, if your friend needs a power source all you need to do is keep the phones stacked up.

Where else can it be used?

While mobile and accessories is one application, cars can be charged using this technology. Although the mechanism requires devices to be close to each other even attached in certain cases, as technology evolves this may not be the case. There are mats now that let cars be charged on parking. London installed 13 such devices for its EVs, and others are doing it too. So, one can expect wireless charging to come in a big way for cars, especially if scientists can overcome the slow charging capabilities of charging mats and points. GM, Audi and Volvo support this technology, and this years CES showcased many more cars capable of such innovations. Then there are toothbrushes, wireless since 1990s.

What are other applications?

Wireless charging can be used everywhere, in smartphones and IoT devices, but more importantly in medical devices. This is one industry that can be transformed with use of chargers. Then it is the EVs, which can certainly benefit from the technology. The infrastructure would be easy to setup. Not surprising the first applications of electromagnetic induction was for cars, but internal combustion engines happened to become more popular. We may be going back to the future.

Techsplained @FE will feature weekly on Mondays. If you wish to send in queries that you want explained, mail us at ishaan.gera@expressindia.com. Follow us on Twitter @TechsplainedFE

Budget must focus on start-up growth

Jobs are created by meaningful, tech-driven education reforms, says Zishaan Hayath, co-founder & CEO, Toppr. "While steps like NRF are promising, we need action. Harnessing the potential of young India is vital, and an opportunity to do so shouldn't go waste," he says. He adds future of education is personalisation, and it can only be achieved through investments in R&D. "There are 4,000 edtech start-ups in India, and the Centre should take steps to encourage start-up growth, maybe through tax incentives in the Budget."

Focal points have to be tech, e-learning

We hope to see a reform-oriented education policy, says Rupal Dalal, JD Institute of Fashion Technology. "In Budget 2019, the Centre had ₹93,847.64 crore for education, of which ₹37,461.01 crore was for higher education; I expect more allocation in Budget 2020," Dalal adds. She says focus on e-learning and technology is needed, as on GST. "The govt should reconsider GST rates on higher education, make educational loans cheaper."

Must strengthen primary education

Effective ways to improve quality of teaching must be formulated, says Manek Daruvala, the founder & director of MBA entrance exam coach TIME. "Teaching needs to be made worthwhile for those with academic excellence. Today, teaching is seen as a career for the ones who can't get into anything else," he adds. Towards this, the govt has to invest in education, create an enabling environment for private sector, which will attract both capital, brainpower."

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