

# One ring that rules them all

Here's how AI is likely to shape consumer experience in the years ahead



DEVANGSHU DUTTA

To be able to see the scope and all-pervasive impact of artificial intelligence (AI), we need to go beyond our expectations of humanoid robots. We also need to understand that AI works on a cycle of several mutually supportive elements that enable learning and adaptation. The terms "big data" and "analytics" have been banded about, but have had limited impact so far in the retail business

because it usually only touches the first two, at most three, of the elements. Big data models still depend on individuals in the business-taking decisions and acting based on what is recommended or suggested by the analytics outputs, and these tend to be weak links, which break the learning-adaptation chain. Of course, each of these elements can also have AI built in, for refinement over time.

Certainly, retailers with a digital (web or mobile) presence are in a better position to use and benefit from AI, but that is no excuse for others to "roll over and die". I'll list a few aspects of the business already being impacted and others that are likely to be in the future. **Know the customer:** The most obvious building block is the collection of customer data and teasing out patterns from it. This has been around so long that it is surprising what a small fraction of retailers has an effective cus-

tomers database. While we live in a world that is increasingly drowning in information, most retailers continue to collect and look at very few data points, and are essentially institutionally "blind" about the customers they are serving.

However, with digital transactions increasing, and compute and analytical capability steadily become less expensive and more flexible via the cloud, information streams from not only the retailers' own transactions but also multiple sources can be tied together to achieve an ever better view of the customer's behaviour.

**Prediction and response:** Not only do we expect "intelligence" to identify, categorise and analyse information streaming in from the world better, but we also expect it to be able to anticipate what may happen and also to respond appropriately.

Predictive analytics have been

around in the retail world for more than a decade, but are still used by remarkably few retailers. At the most basic level, this can take the form of unidirectional reminders and prompts, which help to drive sales; remember the anecdote of Target (USA) sending maternity promotions based on analytics to a young woman whose family was unaware of her pregnancy?

However, even automated service bots are becoming more common online; they can interact with customers, who have queries or problems, and will get more sophisticated with time. We are already having conversations with Siri, Google, Alexa and Cortana, why not with the retail store?

**Visual and descriptive recognition:** We can describe to another human being a shirt or dress that we want, or call for something to match an existing garment. Now imagine doing the same with a virtual sales assistant, which, powered by image recognition and deep learning, brings forward the appropriate suggestions. Wouldn't that reduce shopping time and the frustration that goes with the fruitless trawling through hundreds of items?

**Augmented and virtual reality:** Retailers and brands are already taking tiny steps in this area, which I described in another piece a year ago ("Retail integrated", <http://bit.ly/2ibQwif>, Third Eyesight) so I won't repeat myself. Augmented reality, supported by AI, can help retail retain its power as an immersive and experiential activity, rather than becoming purely transaction-driven.

On the consumer side, AI can deliver a far higher degree of personalisation of the experience than has been feasible in the last few decades. While I've described different aspects, now see them as layers one built on the other, and imagine the shopping experience you might have as a consumer. If the scenario seems as if it might be from a sci-fi movie, just give it a few years. After all, moving staircases and remote viewing were also fantasy once.

On the business end, it potentially offers both flexibility and efficiency, rather than one at the cost of the other. But we'll have to tackle that area in a separate piece.

The author is chief executive, Third Eyesight

## CHINESE WHISPERS



### Two zeros too many

Eager to demonstrate that the government's digital drive was yielding rich dividends, a senior minister in the Union Cabinet tweeted that over ₹6 lakh crore worth of farm goods had been transacted through the electronic National Agriculture Market (e-NAM) till December 16, 2016. However, considering that 3.1 million tonnes of farm goods were transacted till that date, the value figure seemed grossly overstated. A little digging showed that the actual volume till December 16 was in the region of ₹6,000 crore. The minister corrected the tweet as soon as the mistake was brought to his notice.



### Discom dilemma

West Bengal Chief Minister Mamata Banerjee (pictured) has said time and again that she is against industrialisation on cultivable land. In a recent development, she expressed her displeasure at the state's discom that is laying overhead cables across farmlands to electrify some remote parts of the state. Her discontent over the issue is giving sleepless nights to the discom officials, who have no clue how to go ahead with their plans unless they are allowed access to certain patches of farmland.

### A one-sided affair?

On Tuesday, the Swadeshi Jagran Manch, a Sangh Parivar-affiliated economic think tank, held a round-table conference to review the workings of the NITI Aayog since its inception two years ago. Among those invited were critics of the government's planning process. A senior NITI Aayog member also attended the conference, but soon realised that the agenda was to slam the performance of the commission. The member sat through some of the initial speeches but left soon after without addressing the experts.

# Note ban and the allure of authoritarian populism

Narendra Modi seems to believe that demonetisation will confiscate ill-gotten wealth and distribute it to the poor. It may be futile to fight such post-truth narratives but the economics is based on half-truths and the politics is corrosive



ASHOKA MODY & MICHAEL WALTON

India's demonetisation has the surreal quality of the post-truth world. The worry is that it may be working just as intended, damaging India's democracy and supporting institutions in fundamental ways that will prove hard to reverse.

Amid the hardship of long, daily queues outside banks for often desperately needed cash and reports of more than 100 deaths due to suicides or sheer exhaustion from waiting, there has been no popular revolt in the country. Nearly 86 per cent of cash held by businesses and households was abruptly pulled out of circulation on November 8 and, despite the endless missteps, Prime Minister Narendra Modi believes he will emerge with greater political strength, "with the people and the government... on the same side", as he asserted on New Year's Eve.

Demonetisation is at best very costly and at worst largely ineffective in reducing black money or promoting cashless transactions. The short-run costs are all too evident. While macro-economic effects are hard to predict, even on optimistic estimates it will be several months before a semblance of normalcy is restored. A (net) liquidity shock of several percentage points of gross domestic product for half a year will likely lead to a sharp reduction in overall growth. Many sectors have suf-

fered dramatic absolute declines in economic activity, including most small and medium enterprises, construction, diamonds and rural value chains.

Most important, the costs incurred by poor and vulnerable groups have already been catastrophic. People have lost precious income from lack of work, their consumption has been sharply curtailed, and they have cut back on health services for which they have no cash to pay. The government has belatedly understood these burdens, yet it is unlikely the proposed expansion of the MGNREGA or the raft of specific measures Modi announced on New Year's Eve will bring much short-term relief.

It is clear that Modi had so insulated himself that he had no clue of the economic havoc this "surprise" initiative would wreak. So what were his political calculations? An early speculation was that he believed that demonetisation would paralyse his opponents in Uttar Pradesh and other states where elections are due early in 2017; these states are critical to the Bharatiya Janata Party's (BJP) consolidation of power. There may be some truth to this. While the bulk of black money is in land, gold or other non-cash assets, political finance needs cash. Demonetising political opponents with electoral war chests looks like a winning tactic. But Modi's opponents are not political novices either. They, too, have adapted. Any advantage that Modi and the BJP have gained may be small.

The more likely factor driving Modi is the attraction of an authoritarian populism of the type espoused by his friend, the US President-elect Donald Trump. Like Trump, Modi communicates via Twitter. Like Trump, Modi believes he speaks directly to the people. The seductive combination of direct democracy through social media, till recently a



JUST PIECES OF PAPER A man looks at old ₹500 notes withdrawn from an ATM in Bhopal. Prime Minister Narendra Modi announced the demonetisation of ₹500 and ₹1,000 notes on November 8

PHOTO: PTI FILE

weapon of popular political protest, has been turned on its head. Now, Trump and Modi talk directly to the "people" and offer them charmed promises of a better future.

As Trump has done, Modi has brought senior leaders and officials into his ambit. At the centre of India's demonetisation drive is the Reserve Bank of India (RBI), which has become directly associated with a disastrous economic policy and will be damaged, perhaps for many years, by the utterances of its governor and senior officials. The RBI has not only proven to be incompetent, but has also joined the post-truth world. In trotting out nostrums of "all will be well", the RBI has undermined the only real cur-

rency it has — its credibility.

Modi seems to believe that demonetisation will burnish his Robin Hood image, confiscating the ill-gotten wealth of the rich and distributing it to the poor and needy. In this post-truth world, this is based on a narrative that his attack on the rich is an expression of solidarity with the poor and middle class whose short-term pain will translate into long-term gain. He is the visionary leader coming to the rescue.

It may be futile to fight such post-truth narratives but, make no mistake, once again the economics is based on slogans and half-truths, and the politics is corrosive. For one thing, many of the rich and powerfully connected have obviously been granted special favours

in converting their cash. And if some of the gains to the government from more taxes and unclaimed cash are distributed to the poor and vulnerable, the amounts will be small, one-time grants.

For the long term, the latest spin is that demonetisation will promote direct digital transfers to the poor. The claim stretches credulity. The machinery for digital transfers has existed for long and did not need a disastrous demonetisation. Moreover, direct transfers have been overused. Other things equal, getting more money into the hands of the poor is of course of great value. But direct transfers are no panacea even from a narrow poverty reduction perspective — they would still require bureaucratic mechanisms for targeting both the long-term poor (via below poverty line or other means) and those suffering shocks.

The most serious long-term worry is that Modi will subvert Indian democracy with a new brand of clientelism. Clientelism is the exchange of favours for votes. This, again, has parallels with Trump's promises. But if India goes in that direction, traditional methods of democratic voice and protest will be marginalised, and in its place will emerge a legitimised culture of buying votes. Instead of evolving into a more vibrant modern, 21st century polity, India will regress to a culture of patronage in the garb of democracy.

History will tell if demonetisation proves to be the thin edge of the wedge that sets back India's institutions, creates a brotherhood of elite "experts", who feel compelled to validate post-truth policies, and which bypass the citizen while pretending to minister to his or her true needs.

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## BUSINESS LIFE

### Smaller airports get attention of foreign carriers

Boom in number of flyers, congestion at big airports are some of the reasons

CHRISTINE NEGRONI

For as long as airlines have been crossing the oceans, airline passengers have had to go to big city airports to catch their overseas flights. So users of the US' S3rd-busiest airport, in this small town in the suburbs of Hartford, were surprised this fall when Aer Lingus, the flag carrier of Ireland, began flights to Europe.

"It puts us into a different class of airport having that," said Kevin Dillon, executive director of the airport, Bradley International. "There are not a whole lot of airports this size that have trans-Atlantic service. It put us on the map."

Warwick, Rhode Island, with an even smaller airport, may soon have the same bragging rights. T F Green Airport, just outside Providence and about 90 miles from Bradley, is negotiating for European flights with the low-cost carrier Norwegian.

"Smaller airports are the next coming thing," said Bjorn Kjos, chief executive of Norwegian, which is also talking to Stewart International Airport in Orange County, New York, about starting Europe-bound flights.

In 2016, a record 18,000 city pairs were connected by air, according to the International Air Transport Association, an airline trade group. "We've seen the addition of 700 new routes this year," said Brian Pearce, chief economist and director with the association. The growth has been particularly noticeable in the US, Pearce said, but was also significant in Europe and Asia.

While many of the new routes, like All Nippon Airways' Tokyo-Mexico



Travellers outside the Tom Bradley International Terminal at Los Angeles International Airport. The addition of new routes has been noticeable in the US but is also significant in Europe and Asia

PHOTO: BLOOMBERG

City flights and Air India's Delhi-Madrid offering, linked large metropolitan areas, the growth in midsize city connections disrupted long-set patterns. John Grant, a senior analyst with OAG, an aviation data provider, said the new interest in smaller airports has several roots, among them a boom in the number of air travellers, new low-cost carriers offering long-haul flights and congestion at the biggest airports.

"Many markets are already saturated in terms of frequency," Grant said. "There are only so many times you can fly into New York and London a day."

New technology also plays a role as huge airliners, with 400 or more seats, are eclipsed in popularity by aircraft of a more moderate size.

"Apart from a few large markets, large aircraft could only be flown when

they had a feed of passengers from other markets that would then travel onwards to intercontinental destinations," said Floris de Haan, head of aviation practice for Ortec, a consulting firm based in the Netherlands.

In the last five years, the companies manufacturing the two biggest airliners, the Boeing 747 and the Airbus A380, have introduced smaller, more fuel-efficient long- and medium-range airplanes that are just right for connecting smaller cities.

The 20 per cent increase in fuel efficiency on the Boeing 787 Dreamliner was critical to Norwegian's decision to begin low-cost flights between gateways in the United States and Norway in 2013. The airline has configured the aircraft to carry 291 to 344 passengers.

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## LETTERS

### Worthy biographies

In the article, "Barbarians at the Gate" (January 10), T C A Srinivasa-Raghavan makes the argument, with some merit, that there is a lack of decently written biographies by Indian writers. His argument rests on the following two points. I disagree on both points, the reasons for which are cited below.

1) The reason for biographies: The writer says there is limited interest in reading biographies of living Indians written by Indians and that publishing houses chum these out with a commercial agenda.

India is a melange of cultures, interests and passions. There cannot be a unanimous judgement of the appreciation of any work of art. This is a country that gobbles up Fyodor Dostoevsky and Chetan Bhagat, Barkha Dutt and Charlie Rose, in equal measure. I have seen shelves lined with books by all these authors. In a way it speaks to the diversity of readers. The same is true for the multitude of genres that an average Indian reader appreciates. Sports, gossip, journalism, classic literature, biographies and fantasy are just a few of the genres that I have in my modest collection.

Hence, to state that nobody wants to read books written by one person about another seems far-fetched. I look forward to reading Rishi Kapoor's biography by Meena Iyer. Granted, there are publishers who release books like periodicals, but condemning the industry for a few bad apples is akin to condemning a religion for the existence of terrorists.

2) Non-existence of well-written biographies by Indian writers: Srinivasa-Raghavan states in the penultimate paragraph of his article that there are few biographies written by Indians about Indians that would meet the test of scholarship. In my limited knowledge, I can think of at least three writers, who have written meticulously researched books about Indian giants. I would want the writer to read these books and then ask him if he would reverse his judgement.



These books are *Gandhi Before India* by Ramachandra Guha (pictured), *The Great Indian Way: A Life of Mahatma Gandhi* by Raja Rao, *RD Burman: The Man, The Music* by Balaji Vittal and Anirudha Bhattacharjee, *Worshipping False Gods* (B R Amedkar) by Arun Shourie.

Ganesh Iyer Mumbai

### Keynes misquoted

While opposing demonetisation, former prime minister Manmohan Singh, also an economics professor, misquoted the long-run concept of John Maynard Keynes.

Keynes wrote, "In the long run we are all dead" in one of his earlier works, *A Tract on Monetary Reform*, in 1923.

## HAMBONE



BY MIKE FLANAGAN

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