DIGITAL TRANSFORMATION - RECENT DEVELOPMENTS AND APPLICATIONS

CMA (Dr.) Paritosh Basu
Senior Professor
NMIMS School of Business Management
Mumbai

Recent Developments and Business Opportunities

Readers might have by now familiarised themselves with eight deep digital technologies and various related dimensions of digital transformations. However, there is no reason to be complacent. In this Industry 4.0 era every day is a day of learning. Nurturing this habit will help seizing business opportunities in manufacturing new products and providing services. But one must be wedded to the problem to be solved and not the idea to be converted to a product. Unprecedented opportunities are surfacing almost every day from digital scientists and 'startupians' 'innoventing' new products and digital solutions. Updated information will be the most powerful driver for retaining competitive advantages with desirable ROI, remaining market relevant and ensuring sustainable growth.

Bloomberg has conducted research[1] on the megatrends that will impact certain business sectors in 2020 and beyond. Some of their major findings and predictions are as under:

- Copenhagen has pledged to become world's first Carbon-neutral City by 2025;
- Global smart cities market is expected to grow to $ 717.2 Bln. by 2023, up from $ 308 Bln. in 2018;
- All top ten of the world's fastest growing cities in terms of GDP will be in India;
- Copenhagen has pledged to become world's first Carbon-neutral City by 2025;
- Global smart cities market is expected to grow to $ 717.2 Bln. by 2023, up from $ 308 Bln. in 2018;
- All top ten of the world's fastest growing cities in terms of GDP will be in India;
- Social and environmental considerations will become critical drivers of decision making;
- Connected devices will be seven times of world population;
- Smart home technology market will reach $53.45 Bln. by 2025;
- Smart fridges will advise when food items will expire and to be replenished in what quantity;
- Smart mattresses and pillows will monitor sleep pattern and generate information;
- Smart baths will emit relaxing aromatherapy; and so on.

It is not difficult to envisage that all these can happen only by intensive applications of AI, ML Blockchain, RPA, IoTs, etc. A report, on winning strategies for digital transformation of a refinery, revealed that application of robots for inspecting the hydrocracker unit has saved twenty-two hours vis-à-vis human skill-based inspection, resulting in cost savings, more safety and many risk aversions[2].

Present facilities are not enough or even equipped for manufacturing products and generating services in a digitally transformed environment. New facilities are to be set up and existing facilities are to be equipped / upgraded with simultaneous applications of multiple digital technologies. All these will usher in multifarious business opportunities. Large capital investments and skilled human resources will also be needed. Professionals will have to assume huge responsibilities for identifying the problems to be solved, strategising executable plans, monitoring of R&D, service generation and manufacturing activities, and reaching quality products / services to the ultimate customers on demand.

An entirely new system called 'Frugality Management' for cost optimisation is to be also institutionalised to ensure that benefits from such digital 'innoventions' are made available to

common men at affordable prices.

Blockchain Technology - Recent Developments

Gartner has predicted that blockchain technology will generate a global annual business value of over US$ 175 billion by 2025 and about US$ 3 trillion by 2030. Technologists have met success in developing artificially intelligent IoTs. Applications of IoTs and AIIoTs are being made more effective, safe, trustworthy and decision oriented by monitoring their use through Blockchain platforms. UAE has recently announced a blockchain based platform for organ donations[3]. It's user end will be administered through a mobile phone application. This initiative will help effective management of donated organs, prioritising and reaching those to patients who urgently need and thus save many precious lives.

Many new use cases of blockchain are signifying that it is capable of gainfully changing economic and societal foundations of a country. The following policy decisions and action points, like many more earlier, announced by India, EU and Australia will contribute in actualising this from the womb of dream to reality.

India: Blockchain enthusiasts will be happy to read the first part of Niti Ayog's recently circulated Draft Discussion Paper titled 'Blockchain: The India Strategy' in January 2020[4]. It has "*Focused on the application of blockchain to resolve business and governance process inefficiencies. The paper has also highlighted lessons from the pilots and PoCs that NITI Aayog has completed so far.*" The second part of the document is expected to deal with certain recommendations, the major ones of which are as under:

- Regulatory and policy contemplations to enable wider applications of blockchain;
- Creation of a national infrastructure to facilitate use of blockchain platforms for conducting business transactions;
- Further research and promotional requirements for establishing India as a blockchain hub including skill building;
- Application of blockchain for conducting procurement activities of government;
- *"Pegged stable coin for Indian Rupee for seamless exchange for blockchain solutions". This may be in conjunction with the need for re-evaluating cryptocurrencies.*
- *Crypto currencies for India: Does India need a cryptocurrency / ICO market?"*

One sincerely hopes that the last two recommendations, viz., '*Pegged stable coin*' for INR and digital currency, which are essential for successful handling of commercial transactions through blockchain platforms, are ultimately implemented

European Union: Thirty states, including members of the EU, UK, Norway and Liechtenstein, formed the 'European Blockchain Partnership' (EBP) in 2018. As an outcome from this initiative "*The first Belgian node of the European Blockchain Services Infrastructure (EBSI) went live on February 12, 2020.*[5]*"* Initial objective of EBSI is to facilitate the process of trans-national management of public services coupled with the benefits of a Blockchain platform such as trust, security, safety and immutability. Their initial services include education credentials, users' control over data, trusted data sharing for export / import trade, taxes, etc. EBP's Policy Group is soon expected to announce new areas for 2020.

Australia: In February 2020, Australian Government announced[6] *"….. a new national strategy aimed at capturing the potential value generated via business-related blockchain applications, with a particular focus on supporting global supply chain management systems and tracking."* The document emphasised strategies for regulations and standards'; skills, capability and innovation; and 'international investment and collaboration."

More DeepTechs for Health Care

IoTs for health care are now being used as Internet of Body (IoB)[7] of three varieties, viz. wearable, embeddable and edible. Readers, please do not be surprised to note that edible IoBs are smart pills with comestible electronic sensors. These are used for conducting radiological tests and chemotherapy more efficiently and at a lesser cost yet help doctors for effective delivery of healthcare services.

Technology has substantially advanced for establishing interface between human brains and computers. For this a person's brain is merged with an external device for monitoring and controlling on a real-time basis. The noble objective is to treat patients with organ disabilities and restore functions by using brain signals rather than conventional neuromuscular pathways. This process has been tested in digital labs and now to be scaled up.

Smart contact lenses[7], fitted with chips and sensors, will soon be able to provide information, which presently doctors visually observe from physical conditions of eyes to form subjective judgements. Such lenses will also help monitoring glucose level of body. Research is on for providing such bodily information presented on smart phones of doctors with more accuracy and analytical details. It will not be much of a stretch of imagination to think that someday such contact lenses will be able to sense images and send digital signals for cognitive intelligence and imaging purposes.

Let us look forward for many more such innovations in months to come for leading a more meaningful and safe life in a digitally transformed environment. MA

Webliography

1. *https://sponsored.bloomberg.com/news/sponsors/features/maersk/2020-vision/?adv=24910&prx_t=fWgFAAAAAAFEANA*
2. *https://www.strategyand.pwc.com/gx/en/demystifying-digitization.html?WT.mc_id=CT1-PL52-DM1-TR2-LS2-ND30-TTA9-CN_Drilling4Data3-Drilling4Data3.Paid.TW*
3. *https://www.unlock-bc.com/news/2019-02-01/uae-first-country-in-the-world-to-use-blockchain-for-organ-donation*
4. *https://niti.gov.in/sites/default/files/2020-01/Blockchain_The_India_Strategy_Part_I.pdf*
5. *https://www.ledgerinsights.com/europe-blockchain-services-infrastructure-ebsi-starts/*
6. *https://www.coindesk.com/australian-government-eyes-business-benefits-in-new-national-blockchain-roadmap?linkId=82976488*
7. *https://www.forbes.com/sites/bernardmarr/2019/12/06/what-is-the-internet-of-bodies-and-how-is-it-changing-our-world/#66c1d4a168b7*

Paritosh.Basu@sbm.nmims.edu