

Advanced Technology Adoption

IT, ITeS and BPM companies retool themselves as work from anywhere becomes the new normal

Of late, there has been an increased uptake of ICT solutions across the IT/ITeS and BPM/BPO sectors. This trend has received a further boost during the Covid-19 pandemic with companies taking the digital route to keep their operations afloat. Companies in this sector are betting big on technologies such as artificial intelligence (AI), internet of things (IoT), blockchain, cloud, augmented reality (AR) and virtual reality (VR) to streamline and enhance business operations. With a growing work-from-home (WFH) culture, automation has emerged as a key tool. However, the increased technology adoption has come with a host of challenges, such as the need for workforce reskilling and upskilling. Industry leaders share their views on the uptake of ICT solutions across their organisations and the way forward...

What are the key ICT trends dominating the IT/ITeS and BPM/BPO sector at present?

Amit Chadha

The ongoing pandemic has dramatically transformed ICT considerations and the approach of technology enablers such as engineering services and IT/ITeS players. Hybrid is the way forward in the new normal as work from anywhere (WFX) becomes a standard norm cutting across industries. This requires investment in the right technologies that ensure seamless business continuity. To this end, intelligent connectivity is rapidly shaping up as a framework that allows scalability and agility to enable a range of new-age applications around edtech, telemedicine, remote entertainment, contactless manufacturing, etc. Specific to the WFH environment, it helps enable an intelligent workplace built over aspects such as work-

place automation, smart facility and digital workplace training.

Another concept that has come into prominence in the Covid era is the use of digital engineering to build anti-fragile future. The notion of a digital thread that allows manufacturers to migrate to a touchless manufacturing process, by transforming the way products are designed, manufactured and serviced, has gained popularity, especially in the past year. This digital thread is already transforming the way products are designed, manufactured and serviced by inculcating a heavy element of intelligence across the value chain. Finally, with the present-day applications increasingly pushing the demand for high speed and low latency requirements, the advent of 5G is expected to serve as a saviour. Businesses are proactively working to prepare themselves for the 5G wave and even before the commercial launch, a rich

bank of use cases around 5G is already available for reference. All in all, the technology industry is set for a massive overhaul in the post-pandemic world.

Huzefa Saifee

The Covid-19 pandemic has accelerated the demand towards a contactless engagement model and the IT/ITeS industry is playing a key role in establishing robust virtual engagement models, bringing agility and scalability into businesses. The demand for a contactless engagement model has created several need-based solutions amongst sectors. Online aggregators have transitioned towards a completely digital order-to-delivery ecosystem, wherein drones are used to deliver products directly at the end-user location. To accommodate business with client expectations, physical stores have adopted omnichannel models as a strategy. With physical contact largely being limited during the pandemic, another sector that has literally gone through dramatic transformation is that of education, so much so that edtech now appears to be a more relevant term with reference to the industry. You now have virtual classrooms equipped to give a classroom-like experience – all made possible by new-age digital technologies. Akin to this is healthcare, taking the shape of telehealth, more significantly in countries such as India, where otherwise quick and timely access to medical counselling remains a challenge, particularly for those in remote areas. The industry's need for better visibility and transparency among all stakeholders has led



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to the “uberisation” of the supply chain, gradually becoming the norm.

Thus, a common thread binding all these trends reflects that digitisation is the way ahead and democratising benefits of digital assets and capabilities is the underlying key trend that is expected to shape the future in a “new normal” world.

Mukul Singhal

Technology has played a crucial role across sectors for enabling an ecosystem for the continuity of business operations. The key theme for this year has been resilience. For any enterprise-based technology, the important strategy will be to revisit how digitally integrated platforms using cloud and low-code tech can allow transformation and modernisation journeys to spark rapid disruption along the way. As technology and businesses become increasingly intertwined, business strategy drives the technology strategy, and vice versa. Leading organisations are engineering their strategic function to be more cloud enabled, more secured, stable and cost effective by using hyper-automation; giving them an array of strategic options for whatever the future holds.

Highlight some of the use cases of emerging technologies such as AI, IoT, blockchain, cloud and AR/VR in the Indian IT/ITeS and BPM/BPO sector?

Amit Chadha

The pace of evolution of technology is so rapid in the modern world that concepts such as AI, IoT, blockchain, cloud and others have attained a generic stature. It all boils down to how one leverages each of these. And it is here that the next phase of evolution of these technologies comes into play, particularly against the backdrop of leaps in machine learning (ML) complemented by the ensuing 5G network availability. Early trends are encouraging as reflected by use cases available around the adoption of digital technologies over 5G connectivity. For instance, a global use case by an American telco major showcases how it has tested multi-gigabit speed – video streaming, download and conference experiences over 5G. Another mobile service

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provider has launched 5G-powered residential broadband services across select cities in the US. More specific to AI, among several interesting examples, a relevant one in line with the healthcare-focused pandemic times is the clinical decision support system, enabling computer-aided diagnostics solutions. This assists radiologists in analysing chest X-rays for a faster and accurate detection of critical ailments such as pneumonia, typhoid and TB.

Related to IoT and the current business demand for having cost reduction mechanisms in place, a plug-and-play IoT environment in the form of sensor node and hub is known to have capabilities that enable a 10-40 per cent reduction in industrial application maintenance costs, mainly driven by predictive maintenance and real-time monitoring. From a remote maintenance perspective, there are use cases where through digital engineering capabilities, effective use of AR and VR is incorporated to migrate to a safer, quicker and more efficient remote work maintenance environment. Thus, there are immense possibilities and capabilities of new-age digital engineering technologies.

Huzefa Saif

Indeed, Indian technology enablers have been at the forefront of the global demand for innovation led disruptions. Some of the popular ones related to IoT revolve around how the use of connected systems has transformed the conventional nut-bolt approach

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to a more intelligent and sophisticated one, where monitoring and maintenance of physical assets has taken a proactive approach. Further, with deep penetration of analytics and AI in the overall technology considerations, data has assumed the centre stage of the critical business decision-making matrix, including situations that require prioritisation of activities. Blockchain is another digital capability that is enabling disruptive innovations. For instance, in the case of logistics, it is not only ensuring safe and secure value chain enablement, but it has also inculcated the much-required transparency for simplified transparency and responsibility-ownership on matters requiring issue resolution.

From a retail sector perspective, the rise of what one may call “phygital” capabilities – one involving convergence of both the physical and the digital world – is another capability made possible by the use of AR/VR. Thus, it is now possible to have a store-like immersive experience even while browsing through a virtual world. Even in the manufacturing sector, advancements in AR/VR have simplified and pre-empted monitoring as well as maintenance tasks.

Mukul Singhal

There are business shifts in industry dynamics, customer expectations, competitor moves and stakeholder behaviours. Today, organisations are industrialising their AI initiatives with MLOps and consequently, developing new approaches to managing data for machines rather than humans. Strategic platforms equipped with advanced analytics, automation and AI, including natural language processing (NLP) and ML, can help leaders think more precisely about the wide range of futuristic possibilities. Organisations have accelerated their efforts on IT/OT convergence, particularly in manufacturing operations. Even cybersecurity is an increasing concern and industry is leveraging AI, ML and NLP to simplify and automate processes. Threats are mitigated using blockchain with advanced security on a decentralised platform, allowing businesses to improve efficiency and minimise risk, while building trust across all business transactions.

What are some of the ICT solutions deployed by your organisation?

Amit Chadha

L&T Technology Services (LITS) has developed and deployed several ICT solutions customised to specific industries' requirements. For factories and manufacturing units, our engineers have developed Avertle, which is a best-in-class end-to-end predictive maintenance solution that employs ML and AI principles to monitor the real-time health of assets. It proactively notifies stakeholders about performance, potential failure and remaining useful life of their critical assets. Similarly, for the healthcare sector, we have developed Chest Rai, an AI-based chest X-ray analysis system to assist radiologists in improving the speed and accuracy of the diagnosis and it is also the world's first cost-effective robotic endo-training kit. LITS's robotic endo-training kit is a surgical training robot, which provides high definition observation of the patient's anatomy. In tune with the trend of software-defined capabilities in the automobile sector, LITS has developed a digital cockpit system that powers a car's digital display and information system with enterprise services, connecting the vehicle to a greater experience. This device has multiple Linux-based automotive applications and can harmonise to provide more functionality from in-car systems in an efficient manner. For the utility sector, we have rolled out LITS nB-oN, that is, a narrowband-internet of things (NB-IoT) solution for IoT low data rate devices. The typical use cases for this platform are smart metering (for water, gas and LWM2 electricity), smart lighting, asset tracking, smart parking and smart agriculture. This reference solution is designed with low memory and a low power footprint, enabling seamless integration to custom target platforms. Our team also designed Fly-Board, a next-generation digital signage solution that radically transforms the way content is distributed, targeted and experienced. It transcends traditional content delivery limitations in terms of platform versatility, scalability, remote coverage, anytime and anywhere control, choice of

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content and viewer engagement.

Huzefa Saifee

Happiest Minds has deployed an M2M telematics solution, deriving the best of IoT capabilities. The solution deployed not only supports telematics devices but also enables product enhancement. Built for a cloud environment, the solution also has a tracking mechanism. Related to AI/ML, Happiest Minds has a client success story for one of the largest airports in the world, wherein an automated end-user facing bot was deployed, offering a simplified navigation experience for users. The service offers personalised experience, taking care of scheduling meals and meet-up at airport as well as offering real-time weather updates. Another client success story related to AI is about a leading technology-enabled risk services provider for which Happiest Minds has developed IT helpdesk bot, which reduced the load on an IT helpdesk for mundane/repetitive tasks and created employee satisfaction. The solution provides self-service, triggers automation, transfers to a live agent or raises a ticket on behalf of the employee.

Mukul Singhal

We have adopted new techniques, making efforts to lift-and-shift to the cloud, becoming more cost-neutral and operationally efficient. Also, looking beyond lift-and-shift, we have upgraded our enterprise resource planning (ERP) systems by reducing technical debt and leveraging non-ERP platform capabilities in a more manageable, cost-effective way. Using low-code offerings, our teams have carried out complex tasks and integrations through point-and-click rather than having to write the code. We looked at end-to-end automation

solutions, where customers can fundamentally improve a business sub-process by leveraging from a process perspective, using robotic process automation (RPA). Birlasoft's cloud-based platform has a suite of solutions that aim to deliver connected experiences with real-time insights across physical and digital worlds; bringing machines and humans together. It combines the power of digital technologies such as IoT, edge computing, AI, ML, cognitive automation and advanced analytics for a holistic enterprise transformation. Today, all technologies are interdependent and organisations are devising innovative ways of finding coherent solutions.

How has Covid-19 impacted your business and operations? What were some of the key ICT solutions deployed by you to tackle the situation?

Amit Chadha

Like all other industries, the engineering services sector too was caught off-guard during the first few days of the pandemic. However, LITS took it as an opportunity to rise to the occasion and offer a strong support to our clients by ensuring business continuity. First, LITS conducted a business impact analysis (BIA), which was followed by surveys to collect data points on enabling employees to work from home. Being an engineering R&D and services company, our exposure to WFH environment was limited. Hence, the virtualisation of the entire work force was new for each of us. To address this, we developed a WFX App, based on our homegrown "work from anywhere" platform, enabling managers to track productivity of their employees. This initiative is one of the key investments made to enhance the company's business continuity process readiness. In response to the new market requirement, we introduced E.R.U.G.A.L. Manufacturing, a manufacturing concept based on social distancing, business continuity and sustainability aimed at enabling remote manufacturing on the shop floor. Another solution that we rolled out globally was i-BEMS Shield, which enables enterprises to mitigate the Covid-19 spread on their campuses and indoor environments with the deployment of fea-



tures such as temperature and face detection, occupancy and air quality management, as well as mask detection and contact tracing. Other innovations revolved around aspects such as cybersecurity, industrial AI and engineering-as-a-service proposition.

Huzefa Saifee

Fortunately, in the case of Happiest Minds, with digital being fundamental to our way of working as suggested by our tagline, "Born Digital Born Agile", we were equipped and familiar with the needs of a WFX ecosystem. Thus, right from day one of the pandemic-forced lockdown, we continued our operations seamlessly, ensuring business continuity for clients as well as the safety and well-being of our employees.

Mukul Singhal

Covid-19 has disrupted the global economy, making organisations adopt pragmatism, which has enforced a growing focus on business cases for core modernisation and transformation decisions. Unprecedented times called for smarter digital measures, and digital workplace adoption has been the need of the hour, but by ensuring that it is measurable and manageable. At a time when more information exchange happens via the internet, implemented solutions should encourage real-time customer engagement, or else distractions and poor supervision could impede collaboration and derail productivity. To enable safe and compliant back-to-office measures and make our working environment more secure, we have implemented Birlasoft's intelliOpen™ – an intelligent system for contactless screening of people, social distancing monitoring and contact tracing. Changes were made to our infrastructure, policies and practices to provide a seamless and scalable digital experience for employees, and other business stakeholders.

What are some of the key challenges faced by your organisation and the sector at large while deploying ICT solutions? How can these be addressed?

Amit Chadha

As conveyed earlier, the ICT considerations of businesses are set to undergo a



massive overhaul in Covid times. This will be a common phenomenon for all. Fortunately, for innovation led pure-play engineering service players such as LITS, this situation offers a chance to embrace futuristic technologies that we design for our clients. Technologies of the immediate future will have to factor in aspects such as remote management, scalability, relevance over the long term, secured infrastructure and democratised access to digital technologies, to cite a few. The lack of talent in emerging technologies will also need to be addressed quickly and organisations will have to undertake various reskilling and upskilling initiatives for their tech workforce in association with industry bodies such as NASSCOM.

Huzefa Saifee

One pertinent issue faced by the industry is that of unforeseen challenges at on site locations. This often makes the entire deployment of machinery go for a toss if the magnitude of issues is too complex to overcome. Thankfully, Happiest Minds' dedicated business unit, Agile Infra & Security Services, helps our teams take care of any such uncertainties that may come our way. It does so by combining the strength of other business units and CoEs with disruptive technologies such as ML, image processing and video analytics, NLP and AR/VR to ensure that

deployments happen smoothly. Another industry challenge is that of finding the right talent. The measures taken so far on the digital skilling and reskilling front are encouraging enough towards building a strong talent pool in the country. With technology evolving at a rapid scale, it is important for technology enablers to proactively keep on expanding capabilities and be equipped to serve the demands of business community.

Mukul Singhal

Industry-wide, there has been burdening of technical debt, outdated applications and necessary workarounds. As an organisation, we embarked on the transformation journey, but the requirement for capital and intensive effort was inevitable. We explored creative ways of operate-to-transform agreements with original equipment manufacturers and partners for migrating and/or upgrading systems and utilising powerful tools that will generate positive returns. Apart from running ideation workshops, we regularly ran hackathons with some of our key clients and partners. Knowledge sharing and strong collaboration being one of many concerns has been addressed by organising continuous productivity forums, including leadership talks and case study sessions, covering a wide array of business continuity and tech-enablement topics. ▲