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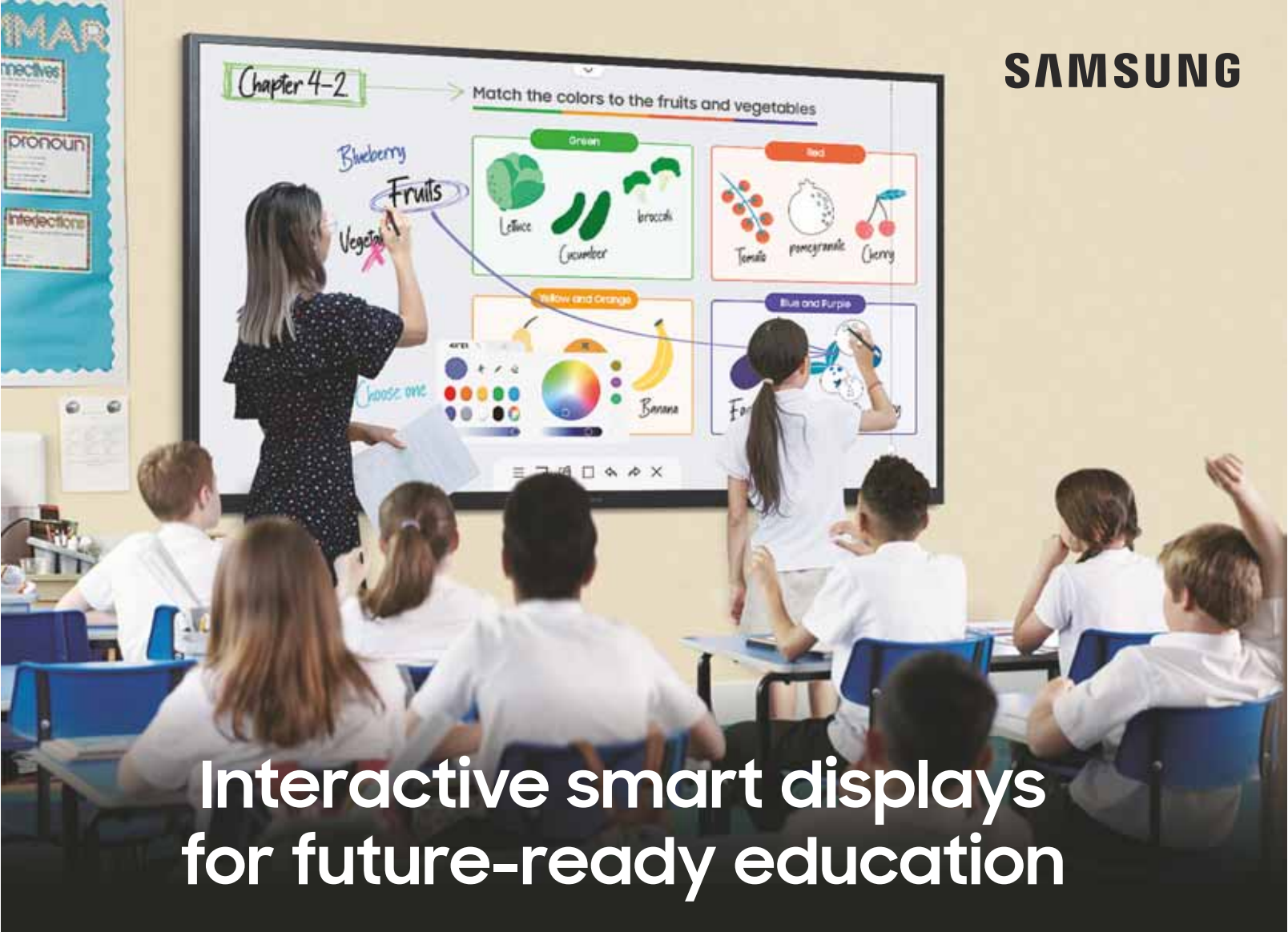
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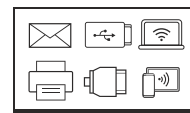
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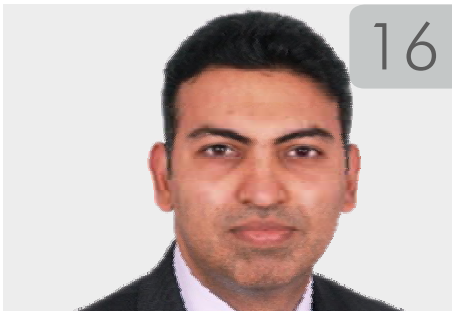
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What does it take to Make Healthcare More Accessible?

With the launch of the Digital India campaign in 2015, India has become the second-fastest adopter of digital services. With about half a billion internet users, the potential to unlock an additional economic value of \$1 trillion dollars through inclusive growth is immense. This is also true for the healthcare sector wherein blending the digital approach can help tackle the issues of access, affordability and quality. Indeed, Covid-19 pandemic is a strong reminder of two things - more needs to be done to protect our communities from future health crises and strengthening our healthcare infrastructure is critical for us. It has also made clear that the future of healthcare is digital

Amit Singh

With the ongoing pandemic, the Indian healthcare industry is undergoing a major transformation. While the

pandemic has brought inadequacies and pitfalls of India's healthcare system to the light, it has also opened up opportunities for digital

intervention in the healthcare systems which are supposed to alter the healthcare landscape in 2022 and beyond.

The Covid-19 pandemic has reinforced the health sector's importance and the need to strengthen efforts. In fact, the old schools of healthcare system need a technological push to provide accessible health services to all. The 2021 Global Health Security Index says "all countries remain dangerously unprepared for future epidemic and pandemic threats, including threats potentially more devastating than Covid-19."

The GHS Index assesses 195 countries' preparedness for epidemic and pandemic across six categories -- prevention, detection and reporting, rapid response, health system, compliance with international norms and risk environment.

Where India stands in healthcare?

Among 195 nations, India ranks overall at 66 with a score of 42.8 and a decline of 0.8 points since 2019 in the GHS index. The study underlines that India has improved in detection and reporting

category, but there has been no enhancement of its prevention protocols, health system or rapid response processes. The study says that although countries built new capacities during the Covid pandemic, many of them are temporary.

India scores 29.7, slightly above the global average at 28.4 out of 100 in the prevention category. The detection and reporting category that shows major gaps in the reporting capacities for epidemics of potential international concern, India scores 43.5, 11 points above the global average.

Further, India scores 15 points above the global average in the Health Category system at 46.1 and ranks 56 in the list. India scores at 47.2 and ranks 92 in the Commitments to improving national capacity, financing and global norms category. Moreover, in the risk environment category, India scores slightly above the global average at 60.2 and ranks 73 in the list.

However, the Indian healthcare industry has done a commendable job in managing Omicron-led third Covid wave with aggressive push on

“While the organized tertiary and quaternary hospitals offer healthcare delivery at par with world standards, the same can't be said for the smaller unorganized private players with inconsistencies in quality of services and healthcare facilities.”

Dr Harsh Mahajan

President, NATHEALTH, and Founder and Chief Radiologist, Mahajan Imaging

establishing PSA oxygen plants in each district hospitals. Online digital solutions like 'Oxygen Demand Aggregation system (ODAS)' and 'Oxygen Digital Tracking System (ODTS)' have been developed to ascertain the

demand for medical oxygen from all medical facilities and to track their transportation. In fact, the government and the private institutions have been quite aggressive in expanding the reach of expert medical

consultations through initiatives around tele-medicine.

In fact, the amalgamation of technology with healthcare will open new doors, pave the way to enhancement, and broaden the horizons of healthcare. They will help us build the healthcare infrastructure we require.

The Indian health-tech industry, valued at \$1.9 Billion in 2020, is expected to reach \$5 billion by 2023 at a CAGR of 39 percent. The country has already seen a rise in healthcare technology use cases. During the COVID waves, government and private/public hospitals used initiatives such as AarogyaSetu app, Telemedicine, Virtual check-ups, online bookings, intelligent diagnosis, mapping of the patients, and online clinical support to curb COVID-19 and provide medical aid to patients in need.

The government also announced projects like Ayushman Bharat (PM-JAY) and National Digital Health Mission (NDHM) to make healthcare more affordable and accessible. They are a promising start towards

enhancing our country's healthcare system, and we will see more such initiatives emerge on both the private and public front. Another use-case wherein technology is helping us is in ensuring 100% vaccination.

The ongoing vaccination drives in India are among the largest in the world, wherein every individual is required to register through the COWIN app to get access to vaccines.

Digital access and healthcare infrastructure

If we talk about digital access and healthcare infrastructure, the last two years of the pandemic have revealed the inadequacies of the infrastructure in a country. At the same time, it brought about many innovative solutions which have helped India meet the challenges of Covid-19. "Rather India has done well as compared to many developed economies except during the second wave of the pandemic when most of the healthcare facilities got overwhelmed. We need to focus on the present while keeping the long-term



“Technology can play a critical role in making healthcare accessible to all. However, we must not just focus on digitizing the processes, but to use technology to make the existing systems more efficient and reduce the workload on people.”

Dr Uma Nambiar

Chairperson, DHIndia and CEO, Dalmia Healthcare



perspective in view to improve on the infrastructure and healthcare delivery gaps. While private sector hospitals account for nearly 70 percent of the healthcare deliveries however, most of them are focused on metros and larger cities. Tier-2 and -3 cities and towns are lacking the quality healthcare ecosystem; while the rural areas are quite deprived of the healthcare ecosystem and mostly dependent on public hospitals with limited facilities and presence,” elaborates Dr Harsh Mahajan, President, NATHEALTH, and Founder and Chief Radiologist, Mahajan Imaging.

If we talk about quality and accessible healthcare, the government has to focus on these areas for building primary and preventive care. The basic system like CHC, PHC and District Hospitals in these areas are still there, but are dysfunctional in most of the cases and not at par with their counterparts in large cities. Government must look into methods to galvanize them to serve in their area so people don't have to rush to large cities or tertiary centers for basic ailments, he adds.

The private sector has

shown that it can do a great job in tertiary and quaternary care settings especially in the organized healthcare settings. However, majority of the private healthcare segment accounts for clinics and small nursing homes. “While the organized tertiary and quaternary hospitals offer healthcare delivery at par with the world standards, the same can't be said for the smaller unorganized private players with inconsistencies in quality of services and healthcare facilities. That's something we need to confront. It needs to be taken care by Quality Council of India and NABH to develop ways and standards to bring all the healthcare facilities small or large at par, advises Mahajan.

Making healthcare accessible to all

Government and healthcare providers must work toward a future healthcare system that is more cost effective, equitable and shifts away from 'sick care', to prevention and early intervention. “While Ayushman Bharat is currently focused on people below poverty line, mostly through government hospitals and few private hospitals in



“Hospitals have to work out different models in which they will deliver acute care, improve throughput and anything which is sub-acute or –chronic will move out of the hospitals.”

Dr Nitiraj Gandhi

Secretary, HIMSS India Chapter

the ambit, I see this initiative to lead to a much larger scheme of things where eventually we can see something like social security system where every individual gets covered under the health insurance scheme. Although a lot has to be done on this front, this is

a step in the right direction. We are already seeing increasing penetration of healthcare services due to these initiatives,” shares Dr Uma Nambiar, Chairperson, DHI India and CEO, Dalmia Healthcare.

Covid has made us realize the importance of

wellness and people are now more aware about Ayurvedic therapies and wellness regimes. "Hospitals have also realized that the focus must be on the primary care and wellness because that's the only way we can prevent the tragedies in

acute and tertiary care as well as reduce the cost of care," she adds.

Further, telemedicine has made the primary and follow-up consultations an easy task. And it is not only about chronic care and follow-up, it is also being used increasingly to

make acute care affordable and has already marked presence in areas like ophthalmology, pathology, radiology, ICU, beyond just tele-consultations, she says.

With the advancements in tele-medicine and government push on digital health are working together, the healthcare scenario will change drastically 3-4 years down the line. "In fact, technology can play a critical role in making healthcare accessible to all. However, we must not just focus on digitizing the processes but to use the technology to make the existing systems more efficient and reduce the workload on people. This way we can also address the scarcity of resources," concludes Nambiar.

Vision 2030: A glimpse into the future

As cutting-edge technologies combine and accelerate, healthcare is set to revolutionize. What will medical science, global healthcare delivery and access to care look like in 10 years from now?

Dr Nitiraj Gandhi, Secretary, HIMSS India Chapter says that the next decade will witness

new models due to influence of demographic changes which will dramatically impact services and its delivery. "The millennials and younger generation would have greater influence on service deliveries as per their preferences. Stakeholders like payers, insurers and government will have significant impact on healthcare wherein they will push for lower cost of care coupled with greater packaging of services. As the cost of care escalates, these pressures will also dictate the way in which services are delivered."

Moreover, people are now focused on wellness and are seeking care outside of hospitals. "Over the next decade home care is going to lead the way for disruption of patient monitoring led by technology. On the supply-chain front, we have already seen many new models where healthcare is focused on efficiency and cost-savings. We will see newer models which aggregate the demand and offer generic options through multiple e-health and m-health channels," he shares.

Over the next few



“As surgical robotics continue to evolve, AI-enabled robots will eventually use computer vision to navigate to specific areas of the body while avoiding nerves and other obstacles.”

Satyaki Banerjee
CEO, Medical Imaging, Trivitron Healthcare

years, we need to start serving customers in different ways using models which will appeal to them and help them ease consumption for different age-groups and preferences. The care will move more towards the patient and digital solutions which will combine e-tail shopping-like experience, care pathways, tele-consultation and integration with IoT monitoring devices.

"As more people adopt insurance, we will see large consumption of healthcare services. That's why hospitals have to look into different models in which they are looking at delivering acute care, improving the throughput and anything which is sub-acute or –chronic will start moving out of the hospitals thereby the fixed cost incurred due to hospital admissions will get lower. Besides rationalizing the costs, this will enable medical practitioners to address a large chunk of sub-acute patients," says Gandhi.

He further adds that the most crucial part is to elevate the patient experience. "It's not about expensive and fancy buildings; it is about keeping the customer first all the time. Care

providers need to think like businesses like Amazon or Flipkart or any consumer-focused organization. In fact, patient experience is going to differentiate what healthcare providers are capable of doing. Forging connectivity and reciprocity between health systems, building a tiered structure wherein institutional health providers, telehealth providers, homecare providers, e-pharmacies, home diagnostics, and IoT services co-exist to efficiently deliver care basis the patient requirement, will be the future of healthcare," states Gandhi. Indeed, the first-movers in this space who can manage to create this entire ecosystem and deliver a layered experience through specialists in each layer and high efficiency will hold a significant advantage.

Reimagining healthcare ecosystem with emerging technologies

In medicine and healthcare, digital technology could help transform unsustainable healthcare systems into sustainable ones, providing cheaper, faster and more effective solutions for diseases. The



“ We witnessed tele-consultations to zoom 12-times the pre-Covid figures and are still witnessing 5-times the pre-Covid traction. We found that over 55 percent of the patients above 50 years were using tele-consultation. ”

Rajiv Sikka

Group CIO, Medanta Hospitals

need is to re-imagine the healthcare ecosystem with emerging technologies like AI, IoMT, robotics and more.

"The expenditure on healthcare is 1.2 percent of the GDP in value and this can touch \$8.6 trillion in the current year. This

will get another boost as the government is planning to increase the public healthcare spending to 3 percent of the GDP by 2025. However, despite all the focus and investment we have to understand that India needs to cater to the

healthcare needs of 140 crore population. That can only be possible by amalgamating digital technology with conventional healthcare practices,” comments Satyaki Banerjee, CEO, Medical Imaging, Trivitron

Healthcare.

There is no reason why healthcare industry should be away from digital. From the data-driven insights of wearables to mobile applications that can help manage chronic conditions, it's clear that

technology is changing healthcare forever. The health data can be used to better predict the onset of chronic conditions among patients. It can also create more effective clinical pathways and improve hospital management operations.

Of the industry which have changed with the impact of the pandemic, healthcare arguably has changed the most. “Remote monitoring, online consultation, digital health records, cloud-based storage and access of patient data, this has become commonplace. AI algorithms are constantly analyzing information, learning the diagnostic approaches of clinicians and getting smarter by offering care-givers the same exceptional quality of service in time of unprecedented pressure,” he adds.

Banerjee further adds that AI is helping analyze CT scans for Covid patients to detect pneumonia. In addition, digital tools are helping diagnostic labs to perform immense number of RTPCR tests, upload patient reports electronically, and notify health authorities and ICMR for necessary

tracking. Such a massive exercise would not have been possible without digital tools.”

In addition, robots are transforming how surgeries are being performed. Robots are also being used on clinical settings to support health workers and enhance patient care. During the Covid pandemic, hospitals and clinical care centers have been deploying robots for a much wider range of task to help reduce exposure to pathogens. As surgical robotics continue to evolve, AI-enabled robots will eventually use computer vision to navigate to specific areas of the body while avoiding nerves and other obstacles,” predicts Banerjee.

Is care at home the future of healthcare?

The implementation of new healthcare technologies, spurred into rapid adoption by the pandemic, are catalyzing new ways of thinking about care delivery, including care for patients at home rather than in a hospital setting.

However, it needs to be seen how virtual care can help redefine the



“For care at home to be successful people must also be aware of the basic procedures of first-aid and basic life support. In fact, 80 percent of the things done in a hospital can also be done outside of the hospital.”

Dr A Thanga Prabhu

Chief Medical Information Officer, Apollo Hospitals



delivery of healthcare overall by enhancing the patient experience, improving health outcomes, lowering the cost of care and improving the work life of care providers.

"The meaning of healthcare is changing rapidly. We are at a point where we are aiming to make people healthier. The idea is to predict and prevent and not diagnose and cure. Eventually, healthcare is moving to the home and it remains to be seen that how are we positioned as a care provider and medical practitioners to deliver home care services," says Dr A Thanga Prabhu, Chief Medical Information Officer, Apollo Hospitals.

As part of the traction towards care at home, tele-medicine and tele-consultations are increasingly becoming the mainstay. "During our analysis in Medanta Hospitals, we witnessed tele-consultations to zoom 12-times the pre-Covid figures and we are still witnessing 5-times the pre-Covid traction. Moreover, with the deeper analysis we were able to clear few myths. We found that over 55 percent of the patients were of the age 50 or above who were using

tele-consultation. We also realized that more than 45 percent of the patients who were using tele-medicine were from smaller cities from Uttar Pradesh, Jharkhand and Madhya Pradesh," discloses Rajiv Sikka, Group CIO, Medanta Hospitals.

Medanta Hospitals also noticed that Onco, Neuro, and Cardiac patients constituted more than 35 percent of the 30-odd specialties that the hospital offers. "Further, over 45 percent new patients came for tele-medicine consultations over the peak of the pandemic. Hence, tele-medicine is definitely going to stay. And tele-medicine is not a typical video-conferencing solution; it is integrated with the backend systems including specialties, payment gateways, appointment systems and prescription download," he adds.

Sikka further says that it's about changing the mindset and getting the same kind of experience at the comfort of your home. While if we talk about critical care at home, it is yet not feasible or commercially viable due to absence of economics of scale, however it's only a matter



“It's time now to do the prescriptive analysis and offer timely alarms to avoid any casualty. Moreover, the change management is extremely important at this stage to change the mindset in favor of care at home.”

Tushar Zade

CIO & CDO, Aurigene Pharmaceutical Services

of time.

On the other hand, many of the healthtech companies are coming up with MIIoT devices including wearables in the form of watch and stickers to enable remote monitoring. "We are actually spoilt of choices

in terms of technology and access to data. AI algorithms are now able to predict the length of stay of the patients by analyzing their vital data and it's getting more precise day by day. However, for care at home to be successful people

must also be aware of the basic procedures of first-aid and basic life support. In fact, 80 percent of the things done in a hospital can also be done outside of the hospital," shares Dr Prabhu.

Seconds Tushar Zade, CIO & CDO, Aurigene

Pharmaceutical Services, "As we are seeing digital transformation at never before pace, data is getting enriched significantly. Hence, it's time now to do the prescriptive analysis and offer timely alarms to avoid any casualty.

Moreover, the change management is extremely important at this stage to change the mindset in favor of care at home."

Care at home is definitely a desirable stage and makes a lot of sense when it comes to preventive and chronic care. "However, providing hospital services at home is something which is still distant thing as the required precision technology is still not available for home use. In fact, many of the hospitals and clinics failed to leverage tele-medicine in a seamless way to deliver clinical services. We should be able to draw a line to identify what is possible now and what will come in the future. So, care at home is coming on the horizon but not here and now," says Bharat Gera, Founder, Human Centric Health Ecosystem and Digital Transformation Advisor, KIMS Hospitals.

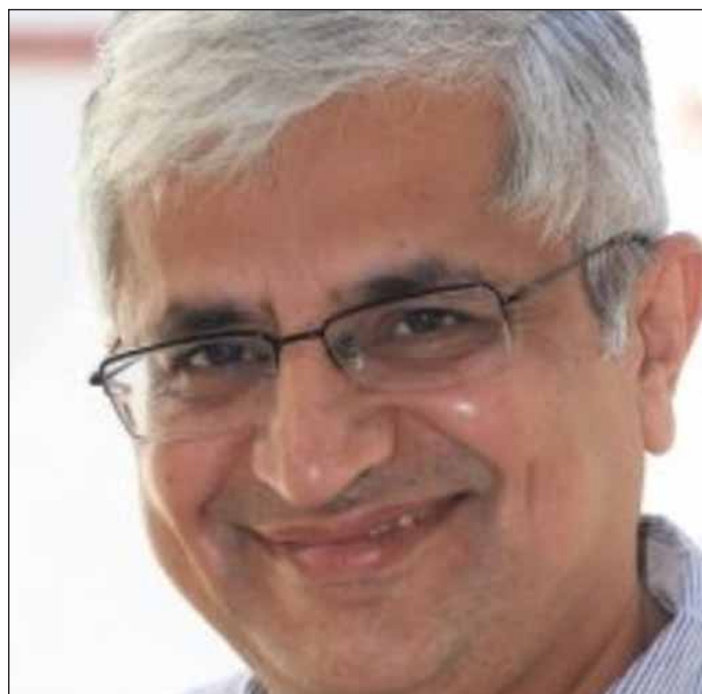
Sharing data and ethical challenges: AI and legal risks

Introducing machine learning and AI into your organization offers a new dimension to care delivery; it also opens up all kinds of doors to

legal risks, especially once you start using patient-generated data or implementing the technology into your workflow and decision-making processes. There are important questions your organization needs to ask itself as you start the journey and as you move forward.

"When it comes to the safety and security of healthcare data, India is playing catch up. If you look at the current legal framework, we don't have a healthcare-specific data privacy legislation. Although we did try to do something a few years ago in the form of what we refer to as DISA (Digital Information and Security in Health Care Act). However, that never came to fruition. What the legislature is currently doing is that they are in the process of implementing a new general data privacy regulation. Currently, I'd say that the entire framework is geared towards protecting sensitive personal data, but not data overall," elaborates Darren Punnen, Member, Pharma& Life Sciences Practice, Nishith Desai Associates.

We don't have a



“We should be able to draw a line to identify what is possible now and what will come in the future. So, care at home is coming on the horizon but not here and now.”

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specific AI ML legislation today, primarily because the main legislation that deals with data privacy was released somewhere in 2000, and at that time, we were not looking at AI and ML so closely. "Once we move into the new data privacy law, we will definitely see some more specific legislation on this front. But that being said, there are many policies that have already been put out, which directly deal with AI and ML. For example, the NitiAayog has already put out a couple of policy papers which deals with AI and ML, not only in the general context, but also in a specific healthcare context. One place where we've already seen an implementation of some regulation with respect to AI and ML in healthcare is with the recently released telemedicine practice guidelines," shares Punnen.

The bottomline

Practically, India needs an integrated healthcare model, stringing both traditional and modern together, and technology will make it happen. AI, IoT, analytics, and data managing supply chains and inventories and building electronic health

records (EHR) for all will aid in-patient care improvement, pathology digitalization, and more, providing the best health-tech solutions.

Technology, especially AI has a huge role to play in the healthcare sector's growth. Data and AI in healthcare has the potential to add \$25-\$30 billion to India's GDP by 2025 as per a recent NASSCOM Data and AI report.

More interestingly, according to the Healthcare Information and Management Systems Society's 'Future of Healthcare Report,' around 80 percent of healthcare systems are aiming to increase their investment in digital healthcare tools in the coming five years.

Indeed, the future of the Indian healthcare system is promising. With the proper integration, intervention, and introduction of technology combined with data and analytics, we can achieve the unimaginable sooner than expected. Utilizing healthtech for adequate management of the patients, documents, changes in treatments, and birthing of new techniques for diagnosis and prognosis is the path



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Darren Punnen

Member, Pharma& Life Sciences Practice,
Nishith Desai Associates

we should tread; that is what will take us decades into the future in a couple of years.

Autonomous Cybersecurity will not exist: Dilip Panjwani

Dilip Panjwani, Principal Director – Chief Information Security Officer & IT Controller, Larsen and Toubro Infotech, said that there would not be a state of autonomous cybersecurity ever because even the hackers while defining AI and ML towards security attacks, it is not autonomous by themselves. in times of any security breach the organizations and CISOs needs to acknowledge the breach and then take suitable actions.



Dilip Panjwani

Principal Director – Chief Information Security Officer & IT Controller, Larsen and Toubro Infotech

■ **Amid the hybrid working environment, employees and systems are distributed across the locations, which increases the attack surface manifold. What are the emerging threats using in this scenario?**

Social engineering attacks have been rising much ahead of time. The endpoint itself now to constantly maintain the security compliance of the endpoints ensure patching is updated on time. At times when people are working in tier two and tier three cities today, where the bandwidths are low or unstable, that really becomes a catch-up game, especially when you have zero-day threats, as well as critical vulnerabilities being released for patching. So, those aspects are all a catch-up game that we must look at. Hence organization now need to look at going further towards how they would bring in risk-based multi-layered controls set up to be able to determine and prevent any attacks from happening in the enterprise.

■ **So how has the new normal impacted the security strategy of your organization? If you can give us a comparison.**

It has kind of gone exponentially higher. Now everybody is sitting outside office. So, you do not know how to distinguish the genuine user versus a compromised user versus an attacker. So that is the key difference that adds up. The traffic must be totally inspected instead of only specific traffic inspections. Imagine that people are constantly traveling when they are in their comfort of homes. You might be today in their own homes, tomorrow they might be in the

relatives' home. They might be traveling and on a staycation and working from there. Hence, pattern-based recognition or geolocation-based tracking, again becomes a challenge to put rules in place. So static rules do not work anymore. You must move in for user behavior analytics, which would really help bring in the power of automation and insight-based threat detections.

■ **How do you see the cybersecurity landscape changing the huge influx and increasing severity of cyber threats in next few years, even as the bad actors are leveraging the emerging technologies?**

I think bad actors have always been constantly two steps ahead of the defenders outside. And that is nothing new. They have been leveraging automation and machine learning way too much to be able to find out the prevention techniques that we are deploying, and how to go under the radar silently and come inside the network as well. So, in the same manner, now, even the industry has been awakened to these elements, and looking at how to bring in automation integrated approach as well as AI and ML based technologies to use towards their defense techniques.

■ **Yeah, so what are the steps taken by organizations to make this system robust**

against these kinds of advanced cyber-attacks?

You need to arrive at a much faster way to investigate and faster ways to respond. That's where the power of more automations and more AI based analytics from the big picture to get contextual information back into the threats that you are seeing. So, you don't know how to rule out the false positives, and bring in specifically those attacks, which look more genuine and riskier for you. And second site, once you attend and identify an attack coming in, which looks riskier to be from a behavior perspective. How will you put in the automation rules to go and respond to such attacks, for example, putting up block rule temporarily on your firewall, or you want to go ahead and contain that respective network asset of your organization so that it does not talk to the bad actor anymore? Or you prevent a site from opening, for example, on your proxy. So those controls get automated, so that your mean time to respond to an attack goes faster.

■ **Just like a secured environment in an organization is not just the responsibility of the security leaders of that organization. I mean, the Chief Information Security Officers are the other security officer. So, every team member has to contribute to this program of security. So, what are**

your thoughts like how they can contribute to create a secure environment in the organization?

I think it's a multi-level approach that. You need to ensure that your top leadership and your board members are on board on this program. They need to give you full support from top to bottom. The strong messaging has to come from there to start, followed by the business leadership, which are there from all the

the system, if you're a bit conscious and a bit sensitive about the security environment in the organization?

I need to convince you, for example, on why you need to follow security protocols put by the organization or from my side as a security policy owner. The first question will be what is there for me, so it needs to be really related to that emotional aspect as well as the intent aspect. For example, keeping a strong

“ I think it's a multi-level approach that. You need to ensure that your top leadership and your board members are on board on this program. They need to give you full support from top to bottom. ”

departments and respective functions. They need to be on boarded second level so that they get to carry forward the same messaging to their teams. And last, but not the least, it's going to be every user in the organization to understand why they should participate in this program.

■ **So, what do you think what value you know the leaders can actually make them understand that, okay, this is what the value you will be adding to**

password, not using the same password across accounts and not sharing with anybody. What could be the risk if it happens to that personal account, the same applies also to their enterprise accounts. Similarly, if they are really taking care of the personal accounts, but they don't care about the enterprise accounts, then how does it really impact them. So even if they shared with another person and whatever transaction happened with that second person, all activities are all tied to them, and they are still liable.

■ **So, AI has emerged out as a technology with the widespread use across functions, including cybersecurity. According to you how promising is AI against the ever-increasing security threats and data breaches? And how effective is cyber-AI to protect the dynamic workforce?**

Well, I think cyber-AI has

it or it could be in form of alerting, threat hunting, going and blocking an asset. So, I think those elements which will really be on how, and what kind of use cases you're deploying AI, it could be for threat hunting over large amount of data across the organization, it could be doing activities with regards to automation-based workflows. It could be enriching the current data lake that you have on security event data with context-based trade intelligence.

how are the organizations preparing themselves against these impending threats? Where are we on the path towards autonomous capabilities?

So, I think there would not be a state of autonomous cybersecurity ever because even the hackers while defining automations and AI and ML towards security attacks, it is not autonomous by themselves. They also define what sequence must be deployed and how they have to react towards every stage. Those are parts of automation and AI both. So, there are self-healing networks that you can define, but again, they depend on what kind of attacks have you emphasized as part of your threat risk assessment at an organization level and then deployed them towards first machine learning to baseline the patterns. Second, AI based actionable defined to understand how you react to such situations and then bring in automation and integration across your IT infrastructure and information security, IT security systems to react to such situations and respond to such attacks.

■ **So, despite the best security measures, there is a high probability every organization will experience a breach at some point in time. What are your**

suggestions on cyber resilience strategy and tips to help CISOs that will help recover from incidents quickly with the minimal possible damage?

First point, definitely organizations and CISOs have to accept that they are subject to breach that is a probability which will happen or has already happened, and we are not aware of it, and they have to start working in that direction. Second, management must be on boarded and trained and made aware of how they play an important role when a cyber breach really happens. I think the first part and technical standpoint, you should definitely perform some red team assessment and cyber breach assessments at your organization, both from the external attack service perspective, as well as insider threat perspective, to identify your weak areas from people process and technology, and then find out how to plug them over a period of time and ensure that you keep on improving over time. The second aspect is ensuring how you behave in a security incident. Now consider that you've already been breached. You need to perform tabletop drills at an organization level to see how all the stakeholders within information security, IT and all other departments and leadership respond to such an attack. And how will they really work towards as a single team to attend and mitigate that incident.

“ AI base engine with ML algorithms, which first of all, study the entire behavior of endpoint, baseline it and kind of detect what is a good behavior and normal behavior of an endpoint or a user on normal basis. ”

been there for quite some time, and organizations have already started leveraging it in a very big way. There are AI base engine with ML algorithms, which first of all, study the entire behavior of endpoint, baseline it and kind of detect what is a good behavior and normal behavior of an endpoint or a user on normal basis. If it finds anything beyond that, that's where it finds out. Okay, this is an outlier. And that's where your AI must pick up and start acting on it with some automation rules to take some action against

■ **So that was all about how we can leverage on AI to protect the systems. What about like even the hackers? The attackers are now taking advantage of AI by identifying patterns of security devices installed on systems, attackers are using AI in malware to learn network behaviors to avoid detection. So**

Banks are moving beyond Cloud, into Multi and Hybrid Cloud

Devendra Sharnagat, Senior Executive Vice President - Data Analytics and Customer Value Management, Kotak Mahindra Bank, said they are not only moving towards cloud, but also moving into something which is more complicated like multi-cloud and hybrid cloud as well. He believes that the adoption of advanced deep learning algorithms is going at a much faster pace and concepts like data-centric AI strategy, MDM applications and explainable AI among others, are going to shape the banking technology in the next few years.



Devendra Sharnagat
Senior Executive Vice President - Data Analytics and Customer Value Management, Kotak Mahindra Bank

■ What are the challenges you faced off late to drive your business?

I think pandemic per se has kind of put everybody on a fast track. I will say I'm taking this whole change very positively because it has brought in more positives than the negatives. There are opportunities as well as challenges of course - the way customers behave, the customer expectations, changing that expectation, there is the challenge the way the employees have kind of reacted to the pandemic. And of course, the way the business models have also evolved, all of these are in mix of the massive technological advancement that we have seen. Also adopting to the way of VDI based technology and VPN based technology have been a continuous disruption because of network and yet being able to run the business model and of course, a change in business model. I do feel that the standard model of bank where everything started with

the deposit eventually led to cross sell through lending and so on and so forth has changed upside down.

■ What are the key trends you see in technology adoption in the BFSI sector, especially with respect to AI ML adoption?

The core to AI ML, I think is data and the core data layer. There have been significant changes with respect to technology adoption and data from data warehouse, old data warehouse, age to new data lake and now, Lake House kind of a concept, from predominantly on premise to moving to cloud and multi cloud and hybrid environment. That's been a challenge because that's the need of the hour of all bottoms of requirements. If you need a certain module for a bank, and that comes on a certain cloud setup, it's cloud native, we have no choice but to adopt to that rather than resist. I think it's not just important to get customer

and data but also being able to technologically reach out to customer through marketing automation platforms, which are mobile native, reaching out to customers as in when they need and thirdly, of course, the onset of advanced application of analytics, which is in the space of AI and ML.

■ As financial organizations are utilizing automation in some form or the other, how do you see the validation through conference of AI and ML infuse automation in the BFSI industry?

In BFSI, AI and ML has helped us right from the basics of operations to be very advanced applications. Very basic things like check automation, the up utilization of OCR to clear checks and verify documents, robotic process automation for applications like customer contact updation or maybe getting new KYC details from the customers. Now, these are

the areas which are very basic in nature, however, still relies a lot on technology to the advanced applications, which is on higher end applications like credit decisioning, instant credit decisioning, instant offer a when customer walks into Starbucks, and you are able to instantly give offers or discounts in the areas where the customer do spend to fraud mitigation, where we are talking about advanced fraud application and utilization of the FRM technology fraud, risk management technology and usage of AI ML integration through that.

■ How does AI infused automation is impacting the requirement of human interventions in mundane tasks? So where do you see Indian banks in the maturity level of AI driven automation?

We spoke about the KYC verification or check automation, check verification, etc. These are the

areas where we were very human intensive. So, I won't say that it's eventually cutting down on human application, but it's aiding them significantly to be very efficient in terms of our processing of applications, loans, and the entire credit automation. There are different levels of adoption, of course, some of them are still kind of dealing with the base Data Automation and, getting the data together in the form of the route or a lake. And some of them are advanced to adoption of machine learning and AI, right at the time of acquisition, where you're using machine learning and making real time decisions, either for credit positioning or for offering marketing offers. And some of them of course, have gone even further by setting up an entire FinTech equivalent ecosystem within the organization, which is a hybrid setup.

■ And what are your initiatives around AI and automation? And what are the costs and efficiency benefit you have observed?

We have invested significantly as a bank in this space in last decade or so. We have invested heavily in the data technology space, setting up warehouse, multiple lakes, setting up an entire data hybrid architecture. We have invested in talent significantly. So in the AI and ML space we have your mobile 18 different goals and skill sets, right from data analysts to a big data engineer, we have different kinds of skills where they have invested, we also invested in the state of the art, AI and ML platform in the cloud space, using machine learning stacks on AWS, Azure and other cloud setups. So, I think it has

paid off as well, significantly, I do see there are businesses where we are able to influence the business decision and make an impact, ranging from maybe some 5%, to maybe an excess of 50%, as well.

■ What are the key challenges in driving the AI and ML vision for banks?

I think the biggest challenge in this space is getting the right vision. We also use AI and ML very loosely, but of course, they are very different technologies, they complement each other. The biggest challenge is not to know what to do, but how to approach it. Gone are the days when you could build everything on your own. So, technology partners in the space of fintechs. So, I do feel that this is one area where there's a maximum challenge to set the priorities right. Everything else can be bought today.

■ What kind of challenges do you face working with these partners?

Challenges in like for some emerging technologies, especially now, from being completely on premise to hybrid cloud and probably moving towards cloud native. There is a significant requirement for the cloud partners who are strong in the cloud architecture and cloud support space.

■ So, what kind of initiatives you're taking for talent gardening within your organization?

We have taken talent very seriously. When we started off

this unit, almost 9 - 10 years back, we had one or two roles, record each different business analyst and data analyst etc. Now, today we have 18 plus roles because the skill sets required are very different. We have set up an internal training academy within the bank specifically for AI and ML where we have partnered with the online training institutes and assisted training partners who are leaders in the space. We have identified a team learning charter for each one for the division as well. We have clear guidelines targeted skill upgradation calendar in place. We are not just training the central AI and ML, but we are also training the adopters. The business adoption is also equally important for any technology application.

■ How are banks adapting to the adoption of cloud-based technology applications? Like you were talking about cloud? There are automized, multi cloud. So how are you adapting? And what is the scenario?

Cloud, of course is inevitable. Prior to pandemic, we used to debate about data privacy, data secrecy, and therefore the movement was very slow. But now, a lot of our new applications are cloud native. So, we are not only moving towards cloud, but we are moving into something which is more complicated, which is called as multi cloud and hybrid. The way we are adopting, or the banking industry is adopting, I think they are all going step by step. And there are no clear answers to like for example, virtualization also has two schools of thought where one

does say that it's not possible to virtualize everything and get the performance, while others say that, okay, there is no point in duplicating data. I would say adoption is gradual, but in the right direction for the industry. I wouldn't be surprised if, as an industry, more than 50% of our instances are on Cloud in maybe two years from now.

■ So, what is your outlook for your industry over the next two-three years and what are the key technologies in the AI and ML space, which you would focus upon in 2022 and beyond.

Outlook is extremely positive. Adoption of advanced deep learning algorithms in the space is going at a much faster pace. There is a concept called data centric AI strategy, which also I think is very nice. Most of the AI application period are very models centric where there were a lot of focus on refinement of model. However, since data is the core to whatever they build, I do feel that we need more than a serious effort in this case of AI driven technology strategy. And that's exactly the data lake and data quality a lot of MDM applications in the space are coming through. Also, according to me are trustworthy AI, or explainable AI, what we call is, I think that's also something that I see a lot of emphasis in 2023, where there is an orgy to adopt AI and ML. I think no code platforms or mobile platforms are going to emerge with time. So, while we are going to multi cloud, the security of cloud becomes extremely important. So, few things that I do feel that are of extreme importance in next few years.

Technology Skill Gaps can be addressed by Outsourcing: Sachin Gupta

Sachin Gupta, President and Chief Information and Innovation Officer, USHA International, in an exclusive interview with CXOTV said that now people accept the technology and solutions, much willingly and openly than they did before. He mentioned skill gaps can be addressed by outsourcing but knowledge transfer needs to happen at the end of each project.



Sachin Gupta

**President and Chief Information and Innovation Officer,
USHA International**

■ **You have spent more than three decades in information technology strategy, and hotels in restaurant management. So please tell us about your journey so far.**

Incredibly challenging, opportunistic, and satisfying. I have spent a lot of time in US. And then in India, it gave me a lot of global perspective on various things. I have worked in exceptionally large organizations, fortune 10, to nonprofit organizations to small ones as well. It has given me a large pan of the way things happen in terms of cultures, speed, top process, and so on so forth. I am probably one of the very few CIOs, at least in India, if not globally, that have also managed P&I. I have been on the revenue side, and on the cost side as well. I used to run consulting services as a part of Microsoft Services team and did that for five years. Also got my hands dirty very quickly in a lot of technologies. So, from hotels to it back to revenue side and then back to IT, I cannot complain. It has been a lot of learning experience a lot of fun.

■ **So, what are the current industry trends? Why it has become imperative for organizations to become digital?**

I think the digitalization as we call it started a while back. I remember, we used to do a lot of digitalization when I was in Microsoft, but it was never called digitalization. People used to call it automation or taking things and automating them. So, the focus on it started about six years ago. But what gave it a push was I think pandemic. What happened in last two years, companies,

organizations very quickly realized, also as organizations that it would be difficult to work in older models and digitalization must happen across the value chain. And that is what gave it a huge push. Now people accept the technology and solutions, much willingly and openly than they did before.

Digitalization has increased the number of data sources, according to you how enterprises can best leverage the data for improving business performance.

With digitization the sources of data have increased, the data input and the size and amount of data created has significantly increased, which has created not an issue but an opportunity. So, for a data strategy, the consolidation of data needs to happen. There needs to be appropriate data masters that are set up so that data taxonomy becomes extremely critical. So once you have the base ready, that is when you start looking at the value generation, which could be done from creating dashboards and insights into it. Accordingly, you create dashboards, then you have a journey of moving from descriptive dashboard, to predictive and then to prescriptive dashboards, then you can use technologies like AI and ML.

While planning any technology initiative, what capabilities you consider that enable

you selecting the right technology vendor and solution provider for executing your project?

I think the biggest thing a person needs to understand is to make sure that the vendor that was being evaluated for the technology, understands the technology very well or solution very well, has a solution that has been used previously, would understand our requirement or organization's requirement well, there's some longevity of the time and knows how they want to be able to implement that

always use that.

So, at the same time, you know, once we execute the project, then we need our teams to get synchronized into the system, using the IT. With the digitalization, there is a huge skill gap. So accordingly, how business executives can address this challenge to become digital champion in their organization?

must really need to make sure is that the knowledge transfer happens at the closure of the project.

What is your advice or message you would like to give to new budding CIOs?

First, they need to invest time to understand the business, of what is important to the business, what is business doing. I have made sure that I work for different verticals across my career, which gave me an opportunity to understand businesses, which were quite different. So, if you understand the business, you

“ With digitization the sources of data have increased, the data input and the size and amount of data created has significantly increased, which has created not an issue but an opportunity. So, for a data strategy, the consolidation of data needs to happen. ”

solution to provide us support. A lot of times just buying the technology does not help, you must use it as a solution. It has become a lot easier now, with a lot of solutions available as SaaS, rather than it was before where it took longer time to evaluate. But my principles say if there is a solution available, or technologies that are available, which will go over 80 percent of your requirements, then it is better to go with that rather than custom built it. So

The skill gap can be addressed in multiple ways, you can outsource the work to a company, you can bring in contractors or consultants to help you out with the certain amount of project. So, the way I have always looked at it is you must have a minimum base of employees. And then everything else can be augmented through contractors, or completely outsourcing the work or a project to, a vendor or a partner. And that really goes a long way. Also, what you

can understand the value that you can provide to the business, whether it is to enhance the revenue or lower the cost, which becomes important. So, focus on that, I would say. Second, I would say if you fail, you need to fail fast, and learn from it and move on. The third important thing would be to delegate your need to eat. There is a huge saying that if you give a fish to somebody, you feed them for a day, if you show them how to fish, you have fed them for the lifetime.

There is Huge Scope to Reduce Logistic Costs in India



Sanket Seth
Founder and MD,
Elixia Tech Solutions

In an interview Sanket Seth, Founder and MD, Elixia Tech Solutions, shared the journey and achievements of the company to Anuj Singhal, Founder & MD, Techplus Media Group. He talked about the disruption faced due to covid, changing customer expectations, automation, and technological adoption, while sharing his vision about the company along with future plans..

■ **I want to understand the idea behind Elixia Tech Solutions; how you started and the idea behind the company?**

It was back in 2010-2011, when I was working in a small tech company in the US, wherein I was focusing on artificial intelligence and building machine learning algorithms for the logistics industry. And then when I interacted with my company's CEO, I started realizing that I should be doing a lot of things here in India than being there in the US. So that made me fly back and start Elixia Tech Solutions. I started realizing that visibility is one of the key challenges for the logistics industry in India, also, the cost is about 98 to 99 percent of the actual sales

value of a product or the logistic cost. But in India, it's very high, it's about 14 to 15 percent. So, there is a huge scope to reduce logistic costs in India for any enterprise companies. So, all these things, coupled with my luck, I started Elixia Tech Solutions in 2011.

■ **How large is the disruption, you know, when you look at, which has been faced by the logistics industry over these last two years, especially during the COVID time.**

Things went for a drastic slowdown since Covid started. So, from April 2020 to June-July'20, things were not very fine for both essential and non-essential goods, which were in transit. The logistics industry also

suffered. But as soon as the second wave started, people started realizing the importance of continuous working and that made us start approaching a lot of supply chain heads to understand whether they would want to do digitalize and so on. Then the actual need for digitalization evolved in Indian and Indian subcontinent, and the disruption actually came into existence. Then we started building a lot of our pipeline.

■ **How do you see the customer expectations, you know, driving the large tech industry over the last two years?**

We cater different sets of customers in different industries. Customers of

industries like FMCG, pharma, they have gone crazy, especially with regards to requirement of track and trace more than anything else, they would want to track their shipments, monitor temperature of all the vehicles which are in transit. Along with that, they intend to receive temperature conflict alerts, they would want temperature compliance reports and so on. And that is what Elixia Tech Solutions does for a lot of FMCG and Pharma companies.

■ **Do you see the logistic players adopting the automation solution to ensure that the human resources are dedicated to the more important and**

complex tasks?

Firstly, if you consider enterprise companies, there are several people controlling the entire supply. So, the actual control tower which we actually serve to a lot of customers is split into pre transit, in transit and post transit modules. We have created interlinks of bots, helping eliminate the process of human intervention altogether. A lot of our enterprise customers do not have dispatch planners and now they rely on tools like Elixia Tech Solutions to perform this activity. So, the whole idea of soft bot, which we have introduced in the supply chain control context is to ensure that we get minimal intervention in the entire process and the system should function as an automated system as a whole.

■ How do you see the increasing technological adoption, especially in this industry in the recent years?

Firstly, what I feel is technology adoption is definitely there. But at the same time, it's very difficult to change habit. Some people are still using the manual process. So, to change the habit and adopt a technology to automate the entire flow or the process, even when there is efficiency coming in, there is a bit of resistance. We have worked hard towards ensuring that the adoption becomes faster by improvising the user experience or improve improving the actual UI of the solution. And it flies from one person to the other

through word of mouth. And that is how we grow our business as well.

■ But I think it's more like a combination of both manual and the automation process where the mission-critical works are being managed by the human beings and I think whereas, this kind of automated process really helped them in getting the work regulated on a routine basis, that's what I feel.

That is what a typical control tire does. But when we consider soft-board introduction of software, it means there is no manual intervention required at all. You just need to observe the big data analytics, catch exceptions and take necessary actions. You will be able to see all the red flags and exceptions in front of you. So, you need not actually punch in data or generate reports, all those things are automated. All you have to do is just sit back, relax, see, observe analytics, and experience. So that is the introduction of soft spots towards supply chain control and that helps us stand out. That is what our USP is.

■ How do you differentiate from the competition in offering solution for logistic and supply chain match?

We have launched LMCs controller in nine different languages. There are customers who have gone global with Elixia Tech Solutions. One of the

customers took us to Brazil and they use the entire solution in Portuguese. So that helps us stand out the domain knowledge, the actual product and soft costs. The customers who are using it, they also refer us, hence helping us to scale and expand. One good thing is that the actual goal lifetime currently is about 15 days. It never takes more than 15 days for us to go live with any customer. But such is not the case with other control dots. It takes about two to three months for them to set things up and go live with customers.

■ That's again, very interesting. Seems like I think this will definitely help you in scaling further and increasing your footprint across in different part of the world. That's what you guys must be Planning, I guess.

Yeah. So if you consider what our plan is, especially when it comes to geographic expansion, the intention of Elixia Tech Solutions is to actually scale Elixia Tech Solutions in different parts of Southeast Asia and Middle East, and then we will enter the saturated markets of Europe and the US. When it comes to product portfolio expansion, we intend to bring in rail, air and CSP. When it comes to air, aviation is something which we are focusing on that is nothing but drones. I embed rail, air and sea along with surface transport, so that it's like a multimodal thing helping us track shipment globally.

■ If you can just narrate a little bit about your business

achievements in terms of, how you guys have been expanding from revenue growth and customer acquisition perspective.

We landed up being in top five in food loss challenge Asia, which was conducted in Singapore by Rabobank, in 2018. Soon after that we were in the cohort of supply chain labs by Loomis partners, and in the cohort of Catapult, which is of Mahindra logistics, and so on. So, there are several awards and recognitions which we have bagged over the past 4-5 years. When it comes to revenue growth, we were small at the start of 2015-16 and 2016-17. Soon after, when we started conceptualizing and building supply chain control and the revenue went up like crazy in 2018-19. Last August we just raised about a million dollar in the pre series A funding round introduced by a venture capital company called RVCA.

■ Are you looking to be another unicorn in next five years?

Certainly, why five years? It would be like two years. That's what I envisage the company to be. But then it all depends on how exactly I grow. And it all depends on the actual scalability plans. If I shoot my arrows at the right spot at the right area, it'd be very easy for me to actually scale up globally and see the traction in the supply chain. And the scalable architecture which we have built at Elixia Tech Solutions, it becomes very easy for us to actually penetrate the market and solve the needs of a lot of people.

Covid Makes Traditional Retailers Realize the Benefits of AI



Shayak Mazumder
CEO & Co-Founder, Eunimart

Shayak Mazumder, CEO & Co-Founder, Eunimart, in an exclusive chat with Kalpana Singhal, Editor-in-Chief, CXO TV news shares that there was no genuine strategy around to operate businesses that is the reason why 98 percent of the businesses that were driven through the distribution channel had broken down. He said, "The difference from pre-pandemic time is that people started respecting and prioritizing technology more than ever before, making it the number two problem statement for a lot many companies."

According to Majumdar, changes happened in three areas, customer behavior, technology, and supply chain. Customer behavior has changed because brands today have started becoming omni channel. Now, this benefits the companies to have all

connected to one single database. So, all order data, inventory data and catalog data are connected.

The second change is in technology adoption. Earlier, people were like, "What am I going to do with AI?" Today, that is not being said. Even traditional retailers have understood the benefits of AI and have proposed developments in the domain.

And the last one is supply chain. Today 10-minute deliveries in tier one cities, and about one hour deliveries in tier two cities have become possible as majority of the stores became dark stores. So, the local store which was there is now connected to the central omni channel system. When an order is received, the benefit is, they know the customer location and then ship it off from the local store. That is why 10-minute delivery has become a reality now.

COVID-19 pandemic has made the traditional retailers realize the benefits of using Artificial Intelligence (AI) in their business operations. More than 80 percent of the retail companies are planning to use automation for supply chain planning. Retail companies today mainly use intelligent automation to perform different internal processes that depends on existing rich-data sets, such as demand forecasting and customer excellence.

Eunimart 360 is a SaaS technology company that extensively addresses the diverse requirements and challenges of Supply Chain Companies and Brands for omni-channel automation and management with AI across 100 countries. Their solution offering includes global network of shipping, warehousing and payment partners in every top market, end-to-end technology solution for ecommerce, complete supply chain integrated with ecommerce, and it is powered by Artificial Intelligence for decision making.

Speaking about Eunimart, Majumdar said that they have connected with 25 of the top ecommerce platforms in the world and have got 100 countries covered. They have also covered more than 30 shipping partners as well. While talking about incorporating AI, he said, "We have collected data from around the world, built artificial intelligence models that will tell you how much sales you'll get, what your price should be, optimize your image and rewrite your description automatically. For every different geography separately, we are building these AI tools which are incredibly powerful."

Eunimart's go-to-market strategy has been to target the existing six thousand merchants in India who have a decent amount of GMV. They strategize through three channels: social and content

marketing, account-based marketing, and peer recommendation.

Eunimart uses AI in their business to drive revenue for the company. The three main ways where the impact of AI is felt are operations, supply chain and marketing. This enables the company to identify the category, identify their cohort of competition, optimizing marketing messages and to localize different products and choose shipping partners aligning to its market suitability internationally.

Majumdar, upon asking about Eunimart's recent achievements, he mentioned the expansion in the Middle East to be a huge success in 2021, following which they expanded in the US as well. He said, "Our revenues went up 3x. Our GMP went up from about \$5 million to about \$17 million by the end of the year."

In the next 12 to 18 months, as mentioned by Majumdar, the primary focus of Eunimart will be to collaborate with target companies so that they can use their platform to reach millions of customers. Following this, hiring good and skillful people would be the next priority where the employees would be self-starters and micromanaging would not require. And the third priority is going to be the product strategy where AI would be the main focus. However, the biggest objective would be revenue generation and building more partnerships.

Aurigeneto Relook its Cloud-First Strategy from IT Perspective

Tushar Zade, CIO & CDO, Aurigene Pharmaceutical Services, discloses to have a relook on the existing cloud-first model from IT perspective. He adds that edge computing will be one of the topmost priorities for Aurigene



Tushar Zade
CIO & CDO, Aurigene Pharmaceutical Services

Please talk about few major developments in your business processes/model which enabled improvement in business in 2021.

The new technologies today have made a lot of changes in the way we do operations, also how we hunt for new customers and retain them successfully as well. So, in the current year, the overall growth has been significant. There are companies who are now really looking at their whole digital journey, because the more digital you're becoming your businesses are getting better and better every day. Yet, you are generating a lot of data around you. Then again, there's a lot of debate about which data should compromise and which data can go on cloud and all those things will come into play. But at the end of the day, the new business today has

actually changed from core business to the digital business. That is a clear-cut change what we are seeing in the industry.

What are your technology and digital transformation priorities for 2022?

There are good data models which you can get. Firstly, I think overall, you need to also look at the word cloud-first strategy. We need to relook at it from the IT perspective. Again, we need to relook at what data sits back onto our device and what you can put it on the cloud. AI/ML is a new tech priority for most of the CIOs across the globe. With the data of course, we are generating a lot of actionable insights. Whatever you have generated in the past, systems will automatically take decisions, humans will only be there to manage the exceptions. That is the future priority for most of the CIOs today.

What is your outlook for your industry over the next 2-3 years?

One is getting our infrastructure as cloud native as possible. Given the very fact that maintaining a data center and full cloud to maximize that is quite difficult. That is something which we all are working for new technology like edge computing, wherein all these apps are coming into play. IoT for that matter wherein we are actually monitoring a patient right from his home to the ambulance to the clinic of a doctor to hospital to ICU, we are monitoring the whole journey of a class of a vocation is beyond that from a new tech perspective. We are doing a lot of AI/ML DL kind of technologies and even RPA already spoke about. There are few used cases of a digital twin as well in some of the industries which can also be helpful for many other industries which we have who have not yet thought about something like a digital tween. Yeah, so I think these are the few priorities for for the next two to three years, and I think most of us are working in the same direction.

Cloud, Data Security will be Next Big Steps: Dipu KV

Dipu KV, President, Head Operations and Customer Service, Bajaj Allianz General Insurance, denotes cloud and data security as the next big priority in 2022



Dipu KV, President, Head Operations and Customer Service, Bajaj Allianz General Insurance

Please talk about the highlights of your achievements in terms of business growth, customer acquisitions, and new innovations in 2021

2021 has been a remarkable year for us. We all have seen how COVID-19 has come and gone in various waves. And from our perspective, we have kept our head above the water, we were prepared. Therefore, from our digital transformation and customer servicing perspective, we were able to ensure uninterrupted servicing as far as customers were concerned. And this is validated by the fact that we enjoy the highest NPS in the marketplace, which is conducted by a third-party research firm. Also, if we look at our grievance ratios, in terms of the way the regulator taps them, we enjoy one of the lowest grievance ratios, in the industry, in terms of customer acquisition. And in our market share, we continue to be one of the leading lights in the industry. And today thanks to customer acquisition,

our large and established presence, and our customer experience, which is reflected in our caringly your brand, we are a sort of a company in GI space.

What are the top trends that will shape your industry in 2022?

When you look at the industry right now, you see that there has been a spike in people's interest and in various forms of insurance. Clearly, during the pandemic, people did express their interest in buying and health insurance. It is a clear area of focus for the industry at large, and if you look at it from a customer experience perspective because we all practice social distance, so the entire user experiences become touch lists. For example, today, when our customers walk into branches, we deploy QR codes, so they must just scan them and get their services fulfilled. Similarly, we have been able to deploy our entire range of digital servicing assets, which continue to ensure uninterrupted servicing. So, clearly, from a customer experience perspective, we see tacklers and UI UX. Also, from an overall industry perspective, we see a spike in various forms of insurance, and as I mentioned, definitely with a specific focus on health.

What are your technology and digital transformation priorities for 2022?

So, we have already embarked on a large transformation journey in terms of transforming a core and moving to the cloud. Clearly, data security continues to be in an evergreen focus area as the customer footprint is increasingly becoming digital. And as we know, we look at amplifying our reach across the entire length and breadth of the country, multilingual and digital services clearly become an area of focus.

ORRA to Focus on Omni Channel and Data Management

Sandiip Kothaari, Senior General Manager- IT, ORRA Fine Jewelry, says the priority for 2022 is on Omni Channel experience and data management. They aim to penetrate in tier 2 cities as well.



Sandiip Kothaari
Senior General Manager- IT, ORRA Fine Jewelry

Please talk about the highlights of your achievements in terms of business growth, customer acquisitions and new innovations in 2021

So, what we were able to achieve in 2021 for customization due to this on and off lockdown, we had used technology to reach out to our customers. We are into luxury retail, and we are into high value items. So, what we were doing, we were doing first the video call, which facility was available on our website, and based on that website, they used to book the appointment and then our customer representatives used to visit our customers along with the items what they have selected. They used to go there and did the shoots, so that if the customer wants to refer again, then they can see that shoot and then they can do the buying decisions. So, there we had used technology in that way so that we can leverage our technology for customer acquisition and through which we were very successful. And

the other highlight of 2021 was that during this lockdown period using technology, we were able to open our new stores as well.

What are your technology and digital transformation priorities for 2022?

So, first and foremost, we want the omni channel experience to be given to the customers. So, you know there is a 360-degree experience whether they shop online, whether they shop offline or through social media. So, we want that customer experience to be in such a way that wherever they go they get similar experience. Now our fine jewelry is also getting into the franchisee model as well. And for our backend we are planning high availability of our data, our historical data working progress data is already available. So, these are our two topmost priorities for 2022.

What are the top trends that will shape your industry in 2022?

In our retail industry, the biggest trend will be Augmented Reality (AR). Now when we say this technology will change the customer experience wherein, they themselves will be able to see our jewelry wearing on their own, wherein they will be able to see themselves just like in a mirror and can match those with the color of their clothes accordingly. Based on that they can customize the jewelry what they want, because we predominantly specialize into bridal jewelry. So, AR is one thing which will be a game changer for our industry. The second I will say of course that industry is already there, which is the artificial intelligence that will be again a game changer at a different level altogether. Wherein you know we can do the demand forecasting based on AI and not just on the analytics part.

What is your outlook for your industry over the next 2-3 years?

So, in terms of business, I'm sure we will continue to grow into cheated two digits. When we say two digit it depends upon the range. Of course, it is unquoted, but it is close to around 20 to 30 percent growth what we are seeing at the top line and what we are looking at is also to spread across more geographic locations within the country. Currently we are into tier one, tier two, maybe we want to penetrate more into tier two cities.

Health Assure's Multi-Functionality App to Cover 1,400 Locations

Health Assure's multi-functionality provides an array of features including real time instantaneous tracking, round the clock monitoring, medical center discovery and real time data analytics for all stakeholders within the ecosystem. It will be integrated with more than 7,500 Medical establishments in more than 1,400 cities across India. Ninad Raje, Director & CIO, Health Assure believes that the Healthcare industry will truly be the beacon for evolution, growth, and further existential sustenance.



Ninad Raje
Director & CIO, Health Assure

Please talk about the highlights of your achievements in terms of business growth, customer acquisitions and new innovations in 2021

The organization deals in the primary health care ecosystem that caters to preventive segment and health and wellness for communities. Consider a scenario wherein someone needs day to day care, including home care, doctors, pharmacies, medicines, health checkups, care management services, you name it, and we should be able to provide it to you anywhere in India, even in the remotest areas and cities and towns of India. In fact, we provide our services in more than 1400 cities in India, which covers the entire length and breadth of the country. We partner with more than around 4500 medical centers and 7500 other establishments related to medicine. Our services are gold standard within the entire healthcare ecosystem. The organization currently is growing at a tremendous pace of almost 20x year on year for the past decade or so, and catering to hundreds and thousands of customers generating an astronomical millions of transactions daily, that is really humongous.

Please talk about few major developments in your business

processes/model which enabled improvement in business in 2021.

Well, with the COVID pandemic, forcing a large number of staff to work from home, customer service and customer experience, leaders, in fact, must ensure that the teams remain engaged, healthy, effective, and productive in their new working environment. We brought about and implemented several changes within the entire customer service ecosystem. Primarily, we obtained and deployed security-sensitive technology solutions for work at home options. We also adapted to e-learning and remote learning options, tools and technology for effective ongoing support and training. In fact, our model revolves around providing timely and accurate services to our customers who need off medical attention. Essentially for our medical patients, we started with bringing in much empathy, even better compassion. In every conversation that we had with the customers, we were very flexible and creative in delivering our services, email reminders, and while packaging online orders and so on and so forth. We made it personal remembering the fact that emotions are running away extremely high. And we need to make them feel that they are not a number, but a person who may be scared, even stressed, anxious. So, we connected with them on an emotional level, rather, on a business level. We taught ourselves to exceed expectations, go the extra mile, since we believed that it is the trivial things that make an enormous difference. So, this is the kind of Change Management program that we brought about. And it really resulted and benefited not only us, but the customers at large as well.

What are your technology and digital transformation priorities for 2022?

We are early adopters of digital transformation, and our digital footprint is quite widespread. In fact, we have started implementing and executing a market-changing digital innovation and

transformation platform. And this is a very game changing platform. This includes a multiple mobility app with real time instantaneous tracking, and round the clock monitoring. It is kind of a homogeneous super sort of app. This also includes medical center discovery and real time data analytics for all stakeholders within the ecosystem. In India itself, this platform will be integrated with more than 7500 Medical establishments in more than 1400 cities. And this will be used by millions and millions of doctors, customers, and any other stakeholders as well. Now, technologies that will be used in this digital innovation in coming years, in fact this year itself, will be what we are talking about in specialized medical algorithms. We are currently in the process of developing those. There is sophisticated AI, which is going to be implemented. Then there is going to be AWS cloud. There are going to be new edge technologies like IOT and RPA. And then there will be a whole line sort of a module which gives us the BI and analytics over a data lake sort of concept.

What is your outlook for your industry over the next 2-3 years?

With the rapid evolution in healthcare technology, this industry is absolutely poised for tremendously sturdy growth. The Healthcare industry will truly be the beacon for evolution, growth, and further existential sustenance. We are going to be talking about existing and further sustenance, even beyond the evolution and growth as it will keep on happening. Because even if we talk about AI, RPA technology, AI ops, ML ops, and so on and so forth, it is going to be really disrupting the entire healthcare ecosystem. The healthcare is in the center of this entire evolution now. So that is what the outlook is for sure. Extremely bullish. And I am very sure and confident that healthcare is going to be reaching its rightful zenith of all the industries in the upcoming years.

Customer Digital Experience to Drive Tech Priorities for Exide Life Insurance

Ayan De, CTO, Exide Life Insurance lists out adopting omni-channel, faster speed and customer education as the topmost technological and digital transformation priorities for 2022



Ayan De
CTO, Exide Life Insurance

Please talk about the highlights of your achievements in terms of business growth, customer acquisitions and new innovations in 2021.

So, it was a bad start. But as the year progressed, it became a better and better year. We are going to have a bumper year. In fact, in the entire history of this organization, probably we are going to cross all the milestones and all the targets that we had set up for ourselves at the beginning of the year. And this is the first time in the history of this organization that all milestones would be covered in this year itself. A lot of things have changed in the way insurance is being sold in the market now. And with the advent of a lot of digital uptakes by the customers and by the industry in totality, we also had to reinvent our own models. Be it the new acquisition of customers, or the actual sales process, or even, let us say, the customer servicing part of it, our experience over the last 20 years has been that we found that the customer servicing was hardly 30 percent on a self-service model.

So, all companies have been having these customer portals and self-service portals and mobile applications. But our experience has been that it never crossed 30 percent. But this is one year

when we have touched 70 percent. So, most of our customer servicing and acquisition is now digital, while we offer every service on the portals and everything can be done by the customer sitting in the safety and security and the convenience of their house. But it is the customer who has now turned around and adopted the new digital process.

Please talk about a few major developments in your business processes/model which enabled improvement in business in 2021?

So, there were a couple of things that we did. One was that we all understand that life insurance typically is an incredibly involved process. It is a major financial decision which an individual takes. And it is also a major financial commitment that an individual makes for the next 15 or 20 years. And there are a lot of paperwork that get involved and a lot of validations that happen in the entire process of selection of the right life. Then the risk assessment itself is a major process in the entire journey of sales.

On top of that, most of the insurance products that we see in the market are fairly complex in nature. Now, once the pandemic hit, it became almost impossible for our agents to step out on the street, and unmeet the customer. So, this is when we decided that this entire model must be completely turned around on its head. And as we progress through this, the entire sales process, including the entire documentation, the validations, even checks, whether the customer is in good health or not have to be remodeled. Some of the basic risk assessment, the basic financial assessment of the customer, all of these were packaged together on a digital platform and that was made available on the agent's mobile. Thanks to the overall ecosystem, which has been built very carefully by the government in the last few years. You can name it, for example, the UI, online pan verifications, Aadhaar and your payment gateways. All these

ecosystem pieces came together and helped us create this entire journey which was completely digital.

What are your technology and digital transformation priorities for 2022?

2022 is going to be the year of consolidation as I feel there would be two-three areas of definite focus and interest for the industry. And of course, as the technology ecosystem also matures, there are a couple of areas that will have sustained interest. So, one of them is definitely the digital platform and the digital uptake that we just spoke about. The second question would be do you have the intelligence; do you have the tools and the mechanisms to figure out or the structured data out of structured knowledge out of these this data that are sitting in your walls or not. So that is one area that is definitely going to evolve, and it has to be AI bag. So, there would be a lot of interest in different areas where bots can be utilized. For example, we are already using chatbots which is very popular now, but chatbots typically, in most cases are quite and basic in nature. Now, this must evolve further with a lot of artificial intelligence.

On top of that, we will see more different types of bots coming in. Omni channel is the way to go for most of the businesses in our industry and when the customers connect with you, they should get a uniform experience. Now, you will have to leave the choice of connection to the customer. Speed is going to be as they say king, and this is going to be a major differentiator across the industry. So, you will need to have a plan and a strategy to come up for to speed architecture. Also, customers are needed to be educated on insurance. And that is one area where we are seeing sustained interest over the last 18 months or so ever since the pandemic struck. And business is definitely going to put more focus on different channels of customer education.



Future of Healthcare: Opportunities for Channel Partners

The accelerated digital transformation during the past two years has led to a truly hybrid world and healthcare technology (health-tech) vertical is no exception seeing exponential growth, spurred by the growing trends of online patient consultation, telemedicine, e-pharmacies, home healthcare, healthcare IT and analytics, digital management of chronic diseases as well as awareness around fitness and wellness. A plethora of start-ups have mushroomed in the vertical, offering consumers the power of technology to monitor their health from the comfort of their homes.

A report by London & Partners and Dealroom.com points out that India has attracted VC funding worth \$4.4 billion since 2016 in the health-tech sector. There has been a lot of action recently in the M&A space too with several big acquisitions and massive investments.

As cutting-edge technologies combine and accelerate, healthcare is set to revolutionize. The next decade will witness new models due to influence of demographic changes which will dramatically impact services and its delivery. The millennials and younger generation would have greater influence on service deliveries as per their preferences. Stakeholders like payers, insurers and government will have significant impact on healthcare wherein they will push for lower cost of care coupled with greater packaging of services. As the cost of care escalates, these pressures will also dictate the way in which services are delivered.

However, we must not just focus on digitizing the processes but to use the technology to make the existing systems more efficient and reduce the workload on people. This way we can also address the scarcity of resources. Perhaps one of the most overtly futuristic advances in technology is robotic assistants, offering support with a variety of procedures and day-to-day activities, particularly in places such as elder care homes. From lifting heavy objects to moving residents, these machines can provide many services and are likely to grow more common as they provide a reliable, cost effective alternative to using extensively trained professionals.

Further, frontier technologies like AI are helping analyse CT scans for Covid patients to detect pneumonia. In addition, digital tools are helping diagnostic labs to perform an immense number of RTPCR tests, upload patient reports electronically, and notify health authorities and ICMR for necessary tracking. Apart from this, AI is helping in keeping healthcare professionals up-to-date with thousands of journals and advances in treatment, and provide recommendations to doctors based on all the information available. Several AI applications are in various stages of development and they have the potential to streamline many areas, from drug development to patient data mining.

The healthcare market, particularly hospitals, physicians and dental practices, represents an explosive sales and service opportunity for channel partners who are using digital technology to improve patient care, reduce costs and optimize the business.

Moving forward, as technology plays an important role in modern medicine, channel partners can provide the platform for improvements and breakthroughs in a number of areas such as robotics, wearable fitness and lifestyle monitoring devices or apps, and information sharing and health informatics through cloud.

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