

CIO&LEADER

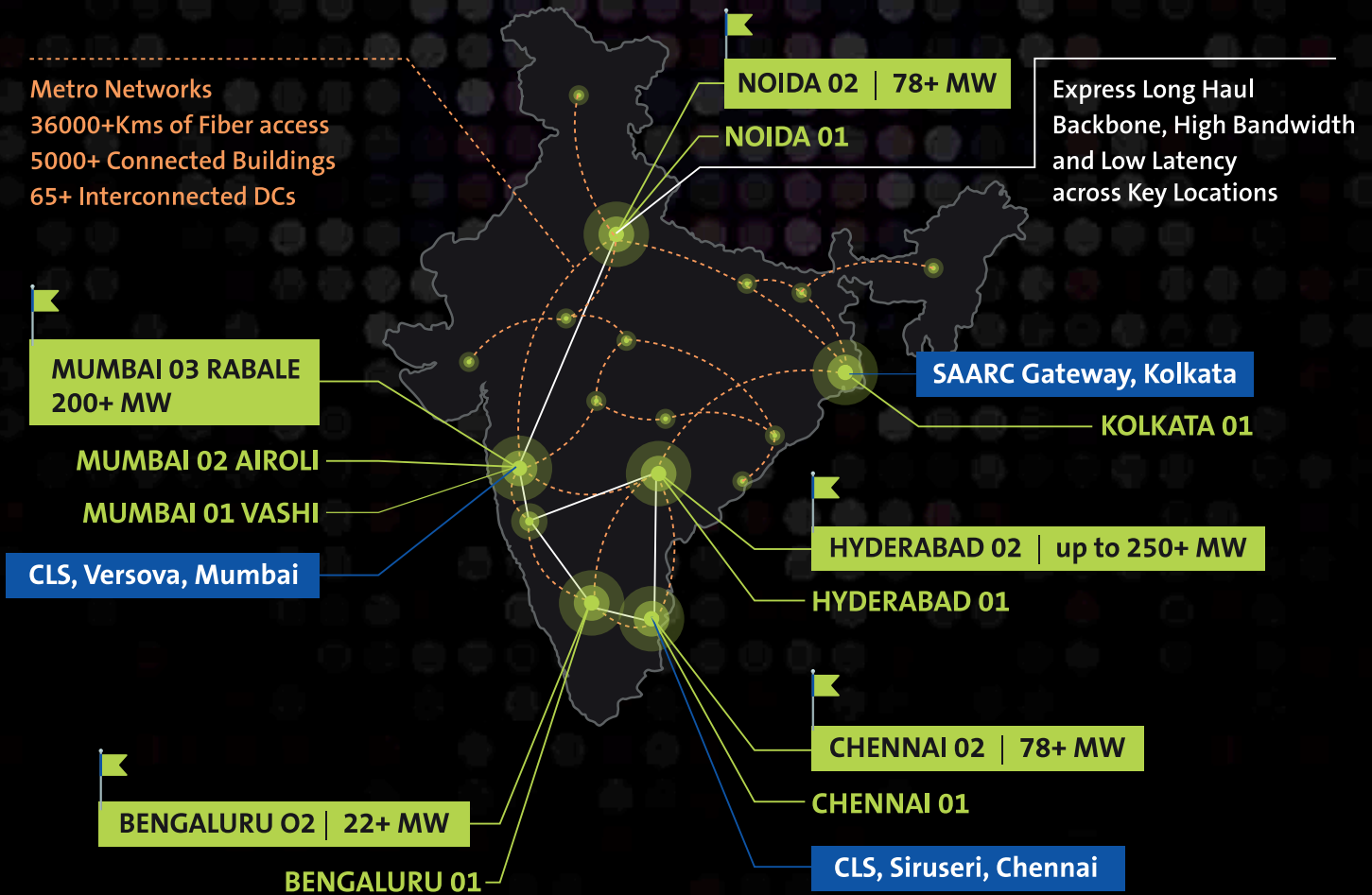
TRACK TECHNOLOGY • BUILD BUSINESS • SHAPE SELF



The Fifth Edition of the Samman announced during the 24th Annual CIO&Leader Conference, on 3rd - 5th August 2023, honoured eight veteran Indian CIOs



Empowering India's Digital Backbone



Sify has built 11 data centers with 100+ MW of IT power and will expand to 350+ MW by 2025. Committed to sustainability, Sify has already commissioned 200+ MW of renewable energy. We continue to invest in AI/ML led automation, green initiatives, RAS-based design infrastructure, interconnected ecosystems, advanced security and hybrid/multi-cloud solutions to enhance India's digital infrastructure and strengthen the nation's digital backbone.

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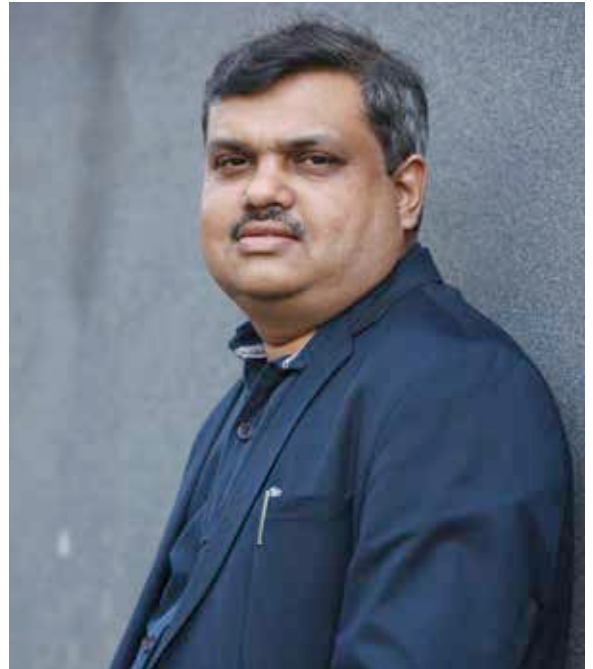


Industry Apps
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BOOKINGS
OPEN

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The importance of Samman

The CIO&LEADER Samman has completed five years of its journey. Instituted on the occasion of the 20th anniversary of our conference, it was our founder director, Late Kanak Ghosh's idea to do something for the community. Two points we all agreed on. One, it cannot be another set of awards. Two, it should not just be for the community, but we would like to stick to our time-honored tradition of 'by the community.'

That it has been so well received is a testimony not so much to our idea but to the time, energy, and thought given by our jury members over the years, who have all been CIOs at one point in time.

We truly believe in the verse from Gita that has been the introductory line in the Samman. The verse from Karma Yoga says that the way great people behave, others imitate. What they establish, others follow. We have seen that happening, literally.

While the NEXT100 awards recognize the potential CIO, the Samman celebrates their achievements and contributions, both to their professional area as well as towards the community.

In that sense, the two represent excellence at both ends of the CIO professional life spectrum. We have CIOs who have received both and have been jury members for both. ■

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Top 9 Measures to Future-Proof Your Data Centre Infrastructure

In the digital age, industries are evolving quickly, and the cornerstone of every organization's technological endeavours remains the data centre. As enterprises dive deeper into cloud technology, digital services, Artificial Intelligence (AI), and the Internet of Things (IoT), there's an escalating demand for data centres to be agile, adaptive, and efficient. These demands aren't just about the present; they're about crafting a vision for the future and ensuring businesses remain ahead of the curve.

Here's a comprehensive guide on the steps CIO/CTOs can take to ensure their data centre infrastructure remains resilient and relevant in the years to come:

1 Hybrid Infrastructure

The dynamics of modern business require both third-party colocation and cloud infrastructure. A hybrid approach is not merely a trend but a necessity. It allows businesses to evolve according to their needs without mandating extensive infrastructural changes.

2 Modular Design

Just as businesses evolve, so should their data centres. A modular layout ensures that its data centre can be easily augmented or modified as a company expands, providing scalability without the need for all-encompassing redesigns.

3 Energy Efficiency

Beyond corporate responsibility and the global call for sustainable practices, energy efficiency directly correlates with reduced operational expenses. Leveraging energy-efficient hardware, alongside innovative cooling techniques, helps the planet and the bottom line. Traditional data centres frequently miss out on energy monitoring features. Tech leaders need to evaluate the energy performance of these data centres and determine which solutions offer long-term cost benefits.

4 Security Focus

In the ever-evolving landscape of cyber threats, it is imperative to prioritize security when making infrastructure decisions. To safeguard your digital assets, implementing a multi-faceted security strategy is essential. This strategy encompasses a spectrum of measures, ranging from firewalls and intrusion detection systems to encryption and routine security assessments. Furthermore, equipping your staff with proper security training and best practices is crucial for risk mitigation.

Within data centre operations, data security and resiliency hold paramount importance. To ensure the safety and integrity of your digital infrastructure, it is advisable to seek out data centres that consistently invest in state-of-the-art physical security systems and maintain stringent access controls. In the digital space, robust defenses include network firewalls, intrusion detection systems, and advanced data encryption methods. Comprehensive disaster recovery procedures should also be in place, such as redundant systems and regular data backups.

Regularly conducting vulnerability assessments and audits is a proactive approach that enables businesses to identify and address potential issues promptly. By adopting these comprehensive security measures, you can achieve the highest level of data security, which is of utmost importance in today's technology landscape.

5 Embracing Edge Computing

In our connected world, where billions of devices constantly communicate, edge computing plays a pivotal role. Processing data closer to the source drastically curtails latency and optimizes bandwidth, ensuring real-time and effective data handling.

6 Software-Defined Flexibility

Software-Defined Infrastructure (SDI) is redefining how businesses perceive their data centres. By segregating hardware from software, SDI facilitates swift adaptability to market changes without an overwhelming dependence on hardware modifications.

7 Disaster Preparedness

The unpredictable nature of disasters, be it a cyber onslaught or a natural calamity, necessitates a holistic disaster management strategy. This encompasses regular data backups, robust recovery protocols, and rehearsed response strategies to minimize downtime and data loss.

8 Skills and Training

No data centre can outperform its operators. The IT team must have the latest knowledge and expertise as the technological landscape transforms. Proactive training and skill augmentation are quintessential to harnessing the full potential of new technical solutions.

9 Staying Updated

Complacency is the antithesis of progress. It's incumbent upon CIO/CTOs to remain abreast of emerging technological paradigms and shifts that can mould the future of data centre operations, ensuring that their strategies are not just relevant but pioneering.

Conclusion

CapitaLand Data Centre a global industry leader, provides CIO/CTOs with a comprehensive suite of solutions to future-proof data centre infrastructure. With a track record of excellence, they offer expert guidance, cutting-edge technology, and scalable, modular designs. Their strategic locations reduce data processing latency, while a commitment to sustainability aligns with global environmental goals. Robust security measures protect critical data, and ongoing support ensures IT teams stay updated, maximizing the potential of data centre solutions.

In the ever-evolving landscape of technology, CIOs need a partner who not only understands their challenges but also has the capabilities to address them comprehensively. CapitaLand Data Centres' value proposition and USPs make them the ideal partner for CIOs looking to future-proof their data centre infrastructure. Together, IT decision-makers and CapitaLand Data Centres can forge a path to technological excellence, innovation, and long-term success. With CapitaLand by their side, CIO/CTOs can confidently navigate the digital future. ■

To learn more and initiate discussions,
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NEWS & VIEWS

G20



भारत 2023 INDIA

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ONE EARTH . ONE FAMILY . ONE FUTURE

From UPI To DPI: India's Emergence As A Global Digital Influencer

G20 summit to be a testbed for new global economic growth

By Shyamanuja Das | shyamanuja.das@9dot9.in

G

G20 presidency has provided India with just the right opportunity to showcase its success in driving economic growth through digitalization. But it is doing that responsibly, taking an inclusive approach that will benefit the world at large. The Negroponte would probably call it the geopolitical switch. Those who were followers in the technology world are now leading the new technology framework development in the new world order, and those who were too used to dictate are all ears.

We, of course, are talking of the digital public infrastructure (DPI) initiative that the G20 has taken up under India's leadership, fully acknowledging India's role in shaping it up. "Under the Indian Presidency's initiative, we recognize that digital public infrastructure, hereinafter referred to as DPI, is described as a set of shared digital systems that should be secure and interoperable and can be built on open standards and specifications to deliver and provide equitable access to public and/or private services at societal scale and are governed by applicable legal frameworks and enabling rules to drive development, inclusion, innovation, trust, and competition and respect human rights and fundamental freedoms," said the outcome document of the G20 Digital Economy Ministers meeting at Bengaluru, held in August this year, quite unequivocally.

The Bengaluru meeting also agreed on a G20 Framework for Systems of Digital Public Infrastructure. The work for this, however, didn't happen in one meeting. In the first meeting of



the Digital Economy Working Group of the G20, held in Lucknow in February this year, India took the unusual step of inviting a larger group of delegates beyond the G20 members. India invited delegates from countries such as Bangladesh, Egypt, Mauritius, Netherlands, Nigeria, Oman, Singapore, Spain, and UAE, as well as international organizations like ITU, UNDP, UNESCO, OECD, and the World Bank. The idea was not just to get more comprehensive and more divergent views but also to make it more inclusive and thus create a sense of shared ownership because it believes the siloed block approach will not work anymore. India's belief comes from its long experience of being on the other side and a thorough understanding of the grievances and aspirations of the Global South.

India's credentials for leading the next significant change in the Digital Revolution come not only from its emergence as a big economy but also from a successful track record in driving economic change and financial inclusion through digitalization at a

scale and diversity few countries can match. UPI, which is now available in about a dozen countries, is the best example. It is arguably the world's most prominent case study of financial inclusion through digitalization.

For a long, few economies dictated technology standard-making. In the good old telecom world, ITU still had some representation through inter-governmental collaboration. The modern IT world has completely been dictated by the big economies who led both in terms of their economic prowess and leadership. While China was the first country to challenge that supremacy, it willingly joined the same game that it played, building a market leadership for itself.

By taking an inclusive and collaborative path, India has shown a rare courage of conviction. In the next few months, digital public infrastructure will see significant investments. India has four distinct advantages of being the testbed for the world - its early success, its skilled manpower, its diverse market, and its strong regulations. ■



A Glimpse Into The Future Of AI

AI Scientist Prof. Toby Walsh highlights that AI is on the verge of becoming a trusted conversational companion, whether in the workplace or personal space

By Nisha Sharma | nisha.sharma@9dot9.in

I **mag**ine a future where your gadgets understand you like a close friend. Professor Toby Walsh, Chief Scientist at the University of New South Wales AI Institute, predicts that this is the path AI is head-

ing. In a candid conversation with CIO&Leader at their Annual Conference, he shared how AI is not merely a tool but the driving force that will elevate our technology into something extraordinary. It's not

just about cutting-edge tech; it's poised to boost the economy by a remarkable 15-20%!

One of the significant challenges for generative AI is its struggle to replicate the human touch or empathy. This essence truly differentiates human-to-human interactions from machine-to-human engagements. While this challenge remains, it is also seen as an untapped potential.

Prof. Walsh, who is known for his work in areas such as automated reasoning, AI ethics, multi-agent systems, and AI for social good, envisions a future where AI models will have cognitive empathy, offering rich, continuous learning interactions similar to human experiences.

This transformation will not only enhance conversational intelligence but also enable AI and Generative AI to comprehend us similarly to a human friend, not only solving complex problems but understanding us at a personal level.

Making tech accessible to all

Professor Walsh emphasized that AI is well on its way to becoming our primary mode of interaction with technology, giving it an almost 'personality.' Drawing a parallel between this AI democratization and the rapid rise of instant conversational search technologies like ChatGPT, he emphasized how they enable individuals and organizations to shape the direction of tech. Looking beyond today's AI models, the author of *2062: The World that AI Made* likened this revolution to the era when personal computers and innovative apps like VisiCalc emerged. He encouraged the industry to think beyond the obvious and explore new, amazing applications for AI that we've yet to uncover.

Data makes all the difference

Amidst this AI evolution, data emerged as the lifeblood of AI. It's what makes AI models successful. Large news organizations like Bloomberg and Reuters thrive on it, leveraging data to develop incredibly specialized AI models, showcasing the critical role of data in driving AI technologies.

A balancing act for a better tomorrow

While AI holds immense potential, Professor Walsh cautioned against overestimating its current capabilities. He highlighted the need for continuous research to ensure AI truly understands and reasons like a human. Responsible AI use and addressing biases in AI models are critical challenges that we must address for a brighter AI-powered future.

Key takeaways from our exclusive interaction

India's AI dominance: Data-driven potential

India stands poised at the AI frontier. With its unparalleled population offering a treasure trove of data, the nation could spearhead AI's next revolution. But it's not just about quantity; it's about quality. Renowned universities, coupled with AI-savvy leadership, set the stage for India's AI ascendancy.

Predictable vs. Unforeseen impacts

AI's trajectory is rife with contradictions. On one hand, we see the obvious: the dawn of self-driving cars heralds a driverless future.

Yet, the ripples are unpredictable. Could autonomous vehicles redefine urban living or render parking lots obsolete? And with AI tools like ChatGPT scaling to a billion users in record time, the pace of change is both exhilarating and daunting.

Ethics in AI

AI is a tool, and like any tool, it can build or destroy. The onus is on us: Will we champion in technology or lose our way?

Machines vs. Man: The future of work

The AI workforce debate is heating up. While machines boast precision, humans offer emotion, creativity, and adaptability. Consider the coffee conundrum: Machines might brew the perfect cup, but would they remember how you like it or share a morning joke? It seems, at least for now, the human touch remains irreplaceable.

Professor Walsh urged the industry to collectively steer AI towards a brighter future that benefits us all. He stressed the importance of embracing the evolving AI landscape with wisdom, foresight, and a strong ethical compass. Enterprise and their leaders are worried about keeping their data safe when they use AI tools like Bard and ChatGPT. They need to plan and test really well to use AI the right way. The potential of AI is undoubtedly promising, provided we leverage this technological revolution in the right direction.

To overcome these challenges, business and technology leaders must construct an AI roadmap to understand how this technology will help their unique business goals. ■



Data Protection Officer: The Hottest New Role In India, Inc.

The new Digital Personal Data Protection Act mandates a Data Protection Officer for every organization handling the personal data of individuals. As it emerges as a hot role, there are more questions than answers. Our research reveals that the India DPOverse is expected to have its own unique character

By Shyamanuja Das | shyamanuja.das@9dot9.in



The Digital Personal Data Protection 2023 Act mandates that every Data Fiduciary (entity handling personal data, as defined by the Act) must appoint a Data Protection Officer who shall represent the Data Fiduciary under the provisions of this Act and be based in India. The Data Protection Officer shall be an individual responsible to the Board of Directors or similar governing body of the Data Fiduciary.

We did some research to understand the early trends. That can give a glimpse into the DPOverse as it stands today. They should be taken for what they are: very early trends and can change.

So, here they are.

Not too many organizations have appointed DPOs yet. We kept our research confined to large and medium commercial organizations. There, too, not many companies that would be required to appoint DPOs have not appointed them. This is a little surprising, considering the personal data protection legislation has been in the process of making for at least five years, even though the bill was passed only recently.

Eight out of ten companies having a designated DPO belong to one of these three categories. For our research, we studied DPO positions of 50 companies. Thirty-nine of them fall into one of these three categories. Interestingly, their prime responsibilities are slightly different.

BFSI: By far, the biggest group to have designated DPOs are the banking, financial services, and insurance companies doing business in India. Of the 50 companies we researched,

as many as 16 are from BFSI. They include top Indian banks such as State Bank of India, ICICI Bank, and HDFC Bank, as well as foreign banks such as Deutsche Bank and HSBC. India's largest insurer, Life Insurance Corporation (LIC), has appointed its DPO. All these DPOs' responsibilities include protecting the personal data of Indian citizens. Some Indian financial services companies operating in other geographies have their separate DPOs based in those geographies. For our research, we have not considered them. Other major BFSI companies having a designated DPO include Edelweiss Financial Services, SBI Life Insurance, and National Payment Corporation of India.

IT/ITES: Most IT/BPO companies have had Data Privacy / Protection Officers for some time. These are mostly export-oriented companies, and their DPOs are primarily responsible for protecting the personal data they deal with on behalf of their overseas clients to help the latter comply with the data protection regulations of those geographies where they do business, such as GDPR. In that sense, they have little to do with the DPDP Act unless they do business in India, too, like TCS and Infosys. IT/ITES companies account for India's second-largest chunk of DPOs.

Regional DPOs of MNCs: Unlike the first two categories, this is not mutually exclusive with the other two. There are a few BFSI and IT/ITES companies, too. But beyond these two sectors, there are quite a few other types of companies. Interestingly, many of these DPOs have Asia/APAC Responsibilities, including that of India. We have considered them for the purpose of our research if they are based in India. Some examples include DHL, BNP Paribas, and Whirlpool Corporation.

The sectors that follow BFSI and IT/ITES in having designated DPOs are Pharmaceutical (Merck, Sanofi, Dr. Reddy's), e-commerce (Flipkart, Tata

Digital, OLX Autos), and Automobiles (Maruti Suzuki, Renault Group, Spark Minda).

Tech rules DPOverse almost: In sharp contrast to the trends in the US and Europe, where lawyers dominate senior data privacy roles, in India, the early trends show information security professionals having an edge over others in being appointed as DPOs. Our data shows that most DPOs today have a technology background. In our sample of 50 large and medium companies, as many as 20 DPOs come with a technology background, while 13 come with a legal background. Nine DPOs are professionals who have typically handled risk & compliance functions. The rest are from core vertical-specific functions or have come from consulting.

Interestingly, there are seven DPOs who are currently the company's CISO as well. The trend is not confined to any specific industry or companies of any particular size. Examples include:

- IT companies like Birlasoft, Zensar, and Infogain;
- manufacturers like JK Lakshmi Cements;
- India's largest insurer, Life Insurance Corporation.

Women aplenty: One of the trends to notice in the emerging DPOverse is that there are comparatively more women as DPOs than, say, CIOs and CISOs. As many as 13 of the 50 DPOs we studied are women. That is 26 percent. The corresponding figure for CIOs and CISOs is hardly 3 to 4 percent.

The significant finding is that women as DPOs aren't restricted to any one industry.

Endnote

While this research was done to understand the trends in the emerging DPOverse, it must be clarified that these are early trends. Considering that many companies are yet to appoint DPOs, these may change. But as they say, morning shows the day. ■

COLUMN

By Kanishk Gaur



Chief AI Officer: Guiding The Ethical And Strategic Frontiers Of Tomorrow's Business



As businesses embrace change, technology lies at the forefront of every industry today. It becomes quite challenging to ignore the fast growth of artificial intelligence and its impact on its top and bottom lines. Generative AI is also transforming how enterprises operate, reshaping industries' very DNA. No sector will be spared from the impact of AI.

It is no longer a question of whether organizations should adopt AI; the real question is how to do it effectively and ethically. Enter the Chief AI Officer (CAIO) - a role that is not just a corporate trend but a strategic necessity for enterprises with an eye on the future.

The rationale behind a Chief AI Officer

- **Strategic AI integration** - While organizations increasingly incorporate AI into their operational frameworks, a strategic, top-down approach is often needed. A CAIO serves as the linchpin, ensuring that AI is not merely an auxiliary tool but an integral part of the organizational blueprint. They bridge the boardroom and the data science lab, translating business objectives into AI-driven strategies.
- **Ethical oversight** - AI is a double-edged sword, offering unprecedented advantages and posing ethical dilemmas. Issues like data privacy, algorithmic biases, and ethical considerations are not just buzzwords but real challenges. A CAIO is the moral compass, providing the necessary oversight to ensure that AI deployments are practical and ethically sound.
- **Staying ahead of the curve** - In the fast-paced world of AI, what is revolutionary today may become obsolete tomorrow. A CAIO

■ *Kanishk Gaur is a renowned Cyber Security, Public Policy, Government Affairs Specialist, and Digital Technology Expert based out of New Delhi.*



serves as the organization's sentinel, keeping an eye on emerging trends and technologies. They ensure that the company is not just keeping up but is a step ahead, maintaining a competitive edge in the market.

- **AI- the new business paradigm** - AI is not just a technological shift; it's a paradigm shift. As organizations transition to a more data-centric model, AI is augmenting human decision-making, not replacing it. A CAIO is the torchbearer of this cultural metamorphosis, creating an ecosystem where data analytics and human intuition connect seamlessly.
- Moreover, as we move into an era where customer expectations are high and dynamic, AI-driven personalized experiences are becoming the gold standard; whether it's hyper-personalized marketing strategies or AI-powered customer service bots, businesses that fail to harness the power of AI risk becoming relics of a bygone era.

The roadmap to introducing a CAIO

- **Recognize the need** - The first step in the CAIO journey is acknowledging the transformative potential of AI. Organizations must thoroughly analyze how AI can revolutionize their industry and operational landscape.
- **Define the role** - The CAIO's role is not one-size-fits-all; it's a tailored fit based on the organization's size, industry, and level of AI maturity. Responsibilities can range

The CAIO plays a pivotal role in strategically integrating AI into the organization and ensures it stays ahead in the ever-evolving landscape.

from overseeing AI deployments and liaising with data scientists to ensuring ethical AI practices.

- **Hire right** - A CAIO is not just a technocrat but a visionary. They should possess a unique blend of technical prowess and business sagacity, capable of demystifying complex AI algorithms into actionable business insights.
- **Foster collaboration** - A CAIO cannot operate in a silo. They must collaborate with other C-suite executives to ensure that AI initiatives are in sync with the organization's broader goals and objectives.
- **Continuous learning** - A CAIO must be a lifelong learner as the AI landscape is ever-evolving. As we navigate the uncharted waters of an AI-driven future, the role of a Chief AI Officer becomes essential and imperative. Organizations that recognize this and act decisively will thrive in this new landscape and set new benchmarks for innovation, ethical practices, and operational excellence. ■

5TH CIO&LEADER SAMMAN

LEADERSHIP • BY THOUGHT • BY ACTION

The Fifth Edition of the Samman announced during the **24th Annual CIO&Leader Conference**, on 3rd - 5th August 2023, honoured eight veteran Indian CIOs

By CIO&Leader

The CIO&Leader Samman was launched in 2019 to mark the 20th anniversary of the annual CIO&Leader Conference to acknowledge the contribution of senior IT leaders in Indian enterprises.

The fifth set of honors was presented to eight veteran CIOs in the

24th CIO&Leader Conference, held at Agra between 3rd – 5th August 2023.

CIO&Leader has never been involved in giving any awards to CIOs, even though its sister publication, IT NEXT, confers the prestigious NEXT100 awards. That is because while that serves a community objective of finding future

CIOs of India, giving awards to CIOs, in our humble opinion, is not exactly something we think we are qualified to do.

CIO&Leader Samman is not an award at all. It is a way of paying respect to the veteran CIOs. To choose a few from among a set of deserving people is anything but easy. We decid-

ed to turn to the CIOs themselves to do the selection. To avoid conflict of interest, we turned to erstwhile CIOs, as serving Indian CIOs are eligible for the Samman.

METHODOLOGY

For the purpose of selecting the recipients of the awards, CIO&Leader invited three erstwhile CIOs to be members of a jury panel. They were:

- Deepak Agarwal, former ED - IS, Indian Oil Corporation Limited
- Prashun Dutta, former CIO, Tata Power & Reliance Energy
- Vijay Sethi, former CIO, Hero Moto-Corp

Prashun Dutta has been associated with this initiative for the last three editions as a jury member, while both Deepak Agarwal and Vijay Sethi have joined as jury members since the last two editions. And they are both past honorees.

For getting the names initially, we decided to follow the peer nomination route and asked the

CIOs to nominate a maximum of three CIOs each for the honor. CIO&Leader spelled out the minimum criteria.

To be considered for the Samman, the CIOs needed to meet the following basic criteria:

- He/she needed to have had a mini-

mum of 30 years of professional experience.

- Out of those years, at least five should have been as a CIO. This year, the jury recommended bringing down that period to two years in the case of a PSU CIO, provided the person has been in an IT role before taking up the highest position, as it is rare that a CIO serves for more than five years in a PSU.
- He/she needed to be serving as a CIO in India now. Those who have retired or are serving in a non-CIO role or are based outside India were not considered.

These criteria were publicized for the people who would nominate. Many CIOs came back with their nominations. While each of the valid nominations—those meeting the criteria—was considered by the jury for the honor, the number of nominations had no bearing on the final selection. That choice was completely the jury.

The jury took into account the CIOs' professional achievements, the use of IT to maximize strategic values for businesses that they have been associated with, their leadership, and their contribution to and participation in the community cause.

After two meetings and exhaustive research put forward by jury mem-

bers, they came out with eight recommended names.

THE LIST

There were 46 nominees on the final list. After intense discussions and deliberations, the esteemed jury panel came out with a list of 8 recipients.

The 8 recipients of the Samman, in alphabetical order, are:

- Ananth Subramanian, Executive Vice President & Head - IT, Kotak Mutual Fund
- Ashish Mathur, Group CIO, ECU Worldwide – An Allcargo Logistics Group Company
- Atul Rastogi, Executive Director (BIS), GAIL (India)
- Govind Singh, Executive Director & Group CIO, Dalmia Cement
- Manish Grover, Executive Director - Strategic Information Systems, Indian Oil Corporation Limited
- Mohit Kapoor, Group Chief Technology Officer, Mahindra & Mahindra
- Rajendra Bisht, Vice President - Technology & Digital, Bajaj Finance
- Vinit Thakur, Chief Digital & Information Officer, GR Infra Projects

We present you the exclusive set of honorees – the recipients of the 5th CIO&Leader Samman – with their brief snapshots..

The 5th CIO&Leader Samman Jury



Deepak Agarwal

former ED – IS
Indian Oil Corporation



Prashun Dutta

former CIO
Tata Power &
Reliance Energy



Vijay Sethi

former CIO
Hero MotoCorp

The 5th CIO&Leader Samman Recipients

With an illustrious 32-year career, including an impressive 17+ years tenure as CIO, his remarkable achievements speak for themselves. Throughout his professional journey, he has overseen intricate projects focused on optimizing business processes, implementing technology and automation, and proficiently managing IT services. His deep understanding of technology and business processes has empowered him to introduce cutting-edge solutions, leading to streamlined operations and elevated customer experiences within his current organization.

His commitment to community shines in his 4-year tenure on the NEXT100 Jury panel, where he mentors and guides future CIOs, imparting wisdom to foster the upcoming tech leadership.

For his leadership by example, unflinching commitment to innovation, and contribution to the community, CIO&Leader is proud to honor Ananth Subramanian, EVP & Head - IT, Kotak Mutual Fund, with the 5th CIO&Leader Samman.



Ananth Subramanian

**Executive Vice President
& Head - IT
Kotak Mutual Fund**



Ashish Mathur

**Group CIO
ECU Worldwide – An
Allcargo Logistics Group
Company**

With a long and illustrious career with multinational organizations, he has held senior global leadership positions and led large multi-cultural teams and business transformation programs. He brings a wealth of cross-industry international experiences and has been at the forefront of driving technological innovation and operational excellence. Ahead of the curve in proactively identifying perfect use cases for emerging technologies in his business, he has been equally effective in implementing them to get the desired results.

Ashish is not just a leader who empowers people, but he also inspires them to go above and beyond. He is widely recognized and respected within the fraternity for his remarkable abilities. His belief that there is no substitute for hard work has given him that sincerity of approach, which makes him equally trusted and respected among his peers and juniors. For his deep commitment to business and community causes and standing out as a role model for new-generation IT professionals, CIO&Leader is proud to honor Ashish Mathur, Group CIO, ECU Worldwide, with the 5th CIO&Leader Samman.

He is an industry veteran with an unparalleled track record in the Oil and Gas sector. With an extensive background in technology and a wealth of experience, he has earned a reputation as a transformative leader, demonstrating exceptional ability in management, strategic thinking, and team empowerment.

Under his leadership, GAIL has redefined IT efficiency and effectiveness, becoming a front-runner in the industry. He spearheaded the implementation of SAP ERP and introduced advanced solutions like Mobility, RPA, and the first-ever SAP Gas Management System in Asia. His visionary insights led to the establishment of a 24x7 cybersecurity operations center, significantly enhancing the organization's cyber resilience.

For his inspiring and exceptional leadership, active community participation, and invaluable contributions to the IT field, CIO&Leader is proud to honor Atul Rastogi, Executive Director - IS, GAIL (India), with the 5th CIO&Leader Samman.



As a distinguished tech leader in the cement and building materials industry, he is known for his visionary leadership and deep technological understanding.

As a CIO, he goes beyond merely understanding the technological needs of his organization. He recognizes the importance of adapting to the ever-evolving tech-driven landscape and actively works to ensure his organization remains agile and responsive to changes.

Recognizing the dynamic nature of the tech industry, he firmly believes that continuous learning, unlearning, and relearning are essential traits for an enterprise IT manager.

For his unique leadership, proactive change management involving technology, and commitment to community causes, CIO&Leader is proud to honor Govind Singh, Executive Director & Group CIO, Dalmia Cement, with the 5th CIO&Leader Samman.

Navigating the world of technology within a public sector enterprise is already a formidable task. However, taking on this responsibility for one of India's energy giants, a Fortune 500 company with refineries across India, an extensive sales and distribution network, and a complex infrastructure, presents challenges of even higher magnitude.

His path-breaking work In-Direct Benefit Transfer and Common LPG Database has revolutionized the entire subsidy structure of our nation. His visionary approach to technology implementation has set new industry standards and positioned the company as a frontrunner in innovation within the energy sector.

In recognition of his outstanding professional achievements, willingness to tackle challenging assignments, and contributions to the community, CIO&Leader is delighted to present the 5th CIO&Leader Samman to Manish Grover, Executive Director - Strategic Information Systems, Indian Oil Corporation Limited.



Manish Grover

**Executive Director -
Strategic Information
Systems**
Indian Oil Corporation
Limited

With an illustrious three-decade-plus career, he is a revered futurist in business technology. As the technology head for the Mahindra Group, he is responsible for orchestrating business transformations through tech-driven value creation. He firmly believes in harnessing the power of technology to unlock its full potential.

Some significant transformations include spearheading initiatives such as Cloud adoption at the enterprise scale, digitization of customer journeys, using Machine Learning, and leveraging emerging technology such as Metaverse, IoT/5G, and Robotics. He is focused on driving sustainable business efficiencies through the ESG agenda and is pioneering new experiments with AI for customer service & knowledge management.

In recognition of his exceptional leadership, professional achievements, and significant contributions to community causes, CIO&Leader proudly honors Mohit Kapoor, Group CTO, Mahindra Group, with the 5th CIO&Leader Samman.



Mohit Kapoor

**Group Chief
Technology Officer**
Mahindra & Mahindra

Technology leaders must fulfill the IT promise and effectively convey and demonstrate digital value. Rajendra Bisht has met and exceeded these expectations by spearheading the digital transformation within his current consumer lending company. Starting from digitally transforming various organizational processes and leveraging generative & conversational AI capabilities, he quickly showcased remarkable performance in applications side automation.

With a relentless drive and energy, he successfully sees complex projects through to completion, guiding teams and clients throughout the entire lifecycle, always meeting deadlines, and staying within budget. A humanitarian at heart, he earns the respect of others through his unwavering integrity and dedication to bringing out the best in his teams.

For his exceptional leadership and significant contribution to the community, CIO&Leader is proud to honor Rajendra Bisht, Vice President - Technology & Digital, Bajaj Finance, with the 5th CIO&Leader Samman.



Known as a visionary in digital strategy, he has a proven track record of driving transformative change and achieving operational excellence. He strongly believes in the power of technology to reshape industries and revolutionize human behavior and has a keen understanding of the digital landscape that has allowed him to effectively nurture innovation, resulting in improved competitive positions for the organizations he has served.

His leadership style is characterized by introspection and a focus on enhancing human life and performance through technology. His colleagues commend his exceptional people management skills, attributing his success to consistently motivating and empowering teams to deliver their best.

In recognition of his exceptional leadership, professional achievements, and significant contributions to community causes, CIO&Leader proudly honors Vinit Thakur, Chief Digital & Information Officer, GR Infra Projects, with the 5th CIO&Leader Samman.

The 4th CIO&Leader Samman Recipients



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Executive Director
RailTel Corporation



Dinesh Talniya

CIO
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Edsel Pereira

Group Vice
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Kersi Tavadia

CIO
Bombay Stock
Exchange



Kirti Patil

Joint President -
IT & CTO
Kotak Life



Liton Nandy

Executive
Director - IS
Indian Oil Corporation



Rajeev Pradhan

CIO
NPL, BBTCL
(Wadia Group of
companies)



Rajiv Sharaf

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Sanjay Gupta

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The 3rd CIO&Leader Samman Recipients



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Atanu Pramanic

Joint President
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Hindalco Industries



Rajababu Kotta

CIO
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Rajasekhar V V

Group CIO
ITC



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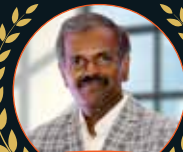
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Global CIO
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Subramanya C

Global CTO
Hinduja Global
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The 2nd CIO&Leader Samman Recipients



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Atanu Roy

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Deepak Agarwal

former Executive
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IOCL



Dhiren Savla

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Kuoni Group,
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former Group
Head - Digital
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Gyan Pandey

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CIO - BTG
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Venkatesh Natarajan

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Ashok Leyland



**Vinay Avadhut
Khargonkar**

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Group CIO &
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JBM Group

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CIO
Mother Dairy Fruits
& Vegetables



**Arvind
Sivaramakrishnan**

CIO
Apollo Hospitals



Parthasarathy VS

former Group
CIO & Group CFO
Mahindra Group



Rajeev Jorapur

Sr VP & CIO
Bajaj Auto



Rajesh Chopra

former Sr VP - IT
Oberoi Hotels &
Resorts



Rajesh Uppal

Sr Executive
Director - HR & IT
Maruti Suzuki India



Srinivas Tata

EVP & CDO
Greenply
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CIO & Partner
Grant Thornton



Umesh Mehta

Global CIO
Jubilant Life
Sciences



Vijay Sethi

former CIO,
Head - HR & Head
- CSR
Hero MotoCorp

INTERVIEW

Enterprises Must Prioritize The Bigger Picture During IT Upgrades

By Nisha Sharma | nisha.sharma@9dot9.in



AJEYA MOTAGANAHALLI

VP, Engineering and Managing Director, Pure Storage

Ajeya Motaganahalli, VP of Engineering and Managing Director, Pure Storage India R&D, discusses data management challenges, his company's focus areas, and the impact of AI tools in an exclusive conversation with CIO&Leader

F

Forecasting storage capacity requirements and managing the exponential surge of data are some of the biggest challenges modern-day enterprises grapple with. A hybrid approach enhances business agility by facilitating seamless interaction among applications and components. However, a similar level of distribution and accessibility is essential for effective data management, ensuring holistic operational efficiency.

As the digital landscape continues to evolve rapidly, enterprises are confronted with the formidable task of managing data and storage. Simultaneously, they must accommodate new technology deployments and ensure operational scalability. In an exclusive conversation with **Nisha Sharma** from CIO&Leader, **Ajeya Motaganahalli**, VP of Engineering and Managing Director, Pure Storage India R&D, delves into the multifaceted challenges enterprises face. He sheds light on the latest trends in storage and offers insights into maximizing the potential of hybrid cloud, with a particular focus on optimizing data strategies for hybrid applications. Additionally, Motaganahalli elucidates how Pure Storage is proactively assisting businesses in navigating modern complexities, spanning diverse data types, cloud integration, innovative storage models, and fostering growth in India. Excerpts from the interview:

CIO&Leader: What challenges do enterprises face when managing their data and storage needs while prioritizing new technology deployment and operational scaling?

Ajeya Motaganahalli: Enterprises often find themselves dealing with the challenges of determining the optimal amount of storage they require. The task of accurately predicting the precise storage space needed is multifaceted and characterized by its intricacy. Adding to the diversity are distinct types of data, each having unique storage requirements.

Furthermore, in this time of storage challenges, enterprises also deal with another significant question about the data type itself. On the one hand, structured data is meticulously organized within databases, arranged, and formatted. On the other hand, unstructured data, ranging from text-based social media posts to visually rich images. Further diversifying the landscape are distinct types of data. For instance, data generated through the creative aspects of AI-generated photos, videos, or analytical insights exhibits different characteristics, intensifying the complexity of the storage challenge. In response to these complexities, more businesses are turning to cloud storage. However, using the cloud comes with ongoing costs for accessing stored data. A practical solution that's becoming

popular is a mix of both on-premise and cloud storage. This means keeping frequently used data on-site (hot data) while storing less-used data in the cloud. This approach helps manage costs and resources better, effectively solving the challenge of storage capacity.

CIO&Leader: How are you addressing these challenges?

Ajeya Motaganahalli: First of all, we made the technology choice of only working with Flash right from the company's founding. Flash performs better, is more resilient, consumes less power and takes up less space than legacy mechanical hard disks which used to be the predominant storage in data centers. Secondly, our Evergreen model protects our customers' long-term investments by regularly updating hardware and software components, minimizing the need for disruptive hardware replacements and lowering e-waste. Pure also offers flexible business models catering to diverse markets, including pay-as-you-use and ownership options. This approach not only streamlines data management but also maximizes cost-effectiveness and adaptability.





Enterprises should consider the total cost of ownership (TCO) and prioritize scalability, performance, and flexibility when upgrading IT infrastructure.

CIO&Leader: What recommendations do you have for organizations upgrading their IT infrastructure?

Ajeya Motaganahalli: When organizations upgrade their IT systems, they should consider the bigger picture. It's essential to consider both the initial costs and the long-term expenses. Look for solutions that make your hardware last longer so you don't have to spend money on replacements all the time. Also, check if the systems can grow with your needs and work well without causing many problems. This way, you can run things smoothly while keeping costs under control.

CIO&Leader: Could you provide more details about Pure Storage's plans for expansion in India?

Ajeya Motaganahalli: India plays a pivotal role in shaping Pure Storage's global product roadmap. The center is instrumental in driving innovation, developing new technologies, and contributing to the evolution of Pure Storage's products and solutions.

With its vibrant tech ecosystem and a pool of skilled professionals, India has become a hub for innovation and development within our company. The Indian team's contributions span

across various stages of product ideation, design, engineering, and testing, influencing the direction and features of our key offerings. We continue to hire top tech talent and play an integral role in ensuring that the company remains at the forefront of modern data management.

CIO&Leader: Many businesses nowadays are extensively using generative AI tools such as ChatGPT to make their customer service better. These tools remember and learn from what we tell them. But are these secure and helpful?

Ajeya Motaganahalli: You've touched upon a crucial aspect of leveraging AI tools like ChatGPT for customer service enhancement. The potential of these tools is transformative, but their effectiveness hinges on meticulous training and data input.

These AI models, like ChatGPT, are only as capable as the data they are trained on. The accuracy and relevance of their responses depend on the quality and comprehensiveness of the training dataset. When curating the training data, it's imperative to include various scenarios, questions, and contexts that might arise in customer interactions. By doing

so, the AI can draw from a rich pool of knowledge and provide accurate, meaningful responses.

However, it's essential to acknowledge that AI models are not infallible. If certain data points are omitted or overlooked during training, the AI might not possess the complete information to answer a query effectively. This bias towards omission could inadvertently limit the quality of the responses.

From a security standpoint, ensuring that sensitive or confidential information is handled appropriately is crucial. While AI tools streamline interactions, privacy and data protection should always be paramount. Clear guidelines and protocols must be established to safeguard customer information and adhere to industry standards.

AI tools like ChatGPT have the potential to revolutionize customer service by providing quick and accurate responses. However, their efficacy depends on meticulous training, comprehensive datasets, and a keen focus on privacy and security. As organizations harness the power of AI, a balanced approach that prioritizes innovation and data integrity will be crucial to success. ■



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Generative AI: Are Enterprises Ready?

Tech-savvy leaders play a vital role in navigating concerns and bridging the readiness gap

By **Jatinder Singh** | jatinder.singh@9dot9.in

Artificial Intelligence (AI) has rapidly evolved in recent years, becoming a cornerstone in driving transformative changes across diverse industry sectors. From automating production processes and predicting trends from complex data to facilitating customer engagement through AI-driven

chatbots, the potential of this technology is vast, and we are only scratching the surface of its capabilities.

OpenAI's ChatGPT, a prominent model in Generative AI, has witnessed rapid adoption in less than a year. Understandably, industry behemoths like Google, Microsoft, and Adobe have

significantly invested in integrating Generative AI capabilities into their technological portfolios.

Unprecedented interest

The developments and user interest surge have prompted enterprises to expedite their implementation plans to enhance productivity and streamline processes. For instance, Microsoft's AI-Software, Copilot, integrated into applications like Word, PowerPoint, and coding tools, has undergone extensive testing by numerous large enterprises.

During the recent 24th Annual CIO&Leader Conference, Future of Business, where over 200 of India's top CIOs and future CIOs convened, a majority of 90% expressed a collective belief in the profound impact Generative AI would have on their organizations in the forthcoming years. Notably, this optimism extends to their CEOs, who foresee Generative AI as a game-changer in their operations.

According to our discussions, IT and Software Engineering lead the charge, with Customer Operations and Marketing/Sales also displaying significant interest in leveraging GenAI.

A cautious approach

According to a recent survey titled, Enterprise generative AI: State of the market, conducted by the IBM Institute for Business Value (IBM IBV) in May 2023, in collaboration with Oxford Economics, enterprises are indeed embracing Generative AI but following a cautious approach.

The survey was conducted among nearly 400 tech and business executives across the US, Australia, Germany, India, Singapore, and the UK. Simultaneously, a study of 200 CEOs was conducted in the US. Business leaders were asked about their Generative AI adoption plans, anticipated benefits, and perceived challenges.

According to the findings, the average ROI of Generative AI projects is on an upward course, with execu-

tives anticipating it to exceed 10% by 2025—consistently outpacing their cost of capital with AI. Simultaneously, it says enterprises are devising strategies to scale Generative AI adoption over the next two years. While only 23% of executives reported their organization's involvement in piloting, implementing, operating, or optimizing Generative AI in 2022, this number is likely to rise to 62% by 2024.

Generative AI's potential applications span multiple domains, including coding, customer operations, marketing, and sales. There is no doubt that enterprises are keen on leveraging these capabilities to augment productivity and efficiency within their respective domains.

One noteworthy aspect of AI gaining widespread attention is Generative AI, which showcases immense promise.

Key considerations

Amidst the excitement and eagerness to integrate Generative AI, organizations are facing significant concerns before implementing GenAI capabilities:

Awareness vs. scale: Unlike earlier times when AI models were new and attention was limited, there is now substantial interest and understanding of GenAI capabilities. However, the major challenge for businesses and leaders lies in effectively delivering value at scale.

Privacy and security: Privacy and security concerns loom large, necessitating a meticulous and strategic approach to integration. Identifying the proper use cases for optimal

integration requires thorough analysis and planning. Moreover, the challenge of training personnel effectively on these technologies persists, and several prominent consulting firms and technology product companies have imposed restrictions on using Generative AI tools due to these concerns.

Copyright infringements: Enterprises and CIOs express valid concerns regarding potential copyright issues tied to the output generated by these GenAI capabilities. Tech giants like Microsoft have proactively addressed this concern with initiatives like the Copilot Copyright Commitment.

Finding the right talent: Despite the immense potential of AI and Generative AI, organizations need more time to fully capitalize on it due to delayed processes and a limited talent pool well-equipped to manage and comprehend these technologies.

Limited real-world use cases: Real-world implementations of scaling Generative AI capabilities still need to be made available in India and globally. Indian CIOs adopt a cautious "try, test, and test" approach to navigate this developing landscape.

The road to full-fledged Generative AI adoption among enterprises may take longer, but the benefits for those who are undertaking this journey are indisputable. Organizations need effective strategies to harness their transformative potential. Practical use of these tools within the enterprise will require significant customization and investment. To overcome these challenges, business and technology leaders must construct an AI roadmap to understand how this technology will help their unique business goals.

Enterprises require a new breed of tech-savvy leaders who can bridge the readiness gap. These leaders should be adept at formulating risk and compliance strategies aligned with GenAI to speed up its adoption. ■

PAM Enhances Organizational Security Significantly



By implementing PAM, organizations can protect their most critical assets and improve their overall security posture

By **Rajarshi Bhattacharyya** | editor@cioandleader.com

W

With the fast-evolving digital landscape and the changing nature of cyberattacks, organizations are increasingly concerned about protecting their sensitive data, networks, and other critical assets. With cyberattacks becoming more frequent and sophisticated, the threat landscape is also dynamic but is continuously evolving.

Privileged User Accounts are a major security risk

Increasingly, threat actors are specifically targeting privileged accounts as these have extensive access to the organization's most critical assets. This privileged access, if not managed well, can lead to devastating consequences such as security breaches, network compromise, and unauthorized system modification.

Privileged User Accounts are generally those of System Administrators, IT Heads, and the C-Suite, as they work with critical data directly and have unlimited access to the cloud infrastructure, end-points, critical infrastructure, data, and applications. The privileged account holder can grant access to critical assets to other users, modify sensitive data, and alter system configurations. If the access falls into the wrong hands, it can have dire consequences in such a situation. Threat actors can then access privileged networks, effortlessly infiltrate networks, sabotage systems, and steal sensitive information. Attackers tar-

get privileged accounts by leveraging phishing or coercion to breach the perimeter, take control of the user's PC, and steal privileged credentials. They can remain in the network and go undetected for months, looking for more privileged users' credentials.

Mitigating the risks of Privileged Account exploitation

To stop the threat of privileged users, some key practices are to be followed rigorously. Effective Privileged Management is possible by implementing PAM solutions, where privileged users only have access rights needed to perform specific tasks. This minimum privilege reduces the attack surface and the potential damage to the compromised account. For real-time monitoring of the privileged user, PAM tools can be leveraged. These tools permit organizations to track user behavior and report suspicious activities. This involves gaining visibility into the actions of privileged users and addressing any external attack or privilege abuse at speed. Users will become more alert when they know user activity monitoring is being applied. Risks can be mitigated by establishing control over access with strong passwords and by implementing multi-factor authentication (MFA). Even in cases where the hacker manages to get hold of the password for a privileged account, they would require breaking through additional layers of security. User behavior Analytics can be leveraged to spot suspicious behavior of users and address them in time with PAM solutions. Access controls also ensure the granting of privileged access only after validation. PAM solutions can prevent single users from performing other conflicting actions by implementing policies regarding the segregation of duties. Regulatory compliance can be enhanced by automating PAM processes and policy enforcement.

Improvement in the overall security posture

With the implementation of PAM solutions, the organization's entire network is monitored, providing access to every user's access data while the risk of unauthorized access is mitigated. This significantly enhances the overall security posture, enabling organizations to stay ahead of potential threats. PAM solutions effectively address the vulnerabilities associated with privileged accounts, reduce the attack surface, and respond quickly to security incidents. They provide proactive defense so security teams can respond effectively to potential threats. As organizations increase in size to meet their growing business needs, PAM solutions can be leveraged to provide flexibility at scale as they are designed to do so. The swift response and remediation delivered by these solutions will enable the minimization of any impending damage. As PAM solutions preserve detailed audit logs of privileged user activities, this helps to facilitate compliance with industry and government regulations.

PAM is crucial to cybersecurity, as privileged accounts pose major security risks. In the event of a compromise of the standard account, the hacker will have access to only the user's information, but when a privileged user account is compromised, the possibility of damaging the entire system is very high. PAM can help businesses combat external and internal threats and is integral to the organization's security. By implementing an effective PAM strategy, businesses can protect their sensitive assets and remain resilient in the face of adversity. ■



The author is a Chairman and Managing Director at ProcessIT Global.



The Impact Of India's Data Protection Bill On FinTech

Recognizing the importance of safeguarding personal information, India has taken steps to establish comprehensive data protection laws

By Edul Patel | editor@cioandleader.com

P

Personal data is a valuable asset in today's digital world, allowing businesses and governments to tailor services and products to individual preferences. However, the unchecked processing of personal data can compromise privacy and potentially lead to harm.

Businesses and government entities use this data to improve services, offer targeted advertisements, and enhance recommendations. Conversely, misusing personal data can lead to financial losses, damage to reputation, and profiling, which is why protecting personal information is seen as a fundamental right. The DPDP bill encompasses personal information using which an individual may be identified, including but not limited to physical condition(s), sexual orientation, medical records, biometrics, financial details, and other information that may be deemed private. It passed in both houses in early August 2023.

History of the Bill

India's current data protection framework is governed by the Information Technology (IT) Act of 2000, which lacks a dedicated focus on data privacy. In response, the government formed a Committee of Experts on Data Protection in 2017 to examine this issue. The committee submitted its recommendations in 2018, leading

to the introduction of the Personal Data Protection Bill in 2019. However, the process faced several delays and revisions before introducing the Digital Personal Data Protection Bill in 2023.

What is the bill all about?

The critical aspects of the new bill include:

- 1. Applicability** - The bill covers the processing of digital personal data in India. This includes information collected online and offline, which is later digitized. The processing includes collection, storage, use, and sharing. It also extends to personal data processed outside India if the information is related to goods or services offered in India.
- 2. Consent** - Individuals' data can only be processed with their consent, which must be given after receiving a clear notice about the data to be collected and the purpose of processing. This consent can be withdrawn at any time.
- 3. Rights of data principals** - Individuals whose data is being processed can access information about the processing and request corrections or deletions. They are also empowered to nominate someone to act on their behalf in case of incapacity and file grievances.
- 4. Obligations of data fiduciaries** - Organizations processing data must ensure its accuracy, implement security measures to prevent breaches, report breaches to the authorities, and ensure the deletion of data when its purpose is fulfilled.
- 5. Transfer of data** - The bill allows the transfer of personal data outside India, with restrictions on certain countries that the government will notify.
- 6. Exemptions** - Some cases, such as crime prevention and enforcement of legal rights, are exempt from certain bill provisions.
- 7. Data Protection Board of India** - A board will oversee compliance,

impose penalties, and handle data breach incidents. It will also address grievances from affected individuals.

8. Penalties - Penalties for non-compliance, including failures in fulfilling obligations and security measures are outlined in the bill.

The Bill holds significant implications for various sectors, including fintech companies. Fintech and crypto enterprises are speculated to be classified as data fiduciaries. Fintech, short for financial technology, refers to enterprises that leverage technology to provide innovative financial services. As these enterprises heavily rely on handling sensitive financial and personal data, the new data protection bill will undoubtedly impact their operations and practices. Here's how-

- **Enhanced data privacy measures** - Fintech enterprises often deal with highly sensitive financial information of their users, including bank account details, transaction histories, and investment patterns. The bill's emphasis on obtaining explicit consent, transparent data processing, and safeguarding personal data aligns with the core principles of fintech companies. Enterprises will need to ensure that their data collection and handling processes comply with the bill's requirements. This could involve adjustments to their user consent mechanisms and data protection protocols.
- **Consent management** - One of the bill's key features is obtaining explicit consent from individuals before processing their data. Fintech enterprises heavily rely on user data to offer personalized financial services. The new consent requirements might necessitate these enterprises to review and revise their consent management strategies. This could include developing user-friendly interfaces that clearly explain how data will be used and seeking consent in a



The DPDP act addresses identifiable personal data, including physical attributes, sexual orientation, medical documents, biometrics, financial specifics, and other private details. Both houses passed it in August 2023.

more granular manner for various data processing activities.

- **Data security and breach reporting** - Fintech enterprises are entrusted with safeguarding users' financial data from unauthorized access and breaches. The bill's provision for mandatory reporting of data breaches to the Data Protection Board of India is particularly relevant for fintech companies. This may lead to enhanced data security measures, including more robust encryption techniques and stricter access controls. The board's oversight could drive fintech enterprises to invest further in cybersecurity to mitigate the risks of breaches.
- **Cross-border data transfers** - Many fintech enterprises operate globally, necessitating cross-border data transfers. The bill allows such transfers but with restrictions on specific countries. Fintech firms engaging in international operations will need to closely monitor the countries listed as restricted and ensure their data transfer practices comply

with the bill's provisions. This might involve assessing data protection laws in target countries and implementing necessary safeguards.

- **Compliance costs and complexity** - While the bill's intentions to protect personal data are commendable, compliance might come with increased operational costs and complexity. Fintech companies, especially startups with limited resources, may need to allocate budgets for legal and technical consultations to ensure compliance. Adapting to the bill's requirements might require adjustments to existing systems and processes, potentially impacting the speed of innovation and service delivery.
- **Innovation and customization** - Fintech enterprises thrive on innovation and customization of financial services based on user data insights. Striking a balance between data protection and innovation will be crucial. Fintech firms will need to explore ways to continue offering personalized services while adher-

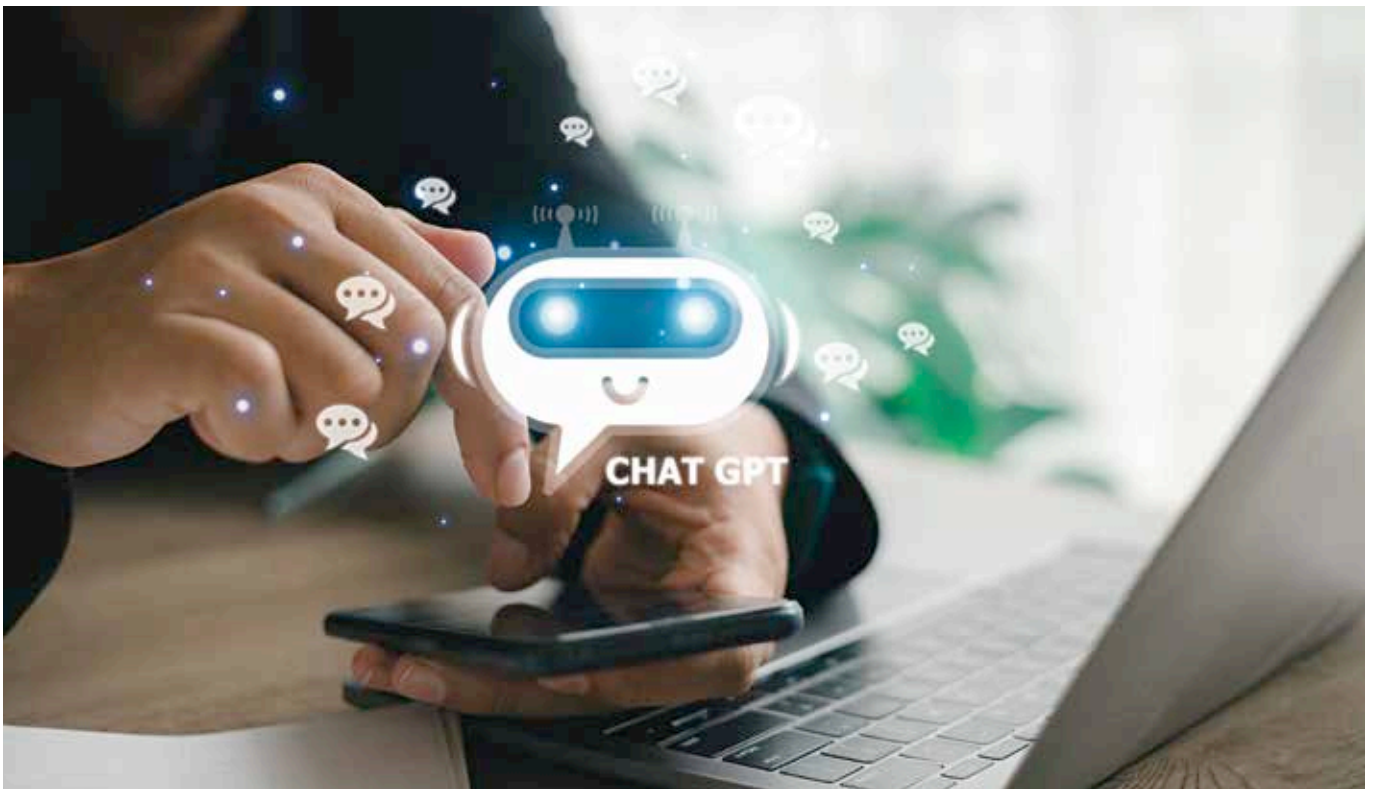
ing to the bill's data privacy principles. Solutions involve advanced data anonymization techniques that protect users' identities while enabling data analysis.

In conclusion, the Digital Personal Data Protection Bill of 2023 has the potential to reshape the landscape for fintech enterprises in India. While the bill introduces rigorous data protection measures that align with the nature of fintech operations, it also presents challenges regarding compliance, security enhancement, and adaptation to new consent management strategies. Fintech enterprises that effectively navigate these changes stand to reinforce user trust, strengthen their cybersecurity measures, and align their operations with India's evolving data protection framework. ■



The author Edul Patel is a Co-founder and CEO at Mudrex.

ChatGPT To Make A Huge Impact On The Contact Center Operations: Ozonetel



ChatGPT technology can revolutionize how businesses engage with their customers, but it also comes with its own challenges and considerations

By Nisha Sharma | nisha.sharma@9dot9.in



Ozonetel, a cloud-based contact center solution provider believes that integrating ChatGPT into contact centers represents a transformative step towards enhancing customer engagement and optimizing business processes. The Telangana headquartered company has incorporated AI-enabled ChatGPT in its solutions and planning to expand its portfolio with more such offerings.

"This integration will completely transform AI orchestration in contact centers. With our ChatGPT solution, we're helping companies intelligently audit contact center and agent performance, build self-evolving knowledge repositories, and create agent-facing AI that helps resolve queries faster and personalize conversations more effectively. The results will impact contact center performance, speed of response, customer satisfaction, and customer engagement." - Chaitanya Chokkareddy, Chief Product Officer at Ozonetel.

The implications of integrating ChatGPT into enterprises are profound. This technology is poised to transform AI orchestration within contact centers, offering benefits encompassing various aspects of business operations. With the implementation of ChatGPT, companies can intelligently audit contact center and agent performance, build self-evolving knowledge repositories, and create agent-facing AI to personalize conversations and resolve queries more efficiently. Chaitanya believes that this integration can potentially improve contact center performance, enhance the speed of response, boost customer satisfaction, and elevate customer engagement to new heights."

Addressing challenges around data accuracy and reliability

According to Chaitanya, the driver for such solutions is the increasing need of businesses to provide exceptional user experience by enhancing customer interactions, streamlining processes, and optimizing performance. However, organizations also have concerns about data poisoning and faulty predictions. To address these concerns, a hybrid approach is being adopted. This approach combines the capa-

bilities of AI with human oversight, ensuring that data accuracy is maintained while guarding against manipulation and potential errors.

Chaitanya said, "Think of it as a hybrid model where you augment human capabilities and enhance productivity but where the ultimate accountability lies with humans. Another approach is to control the context by first doing a semantic search and then passing the context to ChatGPT. With this approach, the hallucinations reduce a lot."

While the potential benefits are promising, concerns about data poisoning and faulty predictions must be addressed. It's crucial to recognize that we are still in the early stages of the AI era. To mitigate risks, the focus remains on maintaining a strong human-AI partnership. This partnership ensures that humans have ultimate control over the data, preventing data poisoning and faulty predictions. Regular evaluations and guardrails are implemented to maintain accountability and oversight.

The outlook

The outlook for ChatGPT-enabled conversational tools in the industry is promising. These solutions have the potential to enhance customer experience and business outcomes significantly. Success stories include AI-enabled quality audits, actionable advice for agents, and neural search for knowledge management. However, challenges persist. Valid data privacy concerns and the limitations of current technology models, which can still produce incorrect answers, need to be acknowledged. It's crucial to approach ChatGPT with cautious optimism, recognizing that human supervision is paramount and ongoing monitoring is essential to mitigate potential risks.

The technology models must improve as they still "hallucinate" or give wrong answers. Besides, companies cannot control or make them speak a certain way. For all its potential, we believe that ChatGPT must be used under human supervision. - Chaitanya added.

By leveraging AI capabilities while maintaining human oversight, enterprises can harness the benefits of improved performance, personalized interactions, and enhanced knowledge management. However, a balanced approach that acknowledges challenges and ensures robust security measures is essential, as with any technological advancement. The success of ChatGPT-enabled tools in the industry lies in recognizing their potential within human collaboration and utilizing them as a valuable asset in the pursuit of exceptional customer experiences. ■



AI And LLM Are Reshaping Knowledge Democratization: Dr. Pramod Varma

Dr. Pramod Varma said the code solution infrastructure uses DevOps or Infrastructure as a Code where almost all changes and releases are automated, process-oriented & consistent

By Ranjan Bhasin | editor@cioandleader.com

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During day 2 of the felicitation of the ITNext 100 CIO winners event at Agra, Dr. Pramod Varma, Ex-Chief Architect Aadhaar & India Stack, CTO EkStep Foundation, started the day with his keynote address on the 'Future of Infrastructure.' He was asked a few pertinent questions, and Dr. Varma's responses were significantly insightful. These are-

How will the cloud evolve in the near future?

All technology solutions are and will be available in the form of services. Whether it is an application, database, infrastructure, IoT, Machine Learning, Computer Vision, Natural Language Processing, Contact Center, and many more, cloud providers have commoditized or democratized these services with just a "tap," Artificial Intelligence will be very prevalent in the form of cloud services.

What is your opinion on Infrastructure as a Code?

Multiple big enterprises/organizations struggle to make infrastructure (e.g., router, firewall, group policy) changes within their ecosystem. These changes are usually messy and error-prone since the dependencies are not clearly documented, and infrastructure becomes sophisticated yearly. The processes followed are also complex and time-consuming.

What is the future of Data Centers?

The majority of large & medium scale enterprises have migrated or started to migrate their data centers to the cloud. Hence, we will have the following characteristics-

- a. Compute efficiently
- b. Energy efficient
- c. Heterogeneous cloud approach
- d. Open Standards
- e. Software-driven layers

Role of quantum computing incorporate

Dr. Varma mentioned that quantum computing will have a significant role in AI / ML-based solutions and platforms.

Energy efficiency must be considered when any organization thinks about leveraging quantum computing. Hence, when to start leveraging quantum computing is very important. Adopting a quantum computing ecosystem requires organizations to be fully green already.

It also requires quantum computers to accept open standards since organizations have their preferred set of products and partners.

What is the impact of Generative AI, LLMs (Large Language Models), and ChatGPT?

The majority of our knowledge resides in people's brains or in text across portals or in PDF documents. The other problem is that this knowledge set is increasing every day, but no one is able to use it (leave about using it efficiently).

Translation of this knowledge to answer a specific query from any domain or industry is very time-consuming. Getting the correct answer for a specific question may

Beyond chatbots, LLMs can distill data, tackle complex questions, aid research, and broaden multilingual information access to diverse groups.

take more than a day. Dr. Varma gave an example of a farmer asking a niche question about agriculture in his language in their native language to a mobile device through an interface (or application). The device then converts voice to text; in turn, the text gets passed to LLM as a prompt, where LLM receives the right answer. The answer is then converted into voice, which is read back to the farmer through the same interface or application. Hence, knowledge will be democratized.

How can we ensure data security and privacy while maintaining trust in the system?

Dr. Varma gave a very intelligent and practical approach to adopting security and privacy. He clearly mentioned to bake (incorporate) all policies within the code and infrastructure.

We usually have variances between our policies and practices. However, he emphasized embedding policies into our practices.

- He gave an example of API for Aadhaar data where he did below
- a) Ensured that an API call has to be first digitally signed to ensure the authentication (or know the caller).
 - b) Then, he ensured that API responses were encrypted.

He also mentioned that the DBA of the Aadhaar database cannot see the data. Neither entity can see the data unless anyone goes through an approval process, which will have enough audit trails. ■



The author of this article is Ranjan Bhasin, one of the ITNext100-2023 winners, he concluded Dr. Pramod Varma's keynote session based on his experience. Ranjan works as Senior Director – Information Technology with Greystar India, where he has set up the IT function and now setting up Automation CoE.

UPI Leads The Way In Financial Inclusion



Bofa Global Research reveals that the government's "Digital India" initiative is spearheading this change, which aims to establish a \$1 trillion digital economy by around 2030

By Nisha Sharma | nisha.sharma@9dot9.in



India is witnessing a transformation in its digital landscape, with a strong push toward creating a robust digital public infrastructure (DPI). While physical infrastructure might lag, India's digital strides are gaining significant momentum.

At the core of this transformation is the Unified Payments Interface (UPI), a mobile-first payment system that has revolutionized financial inclusion and paved the way for a thriving digital ecosystem.

India's growing digital footprint

The government's focus on creating a digital economy has led to the rapid growth of broadband users, with over 820 million mobile and fixed broadband users in the country. With affordable data packs, the average Indian user consumes approximately 17 GB of data per month, generating a rich digital footprint comparable to that of Western users. Big tech companies like Meta (formerly Facebook) and Google are capitalizing on this data to monetize user information.

Key pillars of India's digital infrastructure

1. Consent layer- An open personal data-sharing framework that empowers users with control over their data.

- 2. Cashless layer- An interoperable payment network, including UPI, has emerged as a game-changer for digital transactions.
- 3. Paperless layer- Digital solutions like Aadhaar e-KYC and e-Sign, enable paperless documentation.
- 4. Presence-less layer- A biometric identity system, including Aadhaar, enables seamless online authentication.

The UPI revolution

Unified Payments Interface (UPI) is a remarkable success story in India's digital transformation. Launched in 2016, UPI allows users to link multiple bank accounts to a single smartphone app, making real-time fund transfers effortless. UPI has gained widespread adoption, with over 7.5 billion monthly transactions, making it one of the top five payment networks globally.

In this digital era, UPI stands as a beacon of what technology can achieve when harnessed to empower individuals and reshape entire industries.

Beneficiaries and impacts

UPI's success has resulted in accelerated financial inclusion, with previously underserved segments gaining access to digital transactions. Fintech players like PhonePe, Paytm, and Google Pay have leveraged UPI to create seamless digital offerings, fostering a win-win situation for consumers, merchants, and the ecosystem at large. Additionally, UPI's innovative features, such as allowing credit card payments, offline fund transfers, and cross-border remittances, continue to expand its utility and reach.

Future opportunities

As India's digital journey unfolds, UPI is poised to play a pivotal role in shap-

ing the digital economy. With UPI Lite enabling offline fund transfers and the platform's integration with international counterparts, the scope for growth remains significant. The success of UPI serves as a blueprint for other sectors, emphasizing the power of open architecture, interoperability, and democratized access.

Conclusion

India's digital infrastructure revolution, led by UPI, exemplifies the transformative potential of technology in fostering financial inclusion and economic growth. The journey so far has been impressive, and as India continues to build on its digital foundations, the stage is set for further innovation, expansion, and empowerment across sectors.

In the sweeping wave of India's digital revolution, the UPI (Unified Payments Interface) has emerged not

just as a financial tool but as a tech-driven force transforming the very landscape of transactions. With its mobile-first approach and interoperable framework, UPI has bridged the gap between traditional banking and cutting-edge technology, bringing digital empowerment to every corner of the nation.

As the backbone of the government's ambitious "Digital India" initiative, UPI has showcased the potential of open architecture platforms. Its success story underscores the importance of democratizing access to financial services, offering a blueprint for various sectors to adopt similar principles of inclusivity and efficiency. ■

Jatinder Singh
Executive Editor, CIO&Leader

Debating the 70-Hour Workweek

In the world of work, there's a hot topic making waves, thanks to Narayana Murthy, the co-founder of Infosys. He's stirred the pot by suggesting that young Indians should commit to working 70 hours a week to bolster India's global competitiveness. The goal? To address India's productivity gap compared to other nations. It sounds appealing, but there's more to this story.

Murthy's call for marathon work hours has sparked a conversation that delves into not just the quantity but the quality of work. It's not about merely logging extra hours; it's about working smart and efficiently. We're not robotic timekeepers; we're unique individuals with our talents and passions. Instead of being tied to the clock, young people should prioritize learning new skills, exploring their interests, and discovering what truly excites them. Work becomes much more enjoyable when driven by passion rather than a rigid schedule.

The accurate measure of success isn't whether you put in 70 or 20 hours a week; it's about working intelligently and achieving results. Focusing on results, along with adopting clever work practices,

often outshines the merits of clock-watching. Given the health challenges young generations face, it's equally critical for them to find time to prioritize their well-being and savor the energy of youth. These are the keys to sustaining motivation and creativity.

So, the pressing question is, are we mere work



machines, valued solely by the hours we log, or are we unique individuals with distinct skills and passions? It's unequivocally the latter. Our value transcends the constraints of the clock; it's rooted in the quality of our work, the intelligence we apply, and the passion we infuse into our endeavors.

A recent report, the GOQii India Fit Report 2022-2023, adds another layer to this ongoing discussion. It reveals that many Indians are grappling with stress. Over 10,000 individuals were surveyed, and a significant 24 percent of them are under severe pressure.

What's driving this stress? The culprits are primarily the work environment and financial instability. Job insecurity, low wages, long hours, and fierce competition are making the workplace a stressful realm. Concurrently, economic instability and job uncertainty are causing financial strain. Relationships also play a role, with 14 percent of respondents stressed about them.

In essence, the debate about work hours and productivity extends beyond the ticking clock. To enhance India's global competitiveness, we require a work environment that values individuality, passion, and intelligence. And perhaps that's the vision Narayana Murthy had in mind when he made his statement. ■

Instead of being tied to the clock, young people should prioritize learning new skills, exploring their interests, and discovering what truly excites them.

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डिजिट अब हिंदी में

देश का सबसे लोकप्रिय और विश्वसनीय टेक्नोलॉजी वेबसाइट डिजिट अब हिंदी में उपलब्ध है। नयी हिंदी वेबसाइट आपको टेक्नोलॉजी से जुड़े हर छोटी बड़ी घटनाओ से अवगत रखेगी। साथ में नए हिंदी वेबसाइट पर आपको डिजिट टेस्ट लैब से विस्तृत गैजेट रिव्यु से लेकर टेक सुझाव मिलेंगे। डिजिट जल्द ही और भी अन्य भारतीय भाषाओ में उपलब्ध होगा।

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