

BLOCKCHAIN STARTUPS

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APRIL 06, 2020

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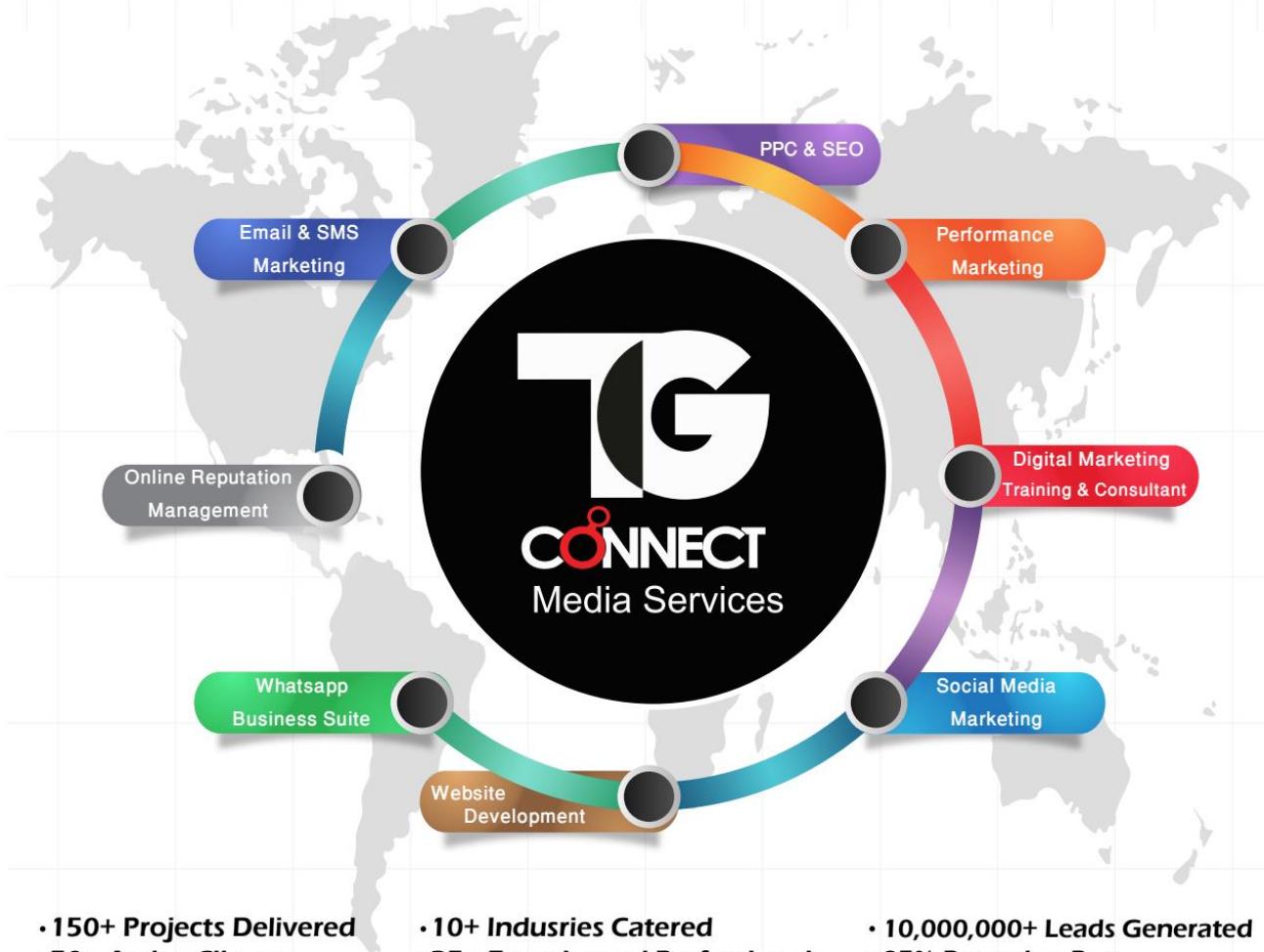


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CIOReviewIndia

VOL 8 • ISSUE 5 - 3 • APRIL 06, 2020



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| To subscribe | Visit www.cioreviewindia.com/magazine/ or send email to: subscription@cioreviewindia.com |
| Office | CIOReviewIndia No. 124, 2nd Floor, Surya Chambers, Old Airport Road, Murugeshpalya, Bangalore-560017 |

Cover price is Rs 150 per issue

Printed and published by Alok Chaturvedi on Behalf of Bizprint Media Technologies Pvt Ltd and Printed at Precision Fototype Services at Sri Sabari Shopping Complex, 24 Residency Road Bangalore-560025 and Published at No. 124, 2nd Floor, Surya Chambers, Old Airport Road, Murugeshpalya, Bangalore-560017.

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The Silver Bullet

Industry sectors that have hitherto been insulated from the benefits of blockchain technology have started realizing the technology's potential. Blockchain technology is showing promise of revolutionizing operations and processes in many industries as well as government agencies in case it is adopted. It can also galvanize people to acquire new skills, and traditional businesses will be more upbeat to overhaul their processes to derive maximum benefits from using this revolutionary technology. It has immense value for any segment of industry that requires its records of transactions to be kept secure, and that activity can be carried out in a traceable manner. Gartner has touted blockchain as one of the top ten strategic technologies for 2020. Although public blockchains are presently too immature for enterprise deployment, the technology is expected to overcome these issues by 2023.

After its humble bitcoin beginnings, blockchain technology has been almost entirely reinvented. It has been evolving into a technology with the potential to address numerous business concerns. As per a Deloitte's report, blockchain is one of the foundational technologies of digital development. Deloitte found blockchain to be a critical technology priority for more than half of its 2019 Global Blockchain Survey participants. In the future, blockchain is going to be intertwined with other emerging and nascent technologies like AI and IoT. The invincible combination will bring a host of future-possibilities with it.

In this issue, CIOReviewIndia brings to you the list of 20 Most Promising Blockchain Startups who have made their mark in this domain with their technology acumen and industry expertise. These startups have kept abreast of the new technological advancements in this segment and have leveraged them to their full potential.

We hope this issue gives you helpful insights into this market landscape.

Sudhakar Singh

Sudhakar Singh
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What exactly is Blockchain?

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Robotic Process Automation in Manufacturing Industry: A Revolution

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Cosmo Films Limited**

IN MY OPINION

WHAT EXACTLY IS BLOCKCHAIN?

By Krishnakumar Madhavan, Head IT & Innovation, KLA

A

blockchain carries no transaction cost. (An infrastructure cost yes, but no transaction cost.)

The blockchain is a simple yet ingenious way of passing information from A to B in a fully automated and safe manner. One party

to a transaction initiates the process by creating a block. This block is verified by thousands, perhaps millions of computers distributed around the net. The verified block is added to a chain, which is stored across the net, creating not just a unique record, but a unique record with a unique history. Falsifying a single record would

mean falsifying the entire chain in millions of instances. That is virtually impossible. Bitcoin uses this model for monetary transactions, but it can be deployed in many other ways.

How Does a Blockchain Work?

Picture a spreadsheet that is duplicated thousands of times across a

network of computers. Then imagine that this network is designed to regularly update this spreadsheet and you have a basic understanding of the blockchain.

Information held on a blockchain exists as a shared — and continually reconciled — database. This is a way of using the network that has obvious benefits. The blockchain database isn't stored in any single location, meaning the records it keeps are truly public and easily verifiable. No centralized version of this information exists for a hacker to corrupt. Hosted by millions of computers simultaneously, its data is accessible to anyone on the internet.

To go in deeper with the Google spreadsheet analogy, I would like you to read this piece from a blockchain specialist.

Imagine the number of legal documents that should be used that way. Instead of passing them to each other, losing track of versions, and not being in sync with the other version, why can't *all* business documents become shared instead of transferred back and forth? So many types of legal contracts would be ideal for that kind of workflow. You don't need a blockchain to share documents, but the shared documents analogy is a powerful one." – William Mougayar, Venture advisor, 4x entrepreneur, marketer, strategist, and blockchain specialist

The reason why the blockchain has gained so much admiration is that:

It is not owned by a single entity, hence it is decentralized

The data is cryptographically stored inside

The blockchain is immutable, so no one can tamper with the data that is inside the blockchain

The blockchain is transparent so one can track the data if they want to

The Three Pillars of Blockchain Technology

The three main properties of Blockchain Technology which have helped it gain widespread acclaim are as follows:

- Decentralization
- Transparency
- Immutability
- Pillar #1: Decentralization
- Pillar #2: Transparency
- Pillar #3: Immutability

Who Will Use the Blockchain?

As a web infrastructure, you don't need to know about the blockchain for it to be useful in your life.

Currently, finance offers the strongest use cases for the technology. International remittances, for instance. The World Bank estimates that over \$430 billion US in money transfers were sent in 2015. And now there is a high demand for blockchain developers.

The blockchain potentially cuts out the middleman for these types of transactions. Personal computing became accessible to the public with the invention of the Graphical User Interface (GUI), which took the form of a "desktop". Similarly, the most common GUI devised for the blockchain are the so-called "wallet" applications, which people use to

buy things with Bitcoin, and store it along with other cryptocurrencies.

Transactions online are closely connected to the processes of identity verification. It is easy to imagine that wallet apps will transform in the coming years to include other types of identity management.

The blockchain network gives internet users the ability to create value and authenticates digital information

What is Blockchain good for?

The blockchain network gives internet users the ability to create value and authenticates digital information. What new business applications will result from this?

#1 Smart contracts

Distributed ledger technology enables the coding of simple contracts that will execute when specified conditions are met. Ethereum is an open-source blockchain project that was built specifically to realize this possibility. Still, in its early stages, Ethereum has the potential to leverage the usefulness of blockchains on a truly world-changing scale.

At the technology's current level of development, smart contracts can

be programmed to perform simple functions. For instance, a derivative could be paid out when a financial instrument meets a certain benchmark, with the use of blockchain technology and Bitcoin enabling the pay-out to be automated.

#2 The sharing economy

With companies like Uber and Airbnb flourishing, the sharing economy is already a proven success. Currently, however, users who want to hail a ride-sharing service must rely on an intermediary like Uber. By enabling peer-to-peer payments, the blockchain opens the door to direct interaction between parties — a truly decentralized sharing economy results.

An early example, Open Bazaar uses the blockchain to create a peer-to-peer eBay. Download the app onto your computing device, and you can transact with OpenBazaar vendors without paying transaction fees. The “no rules” ethos of the protocol means that personal reputation will be even more important to business interactions than it currently is on eBay.

#3 Crowdfunding

Crowdfunding initiatives like Kickstarter and Gofundme are doing the advance work for the emerging peer-to-peer economy. The popularity of these sites suggests people want to have a direct say in product development. Blockchains take this interest to the next level, potentially creating crowd-sourced venture capital funds.

In 2016, one such experiment, the Ethereum-based DAO (Decentralized Autonomous Organization), raised an astonishing \$200 million USD in just over two months. Par-

ticipants purchased “DAO tokens” allowing them to vote on smart contract venture capital investments (voting power was proportionate to the number of DAO they were holding). A subsequent hack of project funds proved that the project was launched without proper due diligence, with disastrous consequences.

ries of the things we buy are genuine. Transparency comes with blockchain-based timestamping of a date and location — on ethical diamonds, for instance — that corresponds to a product number.

The UK-based Provenance offers supply chain auditing for a range of consumer goods. Making use of the

By making the results fully transparent and publicly accessible, distributed database technology could bring full transparency to elections

Regardless, the DAO experiment suggests the blockchain has the potential to usher in “a new paradigm of economic cooperation.”

#4 Governance

By making the results fully transparent and publicly accessible, distributed database technology could bring full transparency to elections or any other kind of poll taking. Ethereum-based smart contracts help to automate the process.

The app, Boardroom, enables organizational decision-making to happen on the blockchain. In practice, this means company governance becomes fully transparent and verifiable when managing digital assets, equity or information.

#5 Supply chain auditing

Consumers increasingly want to know that the ethical claims companies make about their products are real. Distributed ledgers provide an easy way to certify that the backsto-

Ethereumblockchain, a Provenance pilot project ensures that fish sold in Sushi restaurants in Japan have been sustainably harvested by its suppliers in Indonesia.

#6 File storage

Decentralizing file storage on the internet brings clear benefits. Distributing data throughout the network protects files from getting hacked or lost.

Interplanetary File System (IPFS) makes it easy to conceptualize how a distributed web might operate. Like the way a BitTorrent moves data around the internet, IPFS gets rid of the need for centralized client-server relationships (i.e., the current web). An internet made up of completely decentralized websites has the potential to speed up file transfer and streaming times. Such an improvement is not only convenient. It’s a necessary upgrade to the web’s currently overloaded content-delivery systems. [CR](#)



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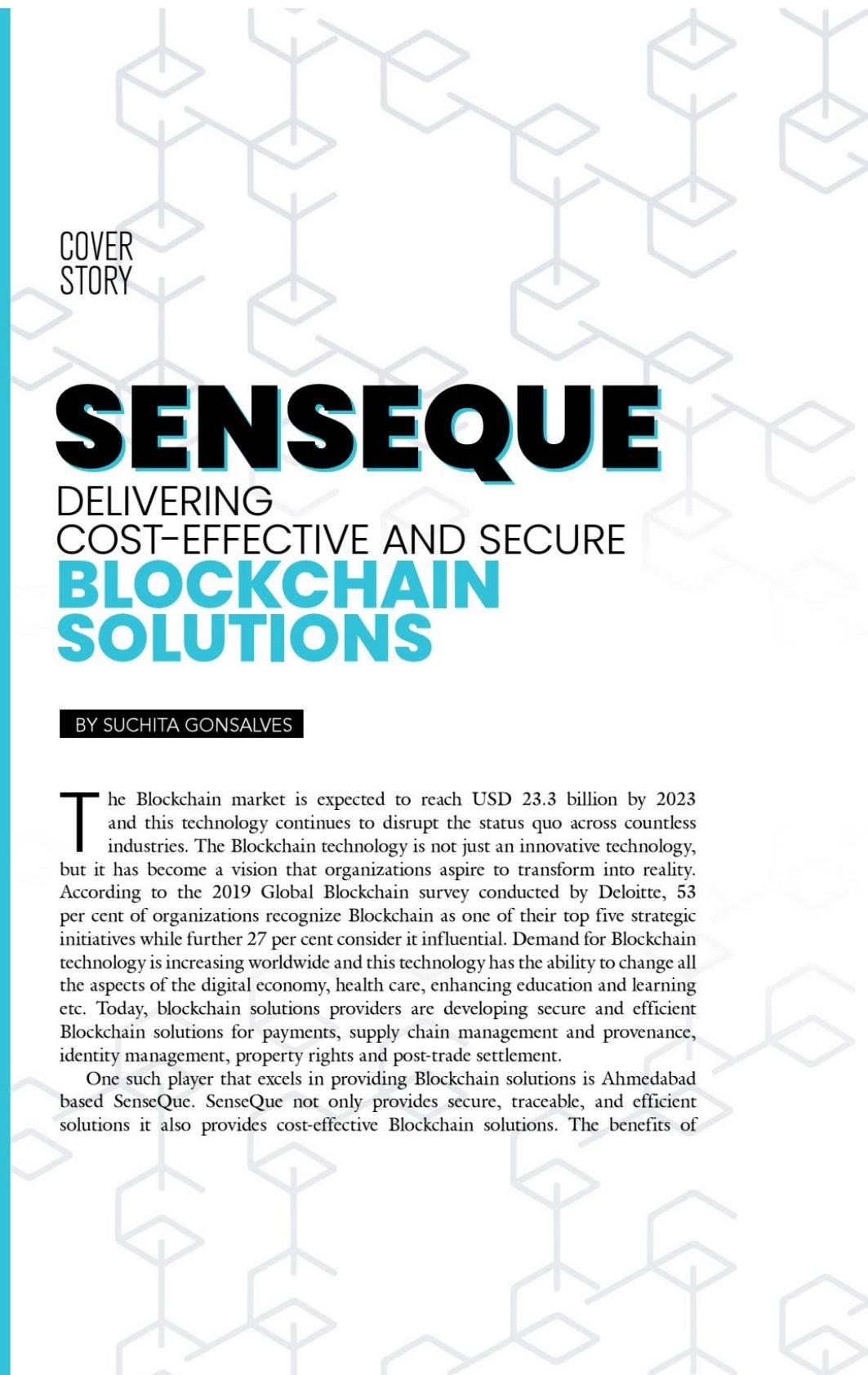
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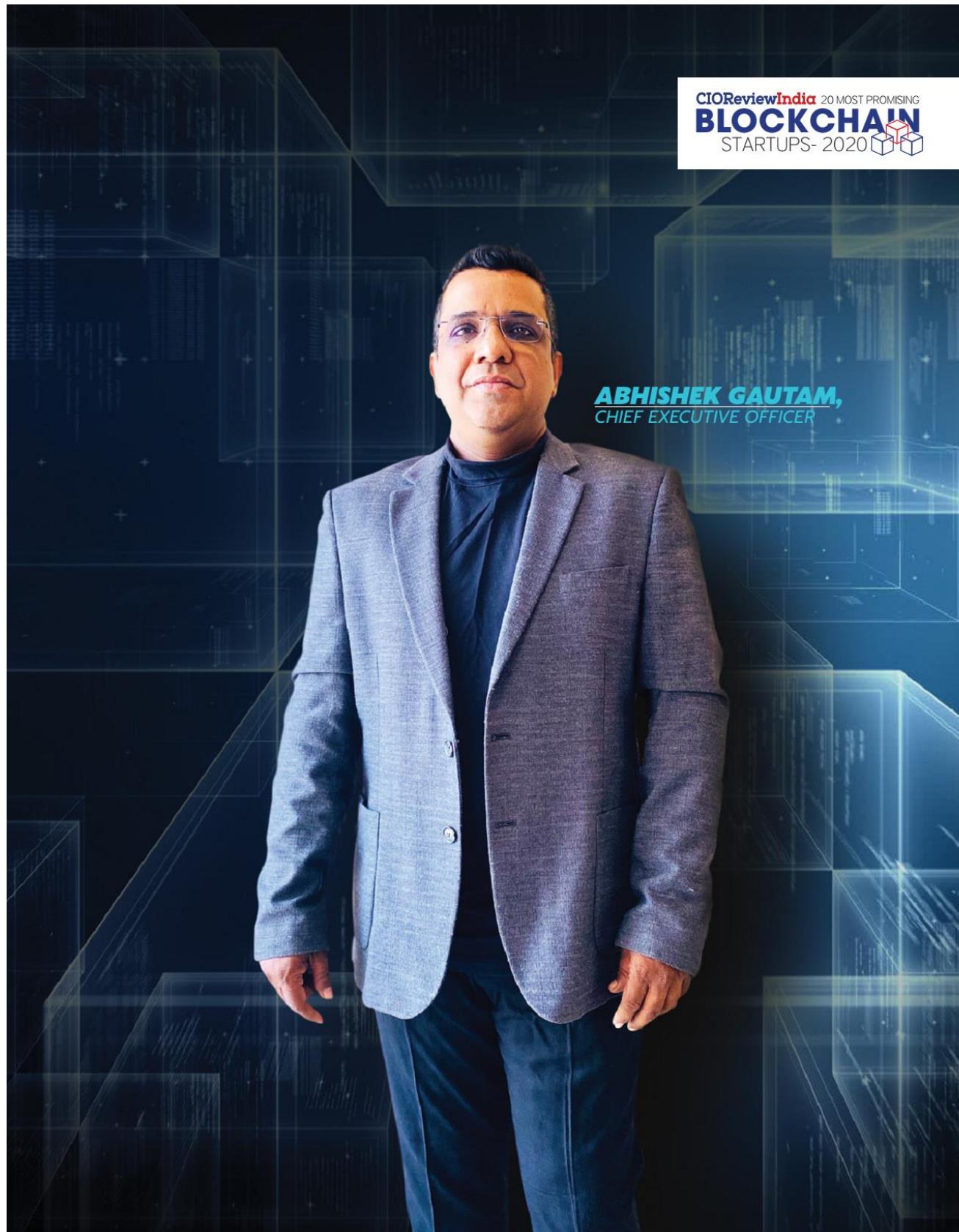
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BY SUCHITA GONSALVES

The Blockchain market is expected to reach USD 23.3 billion by 2023 and this technology continues to disrupt the status quo across countless industries. The Blockchain technology is not just an innovative technology, but it has become a vision that organizations aspire to transform into reality. According to the 2019 Global Blockchain survey conducted by Deloitte, 53 per cent of organizations recognize Blockchain as one of their top five strategic initiatives while further 27 per cent consider it influential. Demand for Blockchain technology is increasing worldwide and this technology has the ability to change all the aspects of the digital economy, health care, enhancing education and learning etc. Today, blockchain solutions providers are developing secure and efficient Blockchain solutions for payments, supply chain management and provenance, identity management, property rights and post-trade settlement.

One such player that excels in providing Blockchain solutions is Ahmedabad based SenseQue. SenseQue not only provides secure, traceable, and efficient solutions it also provides cost-effective Blockchain solutions. The benefits of



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ABHISHEK GAUTAM,
CHIEF EXECUTIVE OFFICER

services leveraged by customers using SenseQue's services is On-time delivery services, no hidden or extra cost in estimation of client's requests. What differentiates the company from the rest of the players is that it develops powerful solutions



OUR VISION IS TO CONSISTENTLY DELIVER INGENIOUS, COMPREHENSIVE, EFFICIENT, COST-EFFECTIVE TECHNOLOGY DRIVEN BUSINESS SOLUTIONS TO OUR CLIENTS

by leveraging the combination of IoT, AI and Blockchain technologies.

"Our vision is to consistently deliver ingenious, comprehensive, efficient, cost-effective technology driven business solutions to our clients," says Abhishek Gautam, Chief Executive Officer of SenseQue.

SenseQue combines strategy, technology and data science to address some of the most complex business challenges. With its amazing DNA of innovation, SenseQue combines its strong business acumen and technology to build futuristic world-class products and solutions. "Since innovation is the core engine that drives every project and helps customers achieve business growth, we encourage innovation thereby allowing them to partner with clients to transform their businesses and achieve strategic objectives," says Sunil Kapadia, Chief Innovation

Officer & Technical Lead of GBA Ahmedabad Chapter (Government Blockchain Association).

ASSET TRACKING SYSTEM

The manufacturing industry is moving swiftly towards an epoch of vigorous change. But unfortunately, this industry landscape is currently exposed to numerous challenges such as counterfeiting, lack of transparency, in efficient recall management etc. that has pushed businesses to fine-tune their supply chain strategies and operations. These challenges can be solved by using a robust technology and it will also help the manufacturing industry to stay ahead of the curve. This is where Blockchain technology comes into the picture.

Duplicate products frequently get into the supply chain and as a result, they often fail or require maintenance. This causes damage to the manufacturers and suppliers as well. While the conventional tracking system has helped OEMs to deal with this fraudulence to a certain extent, yet counterfeit products have always managed to make their ways into the supply chain.

SenseQue Assets Tracking System using Blockchain technology solves this issue, by allowing users to track the origin of the product to identify if it is a fake product. It lets the OEMs to have the luxury of communicating directly with the end user which helps them in their business in terms of avoiding fake products and building trust among



Perfectly understanding the aforementioned challenges, SenseQue has developed Asset Tracking System leveraging Blockchain Technology. This solution helps in obtaining transparency throughout the supply chain connection with Blockchain right from inspecting the goods produced till delivering the same to end consumer.

the end consumers' community. This system that resides above the current ERP systems, followed by the business entities involved, increases the trust among the business entities by improving the security and transparency.

The other services and solutions offered by SenseQue include solutions for payment processing

and money transfers, supply chain monitoring, crowd sale, data sharing, Hyperledger development and Smart Contract development.

SIX STEPS APPROACH FOR DEVELOPING BLOCKCHAIN SOLUTIONS

SenseQue deals with complex cross functional organizational workflow due to integration of various participants and different intra-organizational work-flow management systems. Therefore, the company has designed and follows a six steps approach in developing Blockchain solutions. Before developing any Blockchain solution, it is highly imperative to define a problem statement. The first step begins with Problem identification and motivation.

Once the problem has been identified, the team brainstorms ideas and business requirements and sets the objectives of the solution in such a way that it helps in reducing manual efforts, process time and avoids paper-based process steps. After this the company publishes the result to the clients and starts with the design and development phase, where the team develops blockchain based prototype that facilitates cross organizational workflow and outsources activities to smart contracts. The fifth step includes criteria-based evaluation of prototype, comparison of non-Blockchain solution and Blockchain prototype and knowledge derivation from technical evaluation of prototype. Lastly, the company conducts repeated end-to-end execution of key processes to demonstrate prototype functionality.

INNOVATION LABS

SenseQue's Innovation Labs bring together the latest technologies to help its clients experience the

potential of new technologies and its application to various domains. The company's innovators work extensively on the new technologies and bring the best out of it. The research and innovation team provide well tested accelerators to

has designed features that allow a borrower to borrow from multiple lenders and a lender to lend to multiple borrowers. Moreover, lenders are also categorized in such a way that certain requests from borrowers are filtered based on

TALENTED POOL OF RESOURCES IN NEWER TECHNOLOGIES

SenseQue has a perfectly balanced team of fresher with aspirations and expectations and are extremely confident of their abilities and experienced professionals who not only fulfill their professional obligations but also keep the young motivated by providing them regular coaching and mentoring and make them feel like a part of the team.



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pace up the deployments of new technology solutions which save humongous efforts and resources.

AUTOMATED PLATFORM FOR MICRO LENDING

SenseQue has currently developed a Micro lending platform using Blockchain that helps the users to lend or borrow money without any lower limit from each other. This platform automates the process of obtaining a loan and repaying it and money transfer is handled through an UPI API. This platform

certain standards and conditions. If a borrower is unable to pay the decided EMI, the lender can either decide to sell the loan through an auction or update the EMI with mutual understanding with the borrower. Reputation management for Lenders and Borrowers and market determination on Interest Rate will be calculated using a Machine Learning algorithm, after having enough data. This system also has features that facilitate both Lenders and Borrowers to rate each other.

THE ROAD AHEAD

SenseQue is in the process of designing its own product for the logistics industry. "We are in the final stage of releasing our first product within next few weeks. This product deals with AI especially NLP and a skill based on Alexa. This product can be used across many domains and will help the clients to solve one of the biggest issues in any company. We are definitely going to expand soon as we are now growing at a rapid pace," concludes Abhishek. CR

COMPANY OF THE YEAR

CHAKRAVUYHA

DEMOCRATIZING BLOCKCHAIN TECHNOLOGY

BY TEJA BONCHERUVU

Considered to be the most disrupting technology in this age of the internet, blockchain is being adopted by businesses across various industries in a bid to build trust and increase transparency in the business environment, eliminate the intervention of middlemen and achieve better efficiency. According to a report by the World Economic Forum, blockchain technology could account for 10 percent of the global GDP by 2025. However, while blockchain is expected to bring in tremendous business opportunities for enterprises, there also exist some roadblocks in the adoption of the

technology such as lack of awareness about the possible use cases of blockchain, scalability and legality issues, etc. It takes extensive and well-structured research to capitalize on the benefits of blockchain technology by identifying potential use cases. This is where Chakravuyha, a company headquartered in Hyderabad comes into the picture with a wide range of blockchain use cases, helping businesses leverage blockchain technology and improve ROI.

Blockchain being the foundation technology of the company, Chakravuyha provides technology



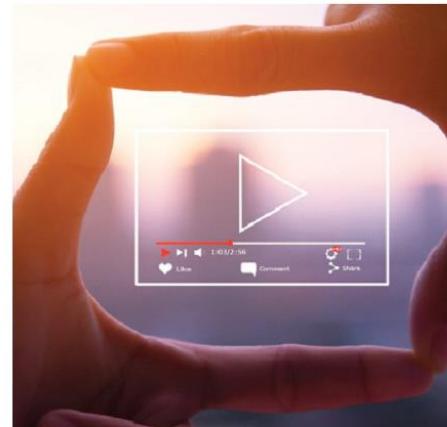
SAI TEJA ANNAREDDY,
FOUNDER

and consulting services in the areas of information technology, business outsourcing, digital currency exchange and trading software, security services, DevOps, mobile and web application development, digital marketing, agri-tech, and organic farming, in addition to the blockchain. "Our team of blockchain experts summarizes the key principles of various types of case studies and proposes on guidelines on how to design, conduct and report blockchain use cases. Our research agenda builds on previous research and allows for comparability and straightforward integration of new findings," informs Sai Teja Annareddy, Founder, Chakravuyha. The company's R&D team is working with various government organizations and academics across



A DECENTRALIZED LIVE STREAMING PLATFORM

On-demand video and live streaming services have taken the television and video industry by storm recently. However, the problem with the conventional live streaming services is centralization of the content delivery that makes the streaming platforms expensive to maintain and run. Chakravuha is addressing the issue of centralization of the live video streaming using blockchain technology. The company has designed a decentralized live streaming platform named Virtual Arena that helps to solve various problems in the streaming industry. Virtual Arena uses the blockchain to build a worldwide peer-to-peer network for live-streaming. Virtual Arena offers better opportunities for streamers to get paid by selling channel subscriptions, receiving donations, advertising, etc. It also rewards audience by just tuning into their favourite streams through virtual arena tokens. "Virtual Arena is trying to bridge the gap between users and content providers thereby benefiting both the parties of the ecosystem by eliminating the centralized elements that create monopolization and low bandwidth problems," affirms Sai Teja explaining about their Virtual Arena Platform.



South East Asia and the Middle East to develop novel blockchain solutions that help to create trust and remove frictions inhibiting business growth. As a specialized blockchain company, Chakravuha's expertise spans around the development of Decentralized Applications, Lisk Blockchain, development, audit and deployment of Ethereum Smart Contract, HD wallet creation for Cryptocurrencies, Full Stack ICO development, Cryptocurrency Exchange Development, Crypto ATM setup which Hyper Ledger Smart Contract development in Fabric and running nodes for Bitcoin, Ethereum, Bitcoin Cash, Omni (USDT), Ripple and Stellar.

End-to-end Services Using Industry's Best Practices

Chakravuha offers end-to-end services covering every step in the software production process right from ideation, concept creation, architecture design, over tokenization and governance models, development and application interfacing to full implementation and maintenance

of productive systems. "The world economy today is changing rapidly owing to the on-going technological disruptions. Only the businesses that follow the flow of innovation will be able to survive and build a reputation in the current digital world. The blockchain, together with smart contracts and digital currencies will make the trade and governmental processes safer, faster and efficient. And the economy will continue its path towards decentralization as more and more businesses are embracing the blockchain," says Sai Teja explaining the current industry scenario and the role of blockchain in driving business efficiency. "We provide complete quality services that are required to build distributed and private/public blockchain applications. When it comes to designing and developing the software, we use the latest programming tools and follow the industry's best practices and quality standards," he adds.

Some of the projects that Chakravuha has successfully executed include Dinar Exchange,

OUR TEAM OF BLOCKCHAIN EXPERTS SUMMARIZES THE KEY PRINCIPLES OF VARIOUS TYPES OF CASE STUDIES AND PROPOSES ON GUIDELINES ON HOW TO DESIGN, CONDUCT AND REPORT BLOCKCHAIN USE CASES

Coinlancer, CoinData, Femergy, etc. Currently, the company is working on multiple projects involving blockchain such as Virtual Arena, a live video streaming platform that uses worldwide peer-to-peer networks; and Chakravuha Eco Farm Estates. CR

CIOReviewIndia 20 MOST PROMISING BLOCKCHAIN STARTUPS- 2020

The global blockchain market is expected to become worth USD 23.3 billion by 2023, growing at an impressive CAGR of 80.2 percent till 2023, according to a report by MarketsandMarkets. The market is primarily driven by the increased demand for faster and transparent transactions across various industries such as Banking, Financial Services, Insurance, etc. Government, E-commerce, Retail, IT and Telecommunications are considered to be the fastest growing industry verticals as far as blockchain technology is considered across the globe. When it

comes to the market scenario in India, the market looks promising following the Supreme Court's order to revoke ban on the cryptocurrency in the country that was imposed by RBI in 2018. This is considered as a welcome move by blockchain investors and innovators as it would create robust ecosystem for blockchain start-ups in the country. However, while the market is growing rapidly, various factors such as regulatory compliances, scalability, security, technical complexities have emerged as major impediments for businesses in the implementation of technology.

Helping businesses choose the right technology partner who can help them harness the potential of blockchain technology, CIOReviewIndia proffers a list of "20 Most Promising Blockchain Startups". This compact list displays an inventory of skilled vendors with an industry rich experience, technically adept teams and a proven track record. A panel consisting of prominent CEOs, CIOs, Industry Analysts and CIOReviewIndia editorial team has meticulously researched and locked down on the final 20 vendors who we firmly believe can add value to clients' business.

| Company | Management | Description |
|--|--|---|
| Birthvenue Growth Solutions Bengaluru, Karnataka birthvenue.in | Rohit Taneja, Founder & Director | Develops blockchain solutions and platforms to empower businesses to get into new technology spaces. |
| Chakravyuha Kukatpally, Telangana chakravyuha.com | Saiteja Annareddy, Founder | A software programming advancement company giving IT solutions for enterprises and clients around the world. |
| CoinSwitch Bengaluru, Karnataka coinswitch.co | Ashish Singhal, Founder & CEO | Has built blockchain based decentralized cryptocurrency exchange aggregator platform. |
| Debut Infotech Mohali, Punjab debutinfotech.com | Gurpreet Singh, Founder | Mobile App & Digital Product Development company that leverages Blockchain, IoT, AI, and other cutting-edge technologies to deliver a range of services. |
| Elemental Labs Mumbai, Maharashtra elemential.com | Raunaq Vaisaha, Founder | Building a blockchain development ecosystem focused on making enterprise adoption a smoother experience for both the developer and the enterprise. |
| KrypC Bengaluru, Karnataka krypc.com | Ravi Jagannathan & Venkatraman Viravanallur, Co-founders | Has filed multiple patents related to certain foundational methods driving the blockchain concept and has developed and deployed multiple solutions for global customers across many domains. |

| Company | Management | Description |
|--|--|--|
| MDxBlocks Bengaluru, Karnataka mdxblocks.com | Krishna Bayanna, Founder & CEO | Enabling cutting-edge security, decentralization, and transparency across all the business processes with Distributed Ledger Technology (Blockchain) & Digitizing the manual processes into Automation using RPA & AI. |
| MindDeft Technologies Ahmedabad, Gujarat minddeft.com | Krunal Soni, CEO | Areas of expertise include the likes of Hyper Ledger, Smart Contracts, Ethereum, Enterprise Portals, Cryptocurrency Wallets and Machine Learning among several others. |
| mPHATEK Pune, Maharashtra mphatek.com | Prasad Sathe, Co-founder & Executive Director | Providing cutting edge Solutions and Consulting around Digital Transformation, AI, IoT, Big data, RPA along with conventional IT services. |
| Primechain Technologies Pune, Maharashtra primechaintech.com | Shinam Arora, Founder & CEO | Blockchain solutions to minimise fraud and maximise efficiency, security & transparency in supply chains, healthcare, global money systems, financial technologies, democratic elections, auction of public assets, energy trading, IoT and much more. |
| SenseQue Ahmedabad, Gujarat senseque.com | Abhishek Gautam, Director | Customer centric digital solutions using cutting-edge technologies like .Net Core, JS Frameworks, Azure, AWS and CMS platforms. |
| SigniTeq Services Bengaluru, Karnataka signiteq.com | Murrali RB, Founder & CEO | Technology Services Company focusing on Blockchain, Analytics, Cloud, Artificial Intelligence & Machine Learning and other emerging areas in IT. |
| Signzy Mumbai, Maharashtra signzy.com | Ankit Ratan, Co-founder | AI powered RPA platform for financial services that works with over 90+ FIs globally including the 4 largest banks in India and a Top 3 acquiring Bank in the US. |
| Sofocle Technologies Noida, Uttar Pradesh sofocle.com | Ravi Chamria, CEO | Experts in emerging technologies like Blockchain, Smart Contracts and IoT, Sofocle has implemented various Blockchain applications and solutions for enterprises, startups and governments across various countries. |
| Somish Blockchain Labs New Delhi somish.com | Ish Goel, CEO | Works on a wide variety of blockchain use-cases like P2P Insurance, Aviation Maintenance Log, Subsidy Distribution, Crisis Fund Distribution, Bill Discounting, Tokenized Fund Transfer and many others. |
| Unocoin Cryptoassets & Blockchain Company Tumkur, Karnataka unocoin.com | Harish Bv, Director | Cryptoassets & Blockchain company with over a million customers who make it easy to buy, sell, store, use & accept bitcoin securely in India. |
| WandX Bangalore, Karnataka wandx.co | Shyam Mamidi, Founder & CEO | Multi-blockchain DEX platform with a unique risk-hedging product that enables bulk token trading. |
| Zebi Hyderabad, Telangana zebi.io | Srinivasa Munagala, CEO & MD | A full-stack core-blockchain company founded by Silicon Valley veterans that operates in the entire blockchain ecosystem – infrastructure and products. |
| Zebpay Singapore zebpay.com | Rahul Pagidipati, CEO | Ensures battle tested safety, clutter free beautiful designs and security nets to make stressfree crypto investments. |
| Zuron Fintech Mumbai, Maharashtra zuron.in | Nidhi Chamria, Co-founder | Blockchain Based Invoice Discounting Platform that provides access to funds against approved invoices in quick and secured manner. |

Birthvenue Growth Solutions: Accelerating Business Processes through Blockchain Integration

It was Bitcoin that gave rise to Blockchain but now both have their separate entities. Only a Blockchain system is indeed capable of cryptocurrency transactions but now, that very technology is getting implemented in various other sectors. It is getting integrated with other segments such as AI (Artificial Intelligence) and IoT (Internet of Things) and proving to be a better facilitator with every single achievement. Blockchain entrepreneurs are now on the way of achieving severe milestones in the days to come.

Birthvenue Growth Solutions based out of Bengaluru is emerging as a shining example of Blockchain-related technologies solutions and service providers. The company is already providing and also in the process of developing new solutions with the use of all modern technologies. "We are not only working on Blockchain. We are integrating



Lakshay Taneja,
Operation Executive

Customized Solutions

Birthvenue is a Blockchain startup that got incepted in 2018 and has gained importance as a solution and service provider for its clients. Al-

cording to that. The designed solution completely depends upon the industry and the problem that it is solving. There can be no proprietary software or solution for this. All of it must be built from scratch for it to be perfect and seamless.

The founder is a graduate from IIT Delhi and has the urge to go for new technological integrations the world has never seen before. He believes that nowadays, a huge amount of data gets detected and analyzed through Big Data. In a transforming way, he wants to bring Blockchain into this format and change the way of data analysis forever. "We want to have the technologies so inclined to one another so that the data gets filtered through the Blockchain system and transferred to the AI system automatically. This will facilitate the systems of detection and analysis and provide the world with a new technology to look up to," states Rohit.

The Road Ahead

Birthvenue has partnered with the Indian government's Blockchain association who will be working along with them as a planning and implementation partner. Currently, the company has three clients in agriculture and the insurance sector. In the days to come, Birthvenue wants to cater to clients in the education sector and several other sectors. It has been growing at a considerable YOY rate in terms of revenue and has achieved a good overall valuation of the company. "We have partnered with MNCs like IBM, Dell, and Datamatics and achieved successful implementations. We would surely excel more in times to come," concludes the founder. CR

We are integrating Blockchain with technologies like AI and IoT which are comparatively new concepts to the world. We are also working towards the development of advanced cybersecurity solutions

Blockchain with technologies like AI and IoT which are comparatively new concepts to the world. We are also working towards the development of advanced cybersecurity solutions," says Rohit Taneja, Founder & Director, Birthvenue Growth Solutions.

though it can provide any kind of Blockchain, AI and IoT related solutions to any kind of business, as of now it is mostly catering to the agriculture and insurance sector. Their primary concern is to understand the type of solution the client needs and customize a solution ac-

DEMOCRATIZATION OF TECHNOLOGY

By Manuj Desai – A Technology Leader & Author of "Clinch the Deal – Negotiation strategies to get what you want"

This article focuses on the “need for plumbing” – which is becoming a myth today with all the developmental changes an organization is faced it. In my prior articles I have talked about having clarity of thought when it comes to “need”. I have always believed solutions are easy if we clearly know what the “problem statement” is.

Technology change and adaptations to these changes are very crucial for an organization to survive in

this fast-fluctuating world. The discussion in this topic remains around the cost and impact of the change. Open thinking, thinking outside the box, free thinking, thinking big, doing things differently, think only growth, are all awesome to hear; in-fact organizations should be thinking “change” all the time – with a caviar in mind – is your organization built to be ready for change?

When I was being asked to author an article on how to cope up with change, or cope with growth – a perfect example that I wanted to start the topic with is “Bangalore”.

The Silicon Valley of India, a city in the southern part of India grown out of proportion where the distance is now not measured in kilometers or miles but in hours. Every multinational organization one can think of has an office in Bangalore, but the readiness in infrastructure needed to support the growth has completely been missed in the planning stage; probably we can call out that there was no planning phase in the growth of the city. The planning which should have been done 10 years ago has started now, where a lot of catch-up is needed. This will definitely take much longer to stabilize as we are dealing with moving targets. These examples only highlight infrastructure readiness; the “hygiene” is completely compromised too. Similar scenarios exist in an organization that is rapidly planning to grow. The hygiene gets missed and the result – “chocking” the ability to grow.

Knowing your architecture landscape is really important. If the “pipe is chocked” the water would not flow, & if the “plumbing” is not done right the water will gush out from the wrong places hampering growth. The city of Bangalore has become “Bang-a-lore” which is now almost on its knees, crawling, crippling, adding un-necessary stress to the inhabitants. “Plumbing” for the organizations is the interconnection



between your business landscape, enterprise architecture, application functionality, Data landscape, Hyperconverged Infrastructure, IoT, cyber security, visualization, User Experience, AI, Automation & the virtual or physical setup used to manage them all is well oiled and scaled to cope with the change which the organization is preparing for.

Please read the next line very carefully, the pun is completely intended. Stop & think for a minute



or US Department of Defense Architecture framework (DODAF) or Federal Enterprise Architecture Framework which helps navigate the business architecture to information architecture to Information systems architecture to data architecture to delivery systems architecture including hardware, software, communications, Application Protocol Interfaces (API), can enable an organization be prepared well for current and upcoming technology changes. Architecture and its power to enable are highly neglected when it comes to organization planning. Very few organizations really invest well and plan the landscape according to business growth.

A deep study of architecture involves how the environments (in-



Manuj Desai

this article, we will not get into the techniques for business planning; we leave that for some other time. The key is to use the levers of managing and preparing for technology change as a part of your business plan. Funding for architecture has been pain over the years and now the discussion is even different, if the technology changes on an exponential pattern why should organization invest in architecture or building a landscape.

Taking the study further, if we look at the “patterns of change” organizations are dealing with it will be clear “as mud” that there is no silver bullet which will prepare any organization to cope up with the democratized state of technology we are dealing with. In the mist of all this if an organization does not have a good handle on the current state, more of knowing the reality of where it is, the changes that they try to cope up with will come in as absolute nightmares not only impacting the real growth, the organization will have to continue earmarking its quotient around “health of hygiene” as a road block to growth. CR

Funding for architecture has been pain over the years and now the discussion is even different, if the technology changes on an exponential pattern why should organization invest in architecture or building a landscape

what would happen when one has no place available to communicate? One tries to cut corners, becomes rash while driving, ignore the potholes, abuses becomes a normal effect, frustration adds to the culture, growth goes for a toss.

A proper use of Enterprise architectural frameworks like The Open Group Architecture Framework (TOGAF) or Zackman framework

internal and external) an organization operates in ties back to the business layer including strategy of the organization needed for growth. The business layer in-turn ties to data and information systems layers which sits on top of the actual technology layer. All of this working in tandem providing simple but elegant user experience is what will truly prepare an organization for true growth. In

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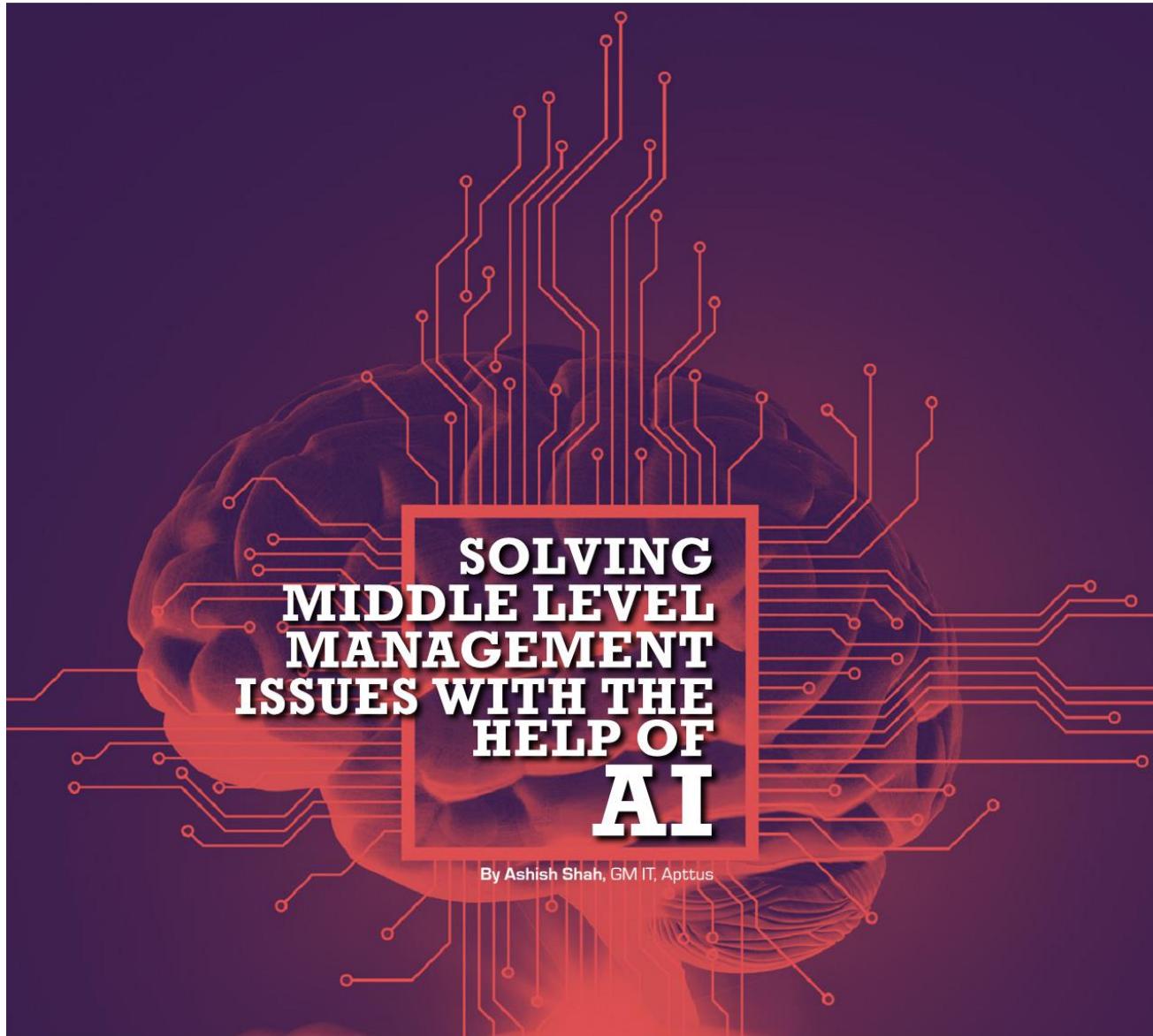


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Pooja Sharma, the Sales Manager of an emerging FinTech firm in Bangalore, faced the daunting challenge of streamlining the revenue practices

to keep up with the company's explosive business growth. Moreover, she was having a hard time adapting to the changing customer demands and expectations. Amidst this scenario, Pooja sought new, dynamic approaches to offer a competitive

pricing without having to lose out on revenues.

In today's rapidly-changing job landscape, the roles and responsibilities of a middle manager are now greater than ever. This explains why senior leaders along with mid-level



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executives are increasingly relying on a diverse set of technology-based tools and techniques to enable automated/semi-automated decision making as well as higher revenue generation. Among other emerging technologies, AI (artificial intelligence) and ML (machine learning) have emerged as the indispensable part of modern business operations; especially in critical sectors such as finance, legal and sales. Thanks to data driven AI, sales, finance and business development professionals have access to real-time insights and can better identify opportunities, make more informed decisions and ultimately accelerate the business growth. As chronicled in many reports, adoption of algorithm system in businesses has increased in recent years. But, one of the less talked about aspect of how data-driven algorithms are addressing the middle management issues in particular.

Middle management in the age of AI
 Advancements in AI seemingly pose a great threat to middle managers, sparking discussions on if middle management will become virtually extinct. However, layers of management exist for a reason and their jobs can't be replaced. It's often been observed that organizations have faced a crisis following the loss of experienced middle managers who could have foreseen the impending situation. Of course, AI and machine learning can do tasks on par with humans, sometimes even better in terms of accuracy and timeliness. But, they can't take over the job humans does, just not yet.

On the contrary, AI-based algorithms can add more value to their

work, enabling them to achieve their goals in less time. The skills and specs offered by middle managers are unmatched, and with their expertise combined with the accuracy of algorithms can truly strengthen the foundation of a company. Many decisions require insight that goes beyond what AI can derive from data sets alone.

and industry. However, it is also the middle managers who have massive work. From planning and executing corporate strategies to organizing and redefining business goals, their responsibilities are endless.

Industry estimates suggest that managers across the hierarchy spend almost half their time on repetitive

AI can offer middle level managers a helping hand and reduce their workload while allowing them to make better business decisions



Ashish Shah

And, that's why human insights are irreplaceable. They can apply their knowledge, experience and cognitive skills to such critical business decisions as well as practices. Hence, it's safe to say that AI and other emerging technologies can be leveraged to complement/support rather than to replace middle managers.

AI can take the stress of middle managers by performing dull, repetitive tasks

Middle managers are referred to as the 'glue' that holds an organization together. They work as the bridge between the senior leaders and the entry-level employees. According to data released by Great Place to Work over the span of six years, from 429 publicly traded companies and more than 450,000 employee responses, middle managers are the most valuable asset of any entity, irrespective of its size

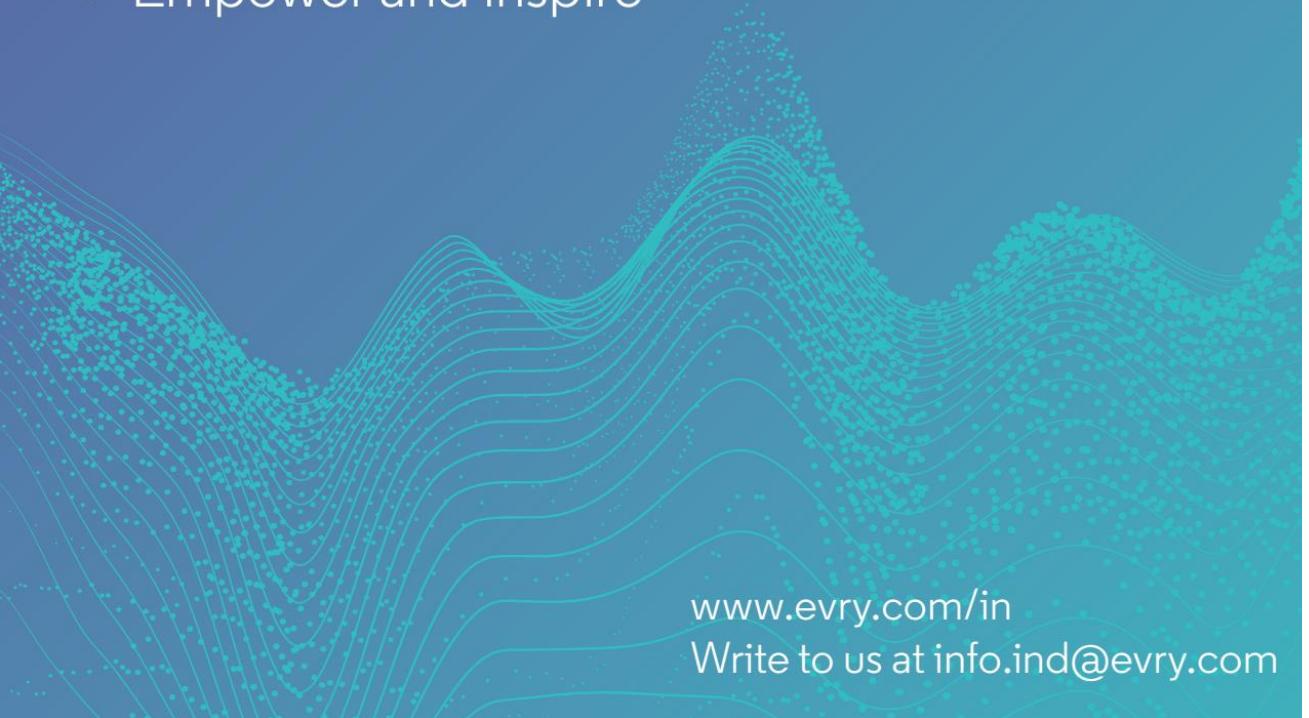
but important tasks, such as administration coordination. This is where AI and machine learning comes into the picture. In some sectors, in particular, AI's contribution can be huge. For instance, news agency Associated Press increased its quarterly earnings reporting to approximately 4,400 from just 300 with the help of AI-powered software robots. In doing so, the journalists got more time to file more detailed and interpretative stories. Similarly, in any corporate setting, AI can take over dull, repetitive tasks, thus allowing the middle managers to focus on more important work. This, in turn, would push their productivity and help them hone their skills set.

In today's increasingly digital era, AI's invasion is inevitable. But, this doesn't have to be bad news. Especially for middle level managers as it can offer them a helping hand and reduce their workload while allowing them to make better business decisions. CR



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- Empower and inspire



The background of the slide features a abstract graphic design at the bottom. It consists of several wavy, light blue lines that create a sense of motion. Small, glowing teal dots are scattered along these lines, particularly concentrated in the peaks and valleys of the waves, giving it a digital or networked feel.

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SigniTeq: Adoption Of Advanced Blockchain Ecosystems

Undoubtedly, blockchain is a new disruptive force of digital technology that is changing the business models and increasingly becoming a crucial factor around the world and it is also generating significant interest across industries in India too. As new opportunities open, there is an unprecedented exuberance and widespread enthusiasm around blockchain, but the last two to three years have been all about POC's and pilots in India, the challenge customers face today is to identify the right use of blockchain and the need for blockchain for specific business cases without any duplication of business processes or any significant impact or benefits to organisations.

SigniTeq has helped its customers globally to adopt blockchain by identifying the right use of blockchain for customer business cases without affecting the business process, helping organisations to:

- Ensure cost efficiency in its operations,
- Assure transparency among all business stakeholders and
- Execute transactions quicker for an enhanced customer service.

SigniTeq is a new age boutique technology services company focused on building blockchain solutions and augmenting technology resources for clients across India, USA & Europe. It is one of the early adopters of the blockchain technology, providing end to end technology consulting to customers according to the business case, by identifying the pain points to develop a clear plan. "We start small with Prototype/POC/MVP and scale out, and build an ecosystem and empower our customers through features of transparency, decentralization, auditability and accountability. We have delivered some of the complex projects for our clients globally and our strengths include DevOps, Microservices, Automation and QA," says Murali RB, CEO.

True Power Of Blockchain

The benefits of using Blockchain varies from case to case. However, in most cases,

blockchain is a good fit especially when there is a lot of data that is shared across multiple stakeholders with no Trust mechanism among the users. With the business benefits of blockchain becoming clearer to organisations, a significant share of the projects is expected to pass the business case development barrier and move into production. In the current phase of this evolution, SigniTeq provides enhanced scalability and security by using a combination of smart contracts and secure multiparty computation to establish interoperability between different blockchain platforms, thus enabling mainstream adoption.

From ICO, Coin Exchanges, to Supply Chain Solutions, from HR & Records Management, to Innovations & IP, Bill Discounting or Gaming or any other industry domains, SigniTeq is an ideal partner for customers to adopt and implement blockchain for their businesses. "At SigniTeq, good isn't good enough. We aim to excel at all that we do and to help customer realize the true power of blockchain. We are open, transparent and flexible, and our customers love working with us, we employ some of the best minds in blockchain and open source technologies providing cost effective solutions and services for customer from Application & Product Development, UI UX Development, Automation & QA, and act as a Outsourced / Offshore Dev Center for global companies who are willing to setup of operations, explains Murali.

"Many of our customers have benefitted from the whole range of services that we provide for early stage start-ups Product Advisory/ Validation, POC/Prototype Development, Ramp Up/Re Engineering and GTM and Customer Success offerings. Our COEs include, IOT, Cloud, Artificial Intelligence, Machine Learning, Data Analytics and Blockchain. We are also retained as preferred vendor for blockchain and other emerging technology needs by several government agencies, he adds. CR



Murali RB,
CEO

A

rtificial Intelligence (AI) has been part of industry for past 4+ decades, initially it was being used in video games e.g. "Chess", but picked up the pace in last 2 decades after introduction of robotics in early 2000 for manufacturing industries. Now true usage is being capitalized by industry in last one decade where it has been extended by Robotics Process automation (RPA) and Machine Learning (ML) tools and applications.

AI is a future technology and use cases are still un-imaginable. It has proved its solid

worth in healthcare industry, where it helped to diagnose those critical diseases; which are not quite easy for a doctor to confirm due the limitation of human eye colour spectrum to analyse colour CT / MRI scans, it also helped in critical surgeries to operate with robotic arms with more precession and accuracy e.g. heart, brain, spine and other limb surgeries.

With the help of Robotics Process automation (RPA), it has extended its usage to various industries like logistics, e-commerce, aviation etc. Now a days Bots are being used in fixed or relevant query response management (BPO, KPO), traffic signal

**AI
(BENEFIT
OR
DRAWBACK)**

By Arvind Kumar, Head IT, Genisys Group

management (Robots), Information query management (Self Service), Personal Identification (face / voice recognition), warehouse inventory management, Drones and many more applications.

Machine Learning (ML) adds additional advantages to AI in terms of behaviour or patterns Analytics such as human moods / emotions, growth / historical patterns, which help to predict future behaviour for the personal or industry growth.

If we talk about the real time application of AI then there are so many examples where it has proven its capability and worth.

Voice Assistance: Nowadays we use voice assistance which is powered by ML they recognise the voice via Natural Language Processing (NLP) which convert into ML algorithm and formulate response accordingly.

Facial Recognition: Smart phones uses facial recognition to unlock based on ML algorithm as it learn on day to day basis about the expression, movement or change of face. Facial recognition AI algorithm is also being used for marking attendance of students in school and colleges. Also help police to search criminals and missing people.

Robotics: Some countries are using robots as police to manage their day to day traffic management and surveillance system. Few e-commerce companies are using robots for their warehouse inventory and efficient storage management. Drones are being used for parcel deliveries and remote camera surveillance in remote or non-accessible areas. Robots are being used in manufacturing industry to produce their devices/equipment with more

accuracy and proficiency. In health care robotic arms are being used for surgical procedures to perform more accurate and precise jobs.

Location Map: based on user current location, preferences and past historical activities all relevant places visible on online maps. Assigning nearest cab to the passenger by cab services based on user loca-

AI is a future
technology
and use cases
are still
un-imaginary

tion as improved transportation, chat bot for all web related enquiries where user get response based on his/her input and based on current geographical location.

IT security: AI can help to understand anonymous user behaviour or activity within organization to protect data privacy and leak /theft. It can also learn from dark web activities and prepare a defence system by patching all possible internal or external vulnerabilities to protect organizations in advance as proactive measure rather to reactive action.

Space: almost all countries are using AI for their space research programs and are very successful. Since robots can be sent to space for respective research without taking risks of any life form and can have longer duration of projects for accurate and detailed findings.

So far we have seen all positive applications towards the industries, which can help to improve the eco-system. But think of the adverse impact as well on other side of ecosystem.

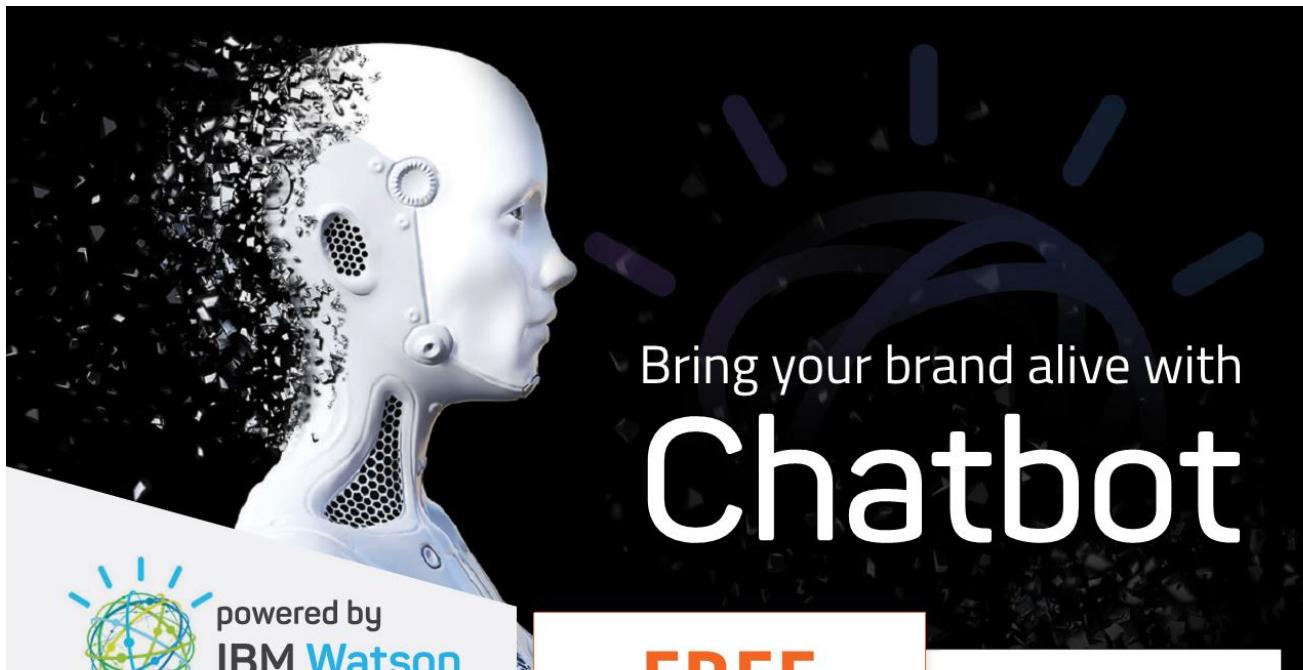
Jobs: When we talk about more efficient work force without any tiredness and complaint then we think about robotics implementation, but if all human work force is replaced by robots just like in manufacturing segment; then what? This may lead to increase in un-employment.

Healthcare: Robotic AI systems must be under continues watch for any change in algorithm of system operations.

Digital Security: As I explained earlier AI is great for IT security, but what if AI engine is compromised due to some bug in its own system and decide to take control over digital platform, as it will be known and aware about each and every bit of organization detail? We have experienced in past that some of the digital bots talk to each other.

Conclusion:

There are so many speculations in field of robotics and self-dependent robots, but I do not want to get into. I have got only two concern related to current and next decade situation i.e. jobs and Digital Security, which may lead to serious outcomes. We need to think through for what to achieve not only as an organization but also as a nation and prepare ourselves for all possible outcome and be ready with remediation e.g. how to generate more human jobs? How we can control AI engine if got malfunction? etc. as primarily and precautionary actions. CR



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The client is a Tokyo, Japan based company which provides transfer service business of postal items home delivery, E-commerce planning and development business.

Royal Cyber implemented Chatbot Solution which is a complete e-commerce Watson powered assistant that provides One big stop solution for the user queries.



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Zuron Fintech: Bringing Transparency into Invoice-based Financing

Financing is the need for every corporate, large, medium or small. In the current environment, barring few large corporates, every enterprise irrespective of the industry, is facing challenges in fundraising. Invoice discounting is seen as the only savior for these enterprises to raise funds. Traditionally, Invoice discounting has experienced lack of trust and transparency in certain cases, Zuron Fin-tech, a Mumbai based Start-up brings in trust and transparency into the invoice discounting process using Block-chain technology. Thereby making fund raising via invoice discounting quick & convenient for borrower and transparent & trustworthy for lenders.

Helping Businesses Raise Funds

Zuron Fin-tech is a Digital Supply-Chain Finance Marketplace, offers seamless invoice discounting process, making lending more transparent and secure by minimizing the application process time. The platform also helps identify duplicate invoices, thereby minimizing risk for the lenders. "We provide end-to-end digital platform solution for the supply chain finance, and bring-in all stakeholders in the supply chain onto to



a single integrated platform. Indian SMEs and MSMEs have huge potential to grow, but majority of these enterprises are stuck in managing their supply chain. Zuron's digital marketplace platform will be a game changer in this domain, helping enterprise unlock the potential of supply chain," says Kadam Shah, CEO, and Zuron Fin-tech, who comes from a supply chain background. "Every crisis brings in opportunity for innovation and problems lead to the solution with renewed thought process. I faced numerous challenges while raising funds for my supply chain business. I recognized gaps due to lack of process understanding in the supply chain financing field, making it difficult to raise financing for working capital. So, I decided to solve the problem by setting up end-to-end Digital platform for Supply Chain Finance," he adds.

Complete Risk Management for Banks and NBFCs

In addition to helping enterprise raise working capital thru Zuron enables and offers Supply Chain Finance specific end-to-end Loan Management process

(LMS) and integrated Loan Origination system (LOS) for the banks and NBFCs. This integrated technology helps lenders monitoring entire supply chain finance transaction and also manage day to day operations on the single platform. This integrated solution also helps financial institutions effectively address the problem of financial frauds in the supply chain financing. "One of the leading NBFC is already using Zuron's integrated Digital Platform for their supply chain financing. Our Digital platform also help banks and NBFCs, minimize the risk in lending by empower businesses to use invoice as collateral to raise financing for working capital." informs Ravi Chamria, Co-Founder & Chief Technology Architect, Zuron Fin-tech. Ravi has rich experience in building innovative tech solutions and assisting banks and NBFCs in their digital transformation journey.

Gearing up for the future, Zuron Fin-tech aims to assist SMEs and MSMEs raise working capital finance using supply chain finance. **CR**

We provide end-to-end digital platform solution for the supply chain finance, and bring-in all stakeholders in the supply chain onto to a single integrated platform

CXO INSIGHTS

AMALGAMATION OF INTERNET OF MOVING THINGS (IOMT) AND ARTIFICIAL INTELLIGENCE (AI)

Arpit Agarwal, Director - Data Science,
ZoomCar

With computer vision gaining momentum in the driverless car segment, majority of automobile giants have invested in their R&D. What is the scenario for self-drive cars in India?

Computer vision is only beginning to gain traction in India, especially in the self-drive and car rental category. In order to maintain the economic viability of self-drive cars, reducing accidents and damage occurrences is the key. This is where computer vision comes handy and zoomcar is running large scale experiments for its implementation. The applications in this area include collision detection, tracking driver behaviour, speed correction as per speed limits, assisted actions in case of bad weather and sending alerts in case of major accidents. All Zoomcar's are IOT enabled and most have AI powered dashboard cameras integrated in them. These help us gauge the optimum health of the vehicle and delve deeper in the segment to confront various challenges in the self-drive and driver safety category.



What drove the industry to start evaluating an AI-based solution?

What was the current driving patterns and gravity of the problem?

Necessity is the mother of all inventions. For us, the necessity is to maintain good health of our cars and ensure customer safety. Given the current wave of digitalisation sweeping across the nation, a lot of data regarding the working of vehicles is easily available. However, to process this data, we require an advanced AI-powered engine. This is also called upon because a majority of driver evaluation systems try to ape the West. However, given such a clear distinction in the driving styles and conditions, systems of the West is not applicable in India. Thus, riding on the back of superior

time. Second technology, of course, is AI powered dashboard cameras, which makes it easier for us to process real time driving behaviour and reveal actionable insights. When this advancement is coupled with OTA updates and notifications, we are looking at an integrated and seamless infrastructure.

Computer vision plays a major role in this automobile revolution; for instance, using computer vision to give real time collision warnings and other alerts. Please elaborate on this.

Certainly! We have come to live really connected lives these days. Our phones are connected with the self-drive cars or cabs that we hail. An engine that is able to process

saving lives. Using IOT data relayed from OBD device, we also detect rash driving events and calculate a driver score to give real time behavioural feedbacks. Our algorithm can also discover that the car may soon run out of fuel and accordingly alert the driver along with a list of nearby petrol pumps. We are sitting amidst the most exciting times when the industry is moving towards a revolution 4.0

Riding on the back of superior technology made available in India, we see some futuristic players in India venture in the field of creating AI-based solutions

Zoomcar is creating India's first indigenous Driver score to encourage better driving. Tell us about this development.

We have launched India's first vehicle model agnostic Driver Score Tech Stack for the passenger car segment. The AI Powered algorithm with machine learning capabilities tracks the mechanical specs of the car being driven, driving style of the customer and identifies critical events of driving and rates it on a scale of 0-100. The scoring system has capabilities to give real time feedback to drivers in the advent of rash driving to help them adjust their behaviour accordingly. Within the first month of its launch, the driver score has successfully reduced accident rate by 20 percent and maintenance and servicing cost by 25 percent for Zoomcar. CR



technology made available in India, we see some futuristic players in India venture in the field of creating AI-based solutions.

Tell us about the technology behind the approach.

Fundamentally, two technologies have laid the groundwork for this approach. First is the Internet of Moving Things (IoMT), which makes it easier for companies like us to collect data about the vehicles movements and whereabouts in real-

a wealth of information, made available through IoMT & AI, in real-time, is also equipped to send real-time notifications to drivers. Thus, if someone is driving at high speed and a pedestrian tries to cross the lane, our system alerts the driver in real time to mitigate mishap. This technique continuously analyses the live video stream from dash cam using a NVIDIA processor, detect objects, calculates probability of collision basis proximity and speed, thus, generating alerts and possibly



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LAST WORD

ROBOTIC PROCESS AUTOMATION IN MANUFACTURING INDUSTRY: A REVOLUTION

By Jagdip Kumar, Head-IT, Cosmo Films Limited

In today's time, the speed with accuracy is the mantra for any successful organization. Most of the manufacturing organizations today have various automation tools to execute business transactions with greater speed along with data accuracy. Interfaces are available between various systems like ERP, CRM, Supplier Portals and Manufacturing Execution system to achieve greater speed and accuracy in business process execution. Organizations have tried to deploy automation processes successfully in all the areas but if any process needs manual intervention at any step, it becomes a bottleneck and the whole objective of automation is defeated.

The major objective for any organization is to achieve an end-to-end process automation without any manual interventions. With the help of Robotic Process Automation (RPA), this issue is resolved to a great extent with improvements in accuracy and cycle time and increased productivity. Any business process which requires data processing at a large scale and needs manual intervention for verification process is best suited to qualify for RPA.

Manufacturing industries can automate various processes by using RPA with better controls. For instance:

- 1) Master Data creation i.e. vendor master, customer master, material master etc. could be fully automated with the help of RPA
- 2) Customer payment receipts into ERP can be fully automated which results in better execution of the processes like credit limits, cash discounts, faster delivery to customers etc.
- 3) Bank reconciliation of vendors & customers could be a business case for RPA
- 4) Booking of vendor invoices received into ERP system could be a good case for RPA

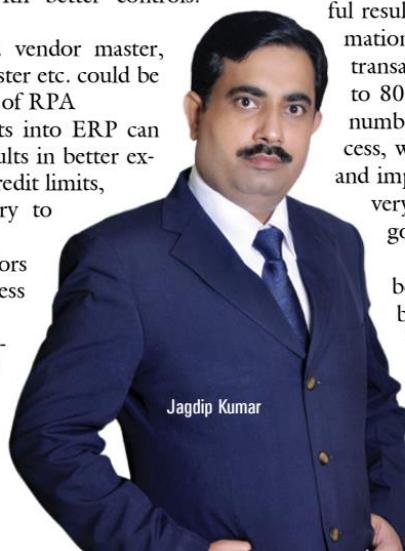
Any business process which requires data processing at a large scale and needs manual intervention for verification process is best suited to qualify for RPA

- 5) In other words, reading the information from one system and posting the transaction on another system is a good example of RPA implementation.

Depending on the nature of the business and individual requirements, other business cases can be built to utilize the RPA technologies. Many software programs are available to develop RPA as per business requirements. Before implementing RPA in the system, one needs to build proper business cases which can help in generating high ROI on RPA implementation.

In any manufacturing organization, almost in every function, people indulge in many mundane and repetitive tasks which can be automated with some changes into the existing business process. Initially, a company should start with 4-5 boats and after achieving successful results, can target the Complex Process Automation (CPA). If RPA is effectively used, the transaction process time can be reduced by 50% to 80% based on the process requirement and number of applications involved into the process, while it will also cut costs, drive efficiency and improve quality. Chat boats are getting used very commonly now-a-days, which is a very good example of RPA success story.

As per the Gartner forecast, the Robotic Process Automation market will grow by 41% per year, though this growth will be tempered by new next-generation AI products. Organizations implementing RPA defiantly will be able to take advantage of early movers. CR



Jagdip Kumar



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