# IT NEXT

FOR THE NEXT GENERATION OF CIOs

## EMERGING FROM THE SHADOW

With business managers increasingly being involved in technology decisions, the scope for 'shadow' IT is getting minimized, if not eliminated.

### How is IT responding?

# Here is your chance to become a Digit certified tech influencer

## Benefits of Digit Squad Member

Launch your own tech channel on Digit.in

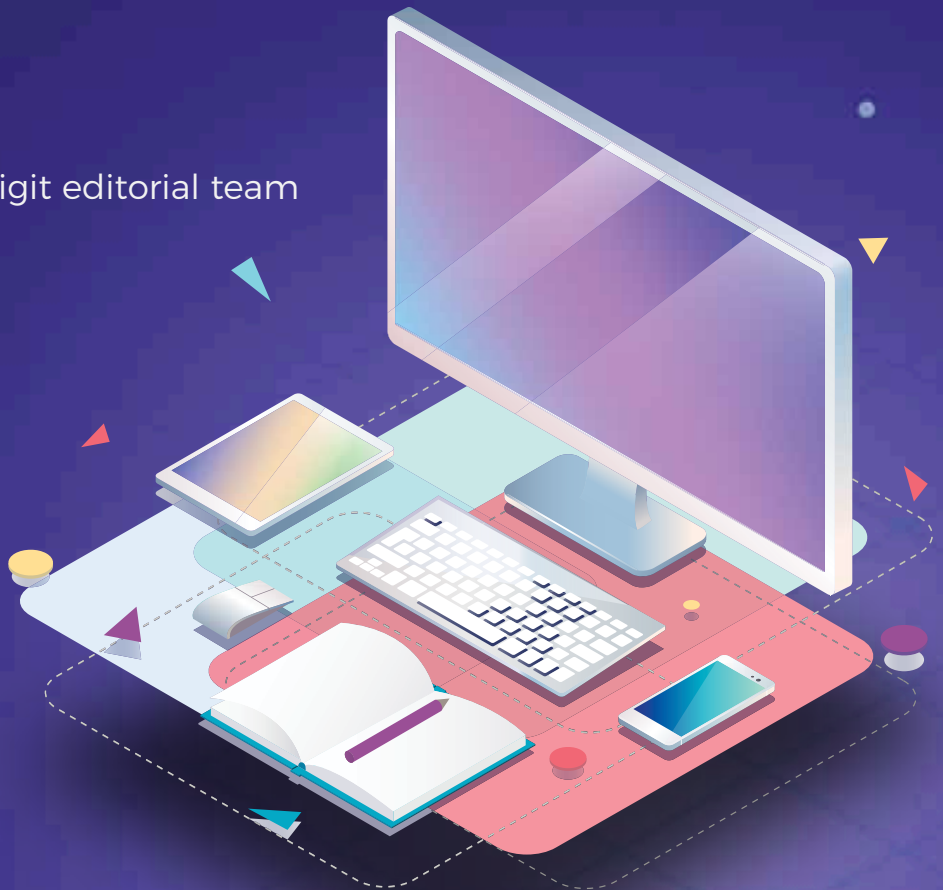Become a Digit Certified tech influencer

Engage with digit editorial team

Make money

Apply now by scanning the QR code

www.digit.in/digit-squad/apply.html

# Walking the Middle Path

> I can summarize the whole change in one simple sentence: Everyone has become more mature. Everyone includes the violators, the chasers, and the arbitrators
>
> **Shyamanuja Das**

*"I am essentially a man inclined to compromise because I am never sure of possessing the truth in its pristine form"*
*– Mahatma Gandhi*

Just about three-four years back, shadow IT seemed to bother CIOs a lot—to the extent that many considered it one of the top five challenges.

Now, as the cover story of this issue tells you, there has been significant change in that attitude.

So, what happened? Has the security risk come down? On the contrary, it has gone up manifold. I do not think we need a debate there.

Something else has happened. And the story deals exactly with that. But I am not going to get into details here. You will have to read the story for that.

I can summarize the whole change in one simple sentence: Everyone has become more mature. Everyone includes the violators, the chasers, and the arbitrators.

That is business executives who went for unauthorized apps. Why? Today, they have officially been given some authority to purchase outside IT department. Two, they have realized the security risks and integration travails. But most importantly—and it is a very human factor—the initial thrill of being able to 'do IT by myself' is gone. Everyone can do that now. So, no big deal.

For the IT managers, they realize that with large scale digitization, technology is everywhere. It is practically not possible for them to control everything. Rather, being involved in rule making and standardizing practices is a much better approach than chasing everyone. Some of them have also realized that they have better things to do in life—and for their organizations!

For the organizations, they hardly knew about technology then and did not even have the requisite wherewithal to take the issue head on. They were buying time, pacifying both teams. Today, top management is more tech savvy. They listen to tech's heightened role to disrupt business in all forms—from WEF to town halls. They have invested in learning and taming technology to some extent. Technology, becoming easier to use, has walked the other half mile to meet at the midpoint.

So, everything is peaceful, smooth, easy going. Right?

Well, I do not have to joke with you. Not in the editorial, at least. And 1st April is a long time off.

It is still disruptions—not all is positive—debates, one-upmanship. Just that a set of issues have been replaced with another set. There is still chaos. And as Tom Peters told us decades back, we have to thrive on chaos.

But one good thing has come out of all this. That is people have realized the beauty of compromise—the beauty of walking the middle path, so very essential in today's reality. ∎

# Content

■ COVER STORY | PAGE 06

## EMERGING FROM THE SHADOW

With business managers increasingly being involved in technology decisions, the scope for 'shadow' IT is getting minimized, if not eliminated.

**How is IT responding?**

FOR THE LATEST
TECHNOLOGY
UPDATES GO TO **IT NEXT.IN**

**FACEBOOK**
WWW.FACEBOOK.COM/ITNEXT9.9

**TWITTER**
HTTP://TWITTER.COM/@ITNEXT_

**LINKEDIN**
HTTPS://IN.LINKEDIN.COM/PUB/IT-NEXT/6B/717/301

Cover Design:
**ANIL VK**

Please recycle this magazine and remove inserts before recycling

# IT NEXT
ITNEXT.IN

9.9 GROUP

# EXTRA Curricular









*Travelling need not be an expensive hobby, but a break that rejuvenates the soul*

# Fuelling Your Wanderlust!

NEXT100 Winner 2016 **Kunal Shah,** Senior Project Manager, NEC India shares his passion for traveling besides providing valuable advice to young travelers…

*"Wherever you go, go with all your heart"* **– Confucius**

Traveling is something through which one can learn about various cultures, traditions, geography and the historical timeline of a place and most importantly, understand the whole new ecosystems that exist on earth.

Traveling is not only something that I do, but has also become a part of me. Traveling gives me memories that matter most to me – memories that I can share and that can never be taken away from me. It also helps in relieving stress and rejuvenating self.

Till date, I've visited some amazing places like Mauritius, Thailand, Nepal, Sikkim, Goa (many times), Kerala, Shilong, Mumbai, Mahabaleshwar, Lonavala, Rajasthan, Karnataka among others.

Every visit leaves its mark. But for me the most wonderful experience has been the visit to Krabi (Thailand). The other amazing experience I had was in Pokhara (Kathmandu) where I did 'tandem paragliding' at 10,000 feet. However, I would rate the top romantic place to be Switzerland followed by Mauritius, which is famous for its beautiful scenic locales, transparent water, snorkeling and wineyards.

My advice to young travelers would be: Let it not be an abroad itinerary or any expensive one. But do take a small break in the entire year. Just relax and fasten the seatbelt and go on an excursion. You will find distinguished culture, different living style, enjoy taste of local food and create lasting memories to share with your loved ones over a period of time with tears of joy.■

*As told to Dipanjan Mitra, Team ITNEXT*

**Kunal Shah**

Kunal is Senior Project Manager at NEC India. He is NEXT100 Winner 2016. He has earlier worked with Sadbhav Infrastructure Projectsand L&T Infrastructure Development Projects. He has done his BE in Electronics & Communication from VVP Engineering College, Rajkot. He is a Chartered Engineer and Member of the Institution of Engineers.

*Snapshot*

# What Are You Doing For Others?

NEXT100 Winner 2018 **Muralidhar Sahoo,** Senior Program Manager and Company-wide Automation Anchor, Mindtree, shares his passion for social and community engagement

*"We make a living by what we get, but we make a life by what we give"*
*– Winston Churchill*

Social and community engagement serves as a productive outlet for me to channel my passion for spending time with people, working and helping others where my energy and effort solves someone else's need. I've volunteered for years and actively worked in multiple communities at my village, school, university, apartment, and through employers; because I believe it's not only my civic duty, but also my calling to help my community to the best of my ability. By working in these communities, I am able to connect, help, empower, inspire, advocate, motivate, and encourage resilience.

My passion for community work grew, even more, when I joined a few like-minded people to form my university alumni association, UMAA (Utkal MCA Alumni Association). We started from zero and now we have a thousand members working side-by-side as an ongoing partner, in any and every way imaginable, building an army of support for the mission with the end goal of making the community a better place to live. This association provides a wide range of services including job opportunity, mentorship & knowledge sharing, internship & study tour, city/country-wise reunion, financial support, and social work – public awareness drives, blood donation, tree plantation, help during natural calamity, education and orphanage.

Leadership today is about unlearning management and relearning being human. As a community volunteer, I work for people and not have people to work for me. This servant leadership style is

*Leadership today is more about unlearning management and learning to be human. Community service provides the path to this*

applicable and effective in almost all situations as a corporate leader. As human beings, we are all driven by basic needs for meaning, happiness, human connectedness, and a desire to contribute positively to others. And leaders who truly understand these needs, have the key to enable strong loyalty, engagement and performance.

One of my best experiences as a community volunteer was when one of my alumni reached out to me for advice and guidance in personal matter when he was in a state of emotional distress.

My advice to young people is to find your passion and use it to make your and other's life better. Volunteering gives you the opportunity to practice important skills used in the workplace, such as teamwork, communication, problem solving, project planning, task management, time management, and organizational skills. ■

*As told to Dipanjan Mitra, Team ITNEXT*

## Muralidhar Sahoo

*Snapshot*

Muralidhar is Senior Program Manager and Company-wide Automation Anchor at Mindtree. He is NEXT100 Winner 2018. He has worked with JP Morgan Chase & Oracle Financial Software Services. He is MCA from Utkal University & is a certified management professional in PMP, CSM, JPMorgan ADM, Mindtree PM, and Dale Carnegie High Impact Presenter.

# EMERGING FROM THE SHADOW

With business managers increasingly being involved in technology decisions, the scope for 'shadow' IT is getting minimized, if not eliminated.

**How is IT responding?**

*Half a decade ago, shadow IT—as the phenomenon of adopting systems and applications in an organization brought in without explicit approval of the IT is described as—became one of the biggest challenges for CIOs.*

*While enterprise IT managers rued that it would bring in a lot of security and integration challenges, there was also a sense of loss of control.*

*That sense of fear and insecurity is changing surely, but slowly. Before we get into the whys and hows, it is important to reiterate that some of the challenges envisaged by enterprise IT, do remain, though newer ways of tackling those challenges have come up.*

*So, the shadow IT discourse is changing. Broadly speaking, the focus has moved from chasing shadow IT to legitimizing some of it through rules and collaborative approach.*

# WHAT HAS CHANGED?

To start with, the interpretation of shadow IT as a term has gone through a big change. Earlier, shadow IT was an IT managers' phrase—for anything that was purchased, deployed and used without the IT team's involvement.

Today's business reality demands that not everything can be routed through one central department—IT or any other. It is not just viable.

Two things have changed this. One—on the demand side—today, all business functions, including strategy formulation is getting digitized. When business models get changed through technology, technology decision does not remain an outside intervention but gets naturally interwoven with business decision. So, business problem solving and translation of that solution to technology are not two stages of a sequential decision chain. It is often an integrated decision. The two are practically inseparable.

In a few more mature businesses, the integrated biz-tech decision is taken jointly by business and tech teams.

In India Glycols, tech chief Atul Govil, designated Chief Transformation Officer, works in a formal collaborative model where the decisions are taken jointly by SBU and functional managers along with IT. "It has worked for us," says Govil.

Lalit Popli, Head - IT, ICICI Prudential also swears by this model.

"The co-owning model is an opportunity," says Kishore Ranjan, CIO, Birlasoft.

"The collaborative approach is the only way going forward as large-scale digitalization happens," says Sunil Pandey, CIO, Sterlite Power (Manufacturing & EPC).

Vedanta Group of Companies adheres to this model. The same model is in place in Sterlite Technologies too.

"CIOs must come to terms with this shift and focus on collaborating with other departments rather than trying to take full control over decision making," states Saloni Vijay, GM - IT, Vodafone Mobile Services Limited.

> *"For CIOs, shadow IT is both a blessing and a curse. It becomes problematic when hardware and systems are brought on board without anyone centrally administering them for security, or tracking purpose. On the positive side, it shows that users are actively engaged in technology and are willing to put some of their budget dollars into technology investments."*
> — *Rajiv Gupta,*
> Chief Technologist at AirOne

She believes that by bringing about a change in mindset and rapidly building up necessary skills in the areas of cloud, mobile and big data technologies, it's possible that IT leaders would be better off reacting differently to the big shifts already taking place in today's landscape.

Kamal Karntak, CIO, RJ Corp, calls it 'hybrid empowered' model. The two words capture the mechanism and spirit of the new approach. The collaborative or co-owning model is certainly becoming vogue.

But in most businesses, that kind of formal collaborative decision making is yet to debut. So, the business ends up taking technology decision concerning business technologies and applications while the infrastructure technology decisions do remain with the enterprise IT team. So, it often gets initiated by the business and IT takes it up.

"Seven years back, when the ERP decision was taken in IFFCO, it was primarily by IT. IT then started selling it to the users. Recently, an HR system automation decision was initiated by HR and IT supported them," says Satyanand Shukla, Head - IT, IFFCO MC Crop Science.

In some industries, it has happened always. "In technology companies, that has always been the case. Business does lead the IT discussion," says Ravi Maguluri, CTO, Sify Corp.

In a tech company, that is understandable. But the practice is not restricted to tech companies alone. "In our company, business has dictated IT, always," says Anil Chinnabhandar, Senior Vice President at retail major, Landmark Group India.

With digitalization, the trend has only accelerated. While the demand side reality has been drive by large scale digitization, it has been made possible by a revolution in the technology model—the all familiar, all pervasive cloud. On one hand, cloud changes the IT decision from a capex to an opex decision. And often, that is the dividing line for who takes what decision. But more importantly, cloud based apps do not need IT people to deploy and maintain them. It is practically plug-and-play. That helps business take technology decisions independent of IT.

CIOs are coming to terms with it. In a way, with a lot more expectations from them from the top management, the initial feeling of loss (of control) has been replaced by more practical reality of availability of bandwidth to make more valuable contribution to the organization.

As Yogesh Dadke, Head - IT, Asia says, "Today, shadow IT is aimed at the transformation of business functions without the IT department being involved. The idea is to ultimately

benefit that department by providing specific functionality that empowers digital transformation initiatives by allowing them to work better, faster and more effectively."

Agrees Rajiv Gupta, Chief Technologist at AirOne, "For CIOs, shadow IT is both a blessing and a curse. It becomes problematic when hardware and systems are brought on board without anyone centrally administering them for security, or tracking purpose.On the positive side, it shows that users are actively engaged in technology and are willing to put some of their budget dollars into technology investments."

"It is definitely an opportunity," says Vivek Verma, CIO, Varroc Engineering. Prasad Pate, Head - IT & Systems at BP Ergo Ltd agrees. "It makes the decision cycle that much shorter," he says.

Surely, things are changing.

However, all that this change denotes is that more and more decisions are being taken by business.

With that, the traditional definition of shadow IT which meant anything that IT is not involved in is falling flat.

But that does not mean that shadow IT has gone away. Just the definition has changed. Today, it is 'shadow' with respect to organization rules and guidelines, not with respect to IT's involvement in the deployment/purchase decision.

# THE CHALLENGE REMAINS

Make no mistake. Shadow IT as a challenge remains. The toughness of that challenge does remain—in fact, it has grown.

Gartner estimates that 40-50% of cloud and enterprise application consumption is already happening over uncontrolled and unaccounted for sources, as businesses can no longer rely on slow procurement processes from Central IT. By 2020, half of all IT spending at large enterprises with digital business aspirations will occur at the business-unit level, it says. Also, a 2017 survey by NTT Communications found 83% IT professionals reporting that employees stored company data on unsanctioned cloud services.

*"To ensure that synergy across digital tools and system is achieved, companies must have clearly defined IT policies. These guidelines should steer end users towards making the right choices of tools. Also, constant conversation is vital around long-term versus short-term gain, with CIO playing a key role in the process."*
*— Naveen Gulati,*
*CIO at Girnar Soft*

This suggests how the increase in cloud adoption and prevalence of SaaS and mobile applications, have further facilitated the rise of shadow IT. With Internet of Things (IoT) and other emerging technologies already underway, analysts believe this to be an even starker reality.

While shadow IT is used usually without ill-intent, owing to either negligence or for the sake of convenience, it poses a serious threat to data security. In most cases companies are unaware of their use and hence do not know whether their data comes from secured sources or not. It is also not surprising that shadow IT is capable of causing serious security risks to organization through data leaks and subsequently potential compliance violations for which ultimately the CIOs are held accountable.

Needless to say, not all cloud apps are built and maintained with the same level of security and poorly-secured cloud infrastructures are highly susceptible to attacks. Those that have weak security mechanisms or are hosted on vulnerable systems are susceptible to data breaches. If a company uses such services to store sensitive information like customers' personal and financial data, data breaches are inevitable.

Often, misuse or mismanagement by employees themselves can also contribute to these risks. Experts also point out inadvertent deletion of data, loss of login credentials, zombie accounts set up by former team members – can all heighten data exposure dangers. It's also likely that a number of these applications overlap in functionalities, and redundant tools only contribute to unnecessary spending.

Moreover, recent data regulation regimes have posed new challenges for CIOs. This is especially prominent, with the EU's General Data Protection Regulation (GDPR) coming into force on 25 May 2018, and more legislation on the horizon, the uncontrolled IT shadow poses an even greater risk.

Sharing confidential information with a third-party, where the company has no consent to process their information, is a clear violation of the GDPR's rules. Therefore, companies must now, more than ever, deal seriously with shadow IT or risk the consequences of being financially penalized under the new regulation. And this is where CIO's role cannot be ignored.

Naveen Gulati, CIO at Girnar Soft, observes, "While shadow IT is empowering companies to drive rapid digital transformation, there are inherent dangers in not involving the IT department in the purchasing decisions."

He believes, while this may enable some immediate business process improvements, it could also end up impeding the organization's long-term digital transformation journey. The problem arises when line of business managers do not involve IT department in their tech decisions at all. In turn, the biggest mistake non-IT departments often end up making is around integration and security.

In some regulated industries, even though business initiates the discussion, it has to go through IT before a final decision is taken. Says Saloni Vijay of Vodafone, "Every such

discussion has to go through the approval of IT."

Naresh KumarPathak, CIO - India & South East Asia, Andritz Hydro echoes similar sentiments. "In the second meeting, IT gets into the table even though business may take ownership of the project. It is thus a win-win for both and the organization."

What has changed is that the magnitude of shadow IT has considerably come down—not because users have stopped buying and using applications without the involvement of enterprise IT, but because some of it has now been legitimately authorized.

# GETTING AROUND THE PROBLEM

In such a scenario, the best and the only way to confront shadow IT is to deal with it. CIOs believe that it is essential for them to develop new strategies for working collaboratively and cooperatively with users. Here are some of the things they are doing.

### Promoting standardization

Promoting standardization is the first step in taking control of your IT. Standardized solutions that are company-based, often solves the problem of shadow IT. A McKinsey report points out in the post GDPR era, enterprise organizations must make an outsmart decision to restrict personal information and employ solutions that offer mechanisms for control of information sharing.

For example, if employees are relying on Dropbox, CIOs need to identify an enterprise file sharing solution that meets their needs and implement it companywide. One approach to the problem is by implementing a zero-trust network that requires users to abide by corporate security rules. A zero-trust network does not allow a user to access the network until all security criteria, predefined by IT and business management, have been met. The CIO's job here is to assist employees in performing their duties.

### Using the right tool/practices

Shadow IT often arises due to a company's inability to provide employees with the tools they need.

> *"Users must also be trained to follow the best and most secure practices. CIOs can use management solutions that provide them with visibility."*
> *— Ankit Aggarwal,*
> *Head - IT at PI Industries*

IT teams must be given some authority over the choice of these digital solutions since they have the responsibility to integrate them into workflows and ensure their security, believe experts.

"To ensure that synergy across digital tools and system is achieved, companies must have clearly defined IT policies. These guidelines should steer end users towards making the right choice of tools. Also, constant conversation is vital around long-term versus short-term gain, with CIO playing a key role in the process," says Gulati.

Dadke agrees, "In choosing these solutions, you should strive for a balance of privacy and operational tools. The idea should also be to make things simple, and not too complicated. If your tool set is too confusing for the end user, mistakes will be made and you may find yourself in violation of GDPR guidelines."

Constant reviewing of current practices, establishing effective guidelines and implementing necessary tools and perform enforcement measures moving forward.

Today, many companies are hiring data privacy officer to deal with GDPR and other data security related issues. While the DPO should be responsible for necessary changes taking place in data security and compliance related matter, a constant flow of communication with CIO is necessary to achieve the desired result, believe experts

## Educate and empower users

Finally, proper education and training is the key in the GDPR era. Employees need to be made aware of implications of these new regulations and what they mean for their workplace practices. Employees can take care to handle information more carefully if they understand the implications of doing otherwise. Beyond education, however, enforcement is also necessary. This means that employees require clarity around any IT sidestepping, what exactly unauthorized use is and how to go about asking for solutions that they want to use.

Ankit Aggarwal, Head - IT at PI Industries, mentions, "Users must also be trained to follow the best and most secure practices. CIOs can use management solutions that provide them with visibility."

"Also, there is a lot of human emotion about ownership, such as, 'Who owns the tasks?' 'Or the systems?' 'What does this mean for my job?'… So, there is a need to ensure IT teams are not only comfortable with the use of shadow IT, but embrace the growth mindset and learning opportunities that should be instituted alongside it, explains Aggarwal.

Gupta further observes that shadow IT is no longer simply a security risk, but also one that can bring about severe financial repercussions to your business. With the existing and upcoming strict data regulations, unapproved software and unaware users can damage your bottom line. "To tackle this issue, CIO must collaborate with HR to implement workplace guidelines that focus on the important threats while educating employees about their responsibilities in the long term," he tips off.

To conclude therefore, while it may appear that shadow IT is relegating CIOs control over IT and infrastructure, in reality they can take a realistic approach to get out ahead of this, or at least wrangle it back under their control. So, instead of attempting to block employees from using cloud computing and SaaS applications, experts believe, spending more time with employees, understanding their overall needs, and delivering simple yet compelling solutions that address those needs, can make a difference.

When this changed mindset empowers IT to evolve their skillset and become strategic advisers to their organization and business managers, CIOs will no longer feel the pinch of shadow IT. ■

# CIO&LEADER
# SAMMAN

## LEADERSHIP • BY THOUGHT • BY ACTION

### 2019

# CIO&Leader Samman 2019

On the occasion of its 20th annual conference, ITNEXT's sister publication, CIO&Leader, honoured 10 veteran CIOs with CIO&Leader Samman

**By CIO&Leader**

The enterprise IT community has always been very close-knit. At the top level, most top Indian CIOs work with each other and have a lot of mutual respect for them. The gap, which was there, in the next level, has been addressed, to some extent by the NEXT100 initiative from ITNEXT.

The NEXT100 awards are more than a celebration and recognition. They were probably the first step to create a close-knit community among the next level IT leaders from senior managers to VPs, who are not yet CIOs. But the role played by NEXT100 is arguably more than that. NEXT100 awards are decided by a series of tests and then interviews by senior CIOs as jury members. This has created a bridge between the senior CIOs and the future CIOs.

CIO&Leader, on the other hand, does not have any CIO award because

there is no need for such awards unlike NEXT100. Further, the belief in 9.9 Group is that CIOs cannot be 'bestowed' awards by us—the media. However, when it came to the 20th annual conference of CIO&Leader, the idea was to recognize the contribution of veteran community leaders. That was the genesis of CIO&Leader Samman—an honour, not an award.

Called CIO&Leader Samman, the honours were accorded in the

recently concluded CIO&Leader annual conference at Gurgaon.

"The CIO&Leader Samman, as the name denotes, is an honour for the veteran CIOs for their contribution and achievements. It is not an award. We, as a community cause facilitating platform, can only honour them with humility, not bestow awards on them," says Kanak Ghosh, Publisher, CIO&Leader and Director, 9.9 Group.

## Methodology

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

- Rajeev Seoni, former CIO, Ernst & Young India
- Rajiv Garg, former Executive Director at BHEL
- TG Dhandapani, former CIO, TVS Motors and Sundaram Clayton Group

It decided to follow the peer nomination route and asked the CIOs to nominate a maximum of three CIOs for the honour.

But before that the criteria were finalized, in consultation with the jury, CIO&Leader spelt 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 minimum of 30 years of professional experience. Those in their 30th year were also to be considered.
- Out of those years, at least five should have been as a CIO
- He/she must be serving as a CIO in India now.

For all these considerations, 30 June 2019, was taken as the reference date. Many CIOs came back with their nominations.

Each of the valid nomination was considered by the jury for the honour and the number of nominations had no bearing on the final selection.

The jury took into account the CIOs' professional achievements, 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.

## The List

There were 43 nominees in all. After intense discussions and deliberations, the esteemed jury panel came out with a list of 10 recipients.

The 10 recipients of the Samman, in alphabetical order, were:

- Annie Mathew, CIO, Mother Dairy Fruits & Vegetables
- Arvind Sivaramakrishnan, CIO, Apollo Hospitals
- Parthasarathy VS, Group CIO & Group CFO, Mahindra Group
- Rajeev Jorapur, Sr Vice President & CIO, Bajaj Auto
- Rajesh Chopra, Sr Vice President - IT, Oberoi Hotels & Resorts
- Rajesh Uppal, Sr Executive Director - HR & IT, Maruti Suzuki India
- Srinivas Tata, Group CIO, Kalpataru Group
- Suresh Kumar, CIO & Partner, Grant Thornton
- Umesh Mehta, Global CIO, Jubilant Life Sciences
- Vijay Sethi, CIO, Head - HR & Head - Corporate Social Responsibility, Hero MotoCorp

From the above, it can be observed that most of them have more than five years experience in their current organization. And all of them acknowledge that the role of CIO is beyond technology. It is creating business value for the organization. We present here the exclusive list of honourees – recipients of the CIO&Leader Samman 2019.

# THE SAMMAN RECIPIENTS

## ANNIE MATHEW
### CIO, Mother Dairy Fruits & Vegetables

The only woman in the list of CIO&Leader Samman recipients for 2019, Annie Mathew is among the CIOs who can be credited for setting the benchmark for an entire industry.

Mathew started her career in enterprise IT, working in companies like NOCIL and Bharat Shell and then had a stint in the IT industry before returning to corporate IT, with her current organization, where she is in her 15th year.

Mathew contributed selflessly to community causes by being part of



**Annie Mathew**
**CIO, Mother Dairy Fruits & Vegetables**

different community initiatives such as serving as jury member for selecting future IT leaders as well as in not just mentoring women IT managers but highlighting their role in all possible platforms.

## ARVIND SIVARAMAKRISHNAN
### CIO, Apollo Hospitals

There are CIOs who are great implementors of technology; there are yet others who are great problem solvers. There are only a few who are strategic thinkers as well, thinking proactively about how emerging technology can create higher value for the business.

Then, there is Arvind Sivaramakrishnan, who does not just do all of the above but makes his organization championing the cause of technology-driven change in the entire industry that it operates in. If Apollo Hospital today is seen as the harbinger of tech-led change in healthcare in India—not just inside the organization—you cannot but acknowledge the exemplary role played by CIO Sivaramakrishnan. The annual Transforming Healthcare with IT (THIT) international conference that Apollo Hospitals organizes successfully year after year could not have been possible without a technology leader, leading it from the front. Sivaramakrishnan is that man.

Sivaramakrishnan has worked extensively in IT industry leaders, such as CSC and Covansys before joining the present organization, more than eight years back.

**Parthasarathy VS**
Group CIO & Group CFO, Mahindra Group

importantly, one that is known for proactive use of emerging technologies—be it IoT or blockchain!

He is also one CIO who has had the distinction of running a business at global level. He headed the Global Markets (outside India) business of Mahindra Group. The overseas revenues of the group touched USD 1 billion during his stint. He has also headed the Strategy and M&A in the farm equipment sector for Mahindra Group, when the tractor sales of the group increased from 500 to 50,000 a year.

In his long career, Parthasarathy has worked in only two organizations—Xerox and Mahindra Group. This stability has meant he has taken up newer challenges and has been able to focus on long-term objectives like people development.

the qualities of a great CIO, his unequivocal reply is—ability to reduce complexity and simpler ways of communicating on IT with business people.

While many in his fraternity express concerns about the growing shadow IT challenge, he completely rejects the fear. He is convinced Corporate IT can still bring a lot of value by integrating these well and through good governance—yet another attribute that experts expect from CIOs of future.

In his long career, Jorapur has worked in Chemicals, Appliances industries apart from spending two decades in the automotive industry—first with Mercedes-Benz India and then with Bajaj Auto, his present organization.

**Arvind Sivaramakrishnan**
CIO, Apollo Hospitals

**Rajeev Jorapur**
Sr Vice President & CIO, Bajaj Auto

## PARTHASARATHY VS
### Group CIO & Group CFO, Mahindra Group

While a lot many CIOs in India do report to CFOs, VS Parthasarathy handles both the roles for his organization—one of the largest diversified business groups in India, more

## RAJEEV JORAPUR
### Sr Vice President & CIO, Bajaj Auto

Rajeev Jorapur is the textbook case of a pragmatic CIO.

His thoughts, his style and his priorities as a CIO has an uncanny similarity with what experts now believe the CIO role is evolving into. In that sense, he is truly ahead of the curve. Talk to him about what should be

## RAJESH CHOPRA
### Sr Vice President - IT, Oberoi Hotels & Resorts

Rajesh Chopra is a CIO who thinks like a business manager when it comes to his priorities & goals and thinks like a IT project manager when it comes to rolling out technology.

While he can effortlessly talk about guest experience, customer loyalty and the ways and means of making

**Rajesh Chopra**
Sr Vice President -
IT, Oberoi Hotels &
Resorts

**Srinivas Tata**
Group CIO,
Kalpataru Group

he handles responsibilities more than IT, but the way he articulates his thoughts and makes them sound so simple. And each of these thoughts come from his experience—been there, done that—than best-selling management idea books.

Ask him about the role of IT and the answers sound deceptively simple—sometimes, even cliché: Understand your business thoroughly, look proactively at tech landscape and look for innovation opportunities and create value. That is as generic it could be.

His priorities too sound simple. Give customer choice. Empathize. Bring about change proactively. Collaborate.

In the recently reconstituted board of Maruti Suzuki, Uppal continues as an important member of the board.

the guests comfortable, he can talk with equal ease about consolidating IT, using just the right technology to deliver a specific experience—and rolling it into business metrics.

Under his leadership, Oberoi Hotels & Resorts has been a leader in using technology but ask him and he would probably say 'leader in customer experience' leveraging technology. The sequence is pretty clear in his mind.

In his career spanning more than 30 years, Chopra has worked in companies like Samsung and Montari before joining Oberoi Group, where he is heading the IT function for more than eight years.

## RAJESH UPPAL
### Sr Executive Director - HR & IT, Maruti Suzuki India
One of the few CIOs to be part of the board of a very large Indian company, Rajesh Uppal is a highly respected leader within the CIO community. One can gauge that from the way even some senior CIOs scramble to shake hands and have a word with him in any CIO gathering.

What gives Uppal this respectability is not just his status as a board member in a large company or that

**Rajesh Uppal**
Sr Executive
Director - HR & IT,
Maruti Suzuki India

## SRINIVAS TATA
### Group CIO, Kalpataru Group
If there was an award for the most affable and warm CIO in the fraternity, Srinivas Tata, the Group CIO of Kalptaru Group, will be a serious claimant. Easy going, humble and friendly, Tata, demands respect from peers, partners and others associated with the community.

Yet, behind this humble smiling face, lies a very clear and incisive mind about how he wants to use technology to create value for the business. His understanding of the organizational business priorities—both strategic and tactical—is extremely clear. It sounds even more credible considering that, unlike many in this honour list, he has been with his present company, for only three years. That said, he has been largely in the infrastructure business for some of his past assignments.

Tata loves books, Golf, movies and spending time with family. Before joining Kalpataru Group, Tata has worked in Essar Projects, Adani Ports & SEZ and Lear Corporation.

## SURESH KUMAR
### CIO & Partner, Grant Thornton
Suresh Kumar is a CIO who has traversed the typical IT professional's path. Starting his career with public sector and then moving to other roles in the IT industry, he switched to the enterprise user side in 2001 and has spent close to two decades with the highly knowledge-intensive consulting industry.

As a partner and CIO at Grant Thornton, he gets to learn from the

**Suresh Kumar**
CIO & Partner,
Grant Thornton

**Vijay Sethi**
CIO, Head - HR &
Head - Corporate
Social Responsibility,
Hero MotoCorp

**Umesh Mehta**
Global CIO,
Jubilant Life
Sciences

person. It is difficult to find a senior IT leader in India who does not know Mehta or is not known to him. His commitment to the cause of community is extraordinary. For more than three years, he served as the president of CIO Klub Delhi chapter while for last two years, he has been serving as the president of its governing body.

Always available for community causes, Mehta has also served as a member of NEXT100 jury for multiple years.

Mehta has worked in Mother Dairy Fruits & Vegetables, JBM Group, Asia Motor Works, Case New Holland (Fiat) India before joining his present organization where he has been leading IT function for more than eight years.

experience from the customers and is completely focused on where he wants to take his company. Working to completely migrate the business to cloud, he is working on multiple emerging technologies, focusing on maximizing value for business from those investments. The new technologies include mobile applications, analytics, artificial intelligence, not to forget security, which is very critical for a high-on-intellectual-property business like his.

Kumar's plan is to turn an entrepreneur and one book on the subject he really likes is Ronnie Screwvala's Dream with Your Eyes Open- An Entrepreneurial Journey.

Kumar has worked in Ramco, NIIT, and KPMG before joining Grant Thornton as the CIO and Partner.

## UMESH MEHTA
### Global CIO, Jubilant Life Sciences
Rarely do leadership, strategic thinking and detail orientation come together. Umesh Mehta, Global CIO of Jubilant Life Sciences is one rare example of such a leader who combines all three.

In addition to this, Mehta's empathy and tact make him a great people

## VIJAY SETHI
### CIO, Head - HR & Head - Corporate Social Responsibility, Hero MotoCorp
A hugely respected IT leader, Vijay Sethi is one of the few IT leaders to be on the board of a large company in India. Apart from IT, he handles HR as well as Corporate Social Responsibility for Hero MotoCorp.

He particularly enjoys the new role around CSR a lot.

Sethi is a leader, who leads from the front, gets into details when necessary but gives a lot of free hand to his team members and are always there to support them.

In automotive, which is simultaneously shedding its heavy manufacturing-orientation to become savvy customer focused companies, dimension of that change is multipronged. It is to the credit of Sethi that he has led this process of transformation at Hero MotoCorp from the front—leveraging emerging technologies like IoT, digital twins, robotic process automation, and augmented reality and virtual reality. Some CoEs such as those on Blockchain, AI, and ML are in place and the company has identified/figuring out use cases that can maximize business value. This approach comes from Sethi's high emphasis on experimentation; failure is just another way of learning, he says.

Senior IT leaders in many organizations turn to Sethi for advice. He has worked in organizations like Ranbaxy and TCS before joining Hero MotoCorp more than a decade back. ■

To follow the latest in tech,
follow us on...



facebook.com/digitgeek



digit.in/facebook

# Supercharging Supply Chains With Uber Platforms

## Uber-like platforms will soon provide on-demand fulfillment, warehouse, and logistics services everywhere. Are you ready?

**By Michael Hu**

For companies feeling the pressure to meet rising customer expectations while keeping costs down, uberized supply chains could bring much-needed relief. Uberization, the business paradigm that disrupted the taxicab industry, is about to transform supply chains everywhere as companies increasingly rely on the supply chain capabilities and services of external platform-based ecosystems instead of building their own.

Both sides—the company in need of supply chain services and the one providing them—stand to benefit. In the consumer-packaged-goods (CPG) industry, companies that leverage AI platforms at scale can improve their demand forecasting accuracy by 20% to 30%, while reducing FTEs by 15% to 30%. Similarly, a digital logistics brokerage whose trucks are not filled to capacity can use an AI platform to identify companies looking to ship partial loads and get 10% to 20% more asset utilization.

## Three Types of Supply Chain Platforms

Over the next decade, three chief types of platforms are likely to become dominant. Each has a unique

source of value creation—as well as a unique set of challenges.

**Marketplace platforms** match supply with demand, providing companies with access to assets whenever they want it. Companies like Ware2Go and Flexe offer on-demand warehousing, which allows a company to rent warehouse space during its busy season or launch rapid, same-day delivery pilots near large urban centers.

To scale marketplace platforms successfully, make sure that it's easy for customers to take part and that the transaction costs are low. When working with a leading parcel delivery company to design an on-demand warehousing platform, we found ways to integrate customer order management systems and make the customer experience seamless. We also enabled cloud-based reservations and payment processing to reduce participation friction.

**Capability platforms** provide flexible, pay-as-you-go access to a strategic capability. They're useful for companies that would rather access learning externally than develop it internally.

Capability platforms often require large-scale and continuous learning and training data. The more data the platform company collects, the better its machine-learning algorithms get at providing the know-how its customers are looking for. Blue Yonder, for example, offers AI-powered plug-and-play capabilities like demand planning and forecasting.

The key challenge for companies that wish to build large-scale capability learning platforms is getting customers to share often proprietary data in a way that protects their confidentiality while allowing other firms to benefit from it.

**Asset grid platforms** provide flexible access to assets or infrastructure. These platforms are especially useful for companies lacking the funds or time needed to build such infrastructure themselves.

A leading CPG wholesaler client built a shared-asset platform for store

> There's little doubt that uberization will have a substantial impact on your supply chain in the years ahead. Even if you're not cut out to be a platform owner, don't stand still

deliveries. Customers that normally shipped product to their own warehouse instead shipped directly to the wholesaler's warehouse, which then shipped the product to its stores. When rolling out the platform, the company had to balance the need to subsidize early adopters, which were essential for gaining momentum, with the need to turn a profit.

Another type of asset grid platform is likely to emerge—one based on 3D printing. It's only a matter of time before on-demand print farms are doing 3D printing of parts and accessories. Logistics companies like FedEx could use these printers to print and deliver on demand.

To build and such a platform successfully, the platform owner must have deep pockets and invest in infrastructure upfront. Moreover, the company must be seen as an objective third-party orchestrator.

Fulfillment by Amazon, a service that provides warehouse fulfillment and last-mile delivery, is perhaps the most successful example of an asset grid platform to date.

**Preparing for Uberized Supply Chains**

To anticipate, participate in, and even shape the supply chain platforms of the future, start getting ahead of the curve today. A company that excels at a particular function can even contemplate becoming a platform provider.

But moving to a platform-based model isn't easy. It requires companies to develop a whole new set of competencies. We recommend that you:

- Understand trigger points. Determine the parameters for using a platform service instead of a traditional service. Platforms may not be your default, but for scenarios such as holiday seasons, they may be preferable to cloud-based warehousing. They may also be preferable if your per unit cost goes below a certain amount or if your e-commerce volume reaches a certain point.
- Monitor emerging platform players. Keep a pulse check on the evolution of various platforms across the supply chain so you can leverage them if and when the time comes.
- Start piloting platform capabilities relevant to your business. That's the only way to know if it will be a good business concept and whether you should scale it.

There's little doubt that uberization will have a substantial impact on your supply chain in the years ahead. Even if you're not cut out to be a platform owner, don't stand still. As the need for agile and resilient supply chains grows, harnessing the power of platforms will be key to success. ■

# CONNECTING THE

# D O T S
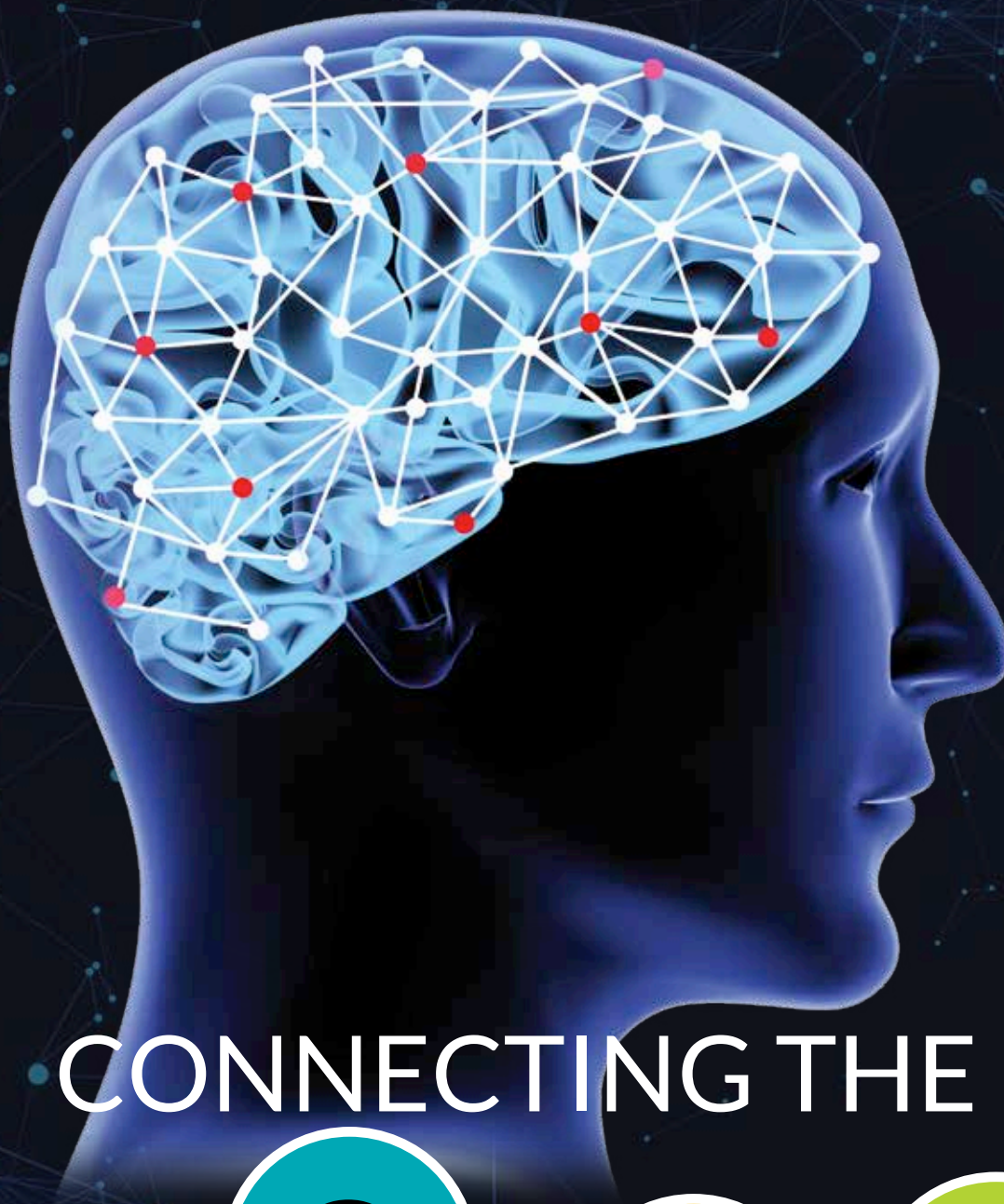
Getting the big idea—from disparate business and technology keywords—is not an easy task. When IT leaders tried, many came up with flying colors. We present some of the best ideas

**By CIO&Leader**

A long-standing complaint of business executives about technology leaders has been their inability to think on plain canvass. While many CXOs today see CIOs as excellent problem solvers, they never forget to add in the same breath that the problem needs to be well-defined for them to be able to solve it.

Today's CIOs have come a long-way from the tech-obsessed, nuts-and-bolts executives they were at one point of time. Their understanding of the business is now second to none. They can speak on business issues with ease.

Yet, the above-stated challenge—the discomfort, if not complete inability, to see the big picture—remains.

In fact, one can argue that the newer positions like Chief Digital Officer are a direct fallout of that.

Today, technology is not just impacting the products and processes, it is impacting business strategies as well. Newer business models based on the new technological capa-bility are coming up. Some emerging technologies like Big Data, AI, IoT and Blockchain, have brought in revolutionary changes.

That requires that organizations think of business challenges, opportunities and technologies together, not sequentially, which essentially means IT leaders should be able to provide business inputs based on their understanding of emerging technology landscape.

Understanding of business and understanding of emerging technology landscape, together, is not enough to be able to do that effectively. They must be able to integrate disparate, isolated business challenges and opportunities and disparate technologies and technology practices to maximize business value.

In short, it needs an ability to connect the dots—comprising business imperatives, practices, technologies, functions—to create meaningful strategies.

For the next generation leaders, it is an absolute need.

That is what we decided to give to the IT leaders as a challenge—in the recently concluded annual CIO&Leader Conference. We created a list of keywords—some of them were about business metrics, growth, consolidation; some were about business needs, customer experience, some technologies Artificial Intelligence.

The keywords were – Transformation, Insight, Artificial Intelligence, Customer Experience, Growth, Consolidation, Hybrid, Innovation, Automation and Risk.

Each participant was given four such random keywords out of these ten. They were expected to combine them to create meaningful business strategies. And they did—and how! Out of about 80 IT leaders who participated, at least half could come out with really useful and coherent strategies. About twenty of them were impressive. We chose nine out of those strategies as winning strategies. We present those strategies and winners here, along with their keywords.



"To get better customer experience, an insight into the expectation and behavior of customer reflecting in the data during interaction will need to be set up using a hybrid approach of analysis and empathy."

**HARNATH BABU**
CIO, KPMG

**KEYWORDS**
Hybrid, Insight, Customer Experience



"Create the culture of innovation; get the complete insight of your business; consolidate and create a roadmap and get the best by deploying Artificial Intelligence and create impact on business to make it future-ready."

**JITENDRA MISHRA**
VP & CIO, Alembic Pharma

**KEYWORDS**
Insight, Innovation, Consolidation, Artificial Intelligence



"CIO's C is for Customer Experience, not only the old thrust of Consolidation. That customer experience would come with digital transformation resulting in business growth."

**KAMAL KARNATAK**
Group CIO, RJ Corp

**KEYWORDS**
Growth, Customer Experience, Consolidation, Transformation

"Transformation should be driven with customer experience at the core. Artificial Intelligence as a tool has the ability to provide new insight for delivering an improved customer experience."

### RAHUL PURI
VP - IT, Devyani International

**KEYWORDS**
Transformation, Insight, Artificial Intelligence, Customer Experience

'Automation for Industry 4.0 and NextGen CRM for great customer experience using hybrid cloud can generate insights to deliver business value from shop-floor to top-floor.'

### RUPESH NAIN
Head - IT, JCB India

**KEYWORDS**
Insight, Customer Experience, Hybrid, Automation

"Business and market insight blended with innovation and automation considering IT security, compliance and risk, can lead to accelerated growth in revenue."

### SALONI VIJAY
GM, Vodafone Idea

**KEYWORDS**
Risk, Innovation, Growth, Insight

"Growth is possible only when consolidated customer experience is effectively used as insight by a business."

### SATYANAND SHUKLA
Head - IT, IFFCO MC Crop Science

**KEYWORDS**
Growth, Insight, Customer Experience, Consolidation

'Consolidation of information from various data sources and insights can transform the customer experience.'

### SHIV SHANKAR SINGH
VP - IT, ABans Group of Companies

**KEYWORDS**
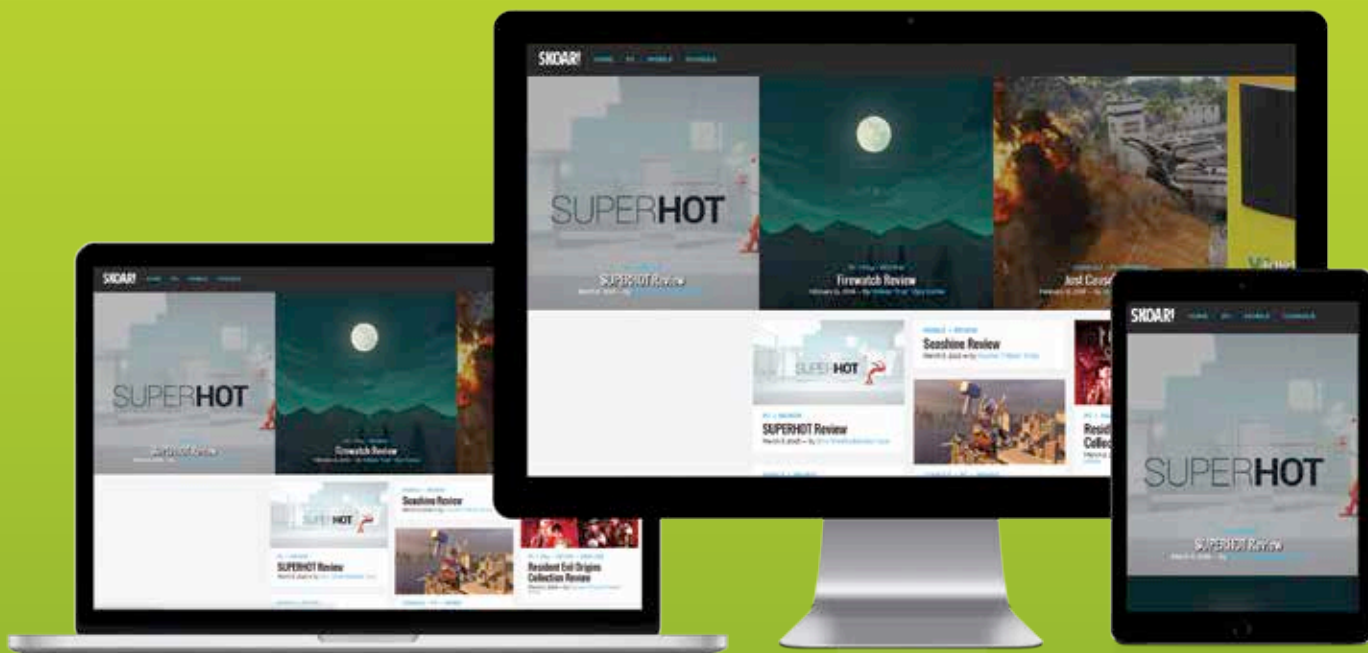Insight, Consolidation, Transformation, Customer Experience

'We use Artificial Intelligence-infused automation across the whole supply chain in our organization to drive transformational growth in business.'

### SUDHANSU KARMOKAR
Head - IT, Safari Industries

**KEYWORDS**
Growth, Transformation, Artificial Intelligence, Automation

# Wanted: Security Professionals With Cloud Skills

The lack of skilled cybersecurity professionals, especially for cloud environments, may represent an existential crisis to our fledgling digital economy

**By Rajesh Maurya**

The need for talented IT professionals remains a top concern for most organizations. According to one recent report, organizations say they currently face skills shortages across a range of IT specialties, including server/systems administration (43%), general network administration (36%), and database administration (31%). The lack of seasoned cybersecurity professionals is even worse, with a skills gap estimated at just under 3 million workers. As a result, according to a report from ESG, 53% of survey respondents reported a problematic shortage of cybersecurity skills at their organization. And that's just for general cybersecurity personnel needed to support and secure primarily traditional network environments.

But as networks rapidly expand to include the cloud, the problem becomes even more acute. Nearly a third of organizations have identified a challenge in locating individuals capable of managing converged infrastructures that blend traditional and cloud networks into a coherent networked environment. The lack of trained personnel in the area of cloud networking and development is a similar IT challenge, with 41% of organizations struggling to find skilled DevOps professionals, and 37% looking for folks with skills in container administration.

So it's no surprise that finding security professionals with cloud skills can be like finding a needle in a haystack. As a result, security deployed in the cloud tends to be just like the security running on the physical network: isolated. To make things worse, the security policies, devices, configurations, and protocols deployed on the cloud are often run by an entirely different team, which means there is little consistency in terms of enforcement, correlation, management, or orchestration.

Of course, cybercriminals are all too willing and able to exploit those security gaps between different networks that still need to share data and workflows.

**Key cloud cybersecurity gap areas**

Here is a breakdown of some of the key security skills gap challenges faced by organizations operating cloud networks and services:

**1. Cloud Native Security** — Organizations adopting cloud networks generally recreate the same security

problems that exist in their traditional networks. First, they tend to add security as an afterthought, usually after their cloud infrastructure plans have already been designed. Next, they tend to implement the same legacy solutions in the cloud that they have been using in their core network. Many vendors have simply loaded virtual versions of their physical security devices into the cloud store, and organizations select them because they believe they already know them. However, these solutions tend to have several serious problems:

First, these different security tools still operate in isolation, which means that not only you can still not share threat intelligence or security events between solutions, you now can't do it between different network environments either, which compounds the challenge of things like correlation and enforcement.

Second, virtual versions of security solutions deployed in the cloud often run quite differently from their physical version. Many features may function differently and many may not even exist at all. Which means that even if you can see all versions of your firewall through a central management console, your ability to establish consistent configurations and policy enforcement can still be severely compromised.

And finally, these tools are also unable to take advantage of the performance and functionality built in the cloud because they were not designed to leverage cloud APIs and native functionality, which means they run slower and are less effective than those tools designed to run natively in the cloud.

Cloud security experts need to be able to deploy, configure, and manage cloud native solutions designed to run in the same elastic and distributed way that cloud applications run and that modern cloud computing platforms require — which is very different from traditional security tools.

**2. DevOps vs DevSecOps** — Security professionals need to be integrated into your DevOps team in order to ensure that security is built into applications, infrastructure, and services from the beginning of every project. Agile application development, for example, needs to be able to link application functionality—especially when critical data is being handled—to security functions in a single, reliable chain in order to protect users without compromising the effectiveness and performance of the application. Generally speaking, this requires skills outside the scope of most cybersecurity professionals focused on mainstream network security strategies.

**3. Container Security** — This becomes even more challenging when implementing specialized environments, such as containers, that require specific security solutions to be in place. Container security needs a security professional capable of addressing specific challenges, including:

Integrated container security to address corrupt or malicious data inserted into a container.

Container-enabled security tools such as web application firewalls running inside a container that enable DevOps teams to better integrate application security into their application development process.

Container-aware security that can define and enforce security policies based on contextual factors such as container tags and labels.

Securing the container registry to protect developers from checking out an infected module and then building new application capabilities on top of that compromised code.

**4. Multi-Cloud** — These challenges are compounded when spread across multiple cloud environments. And with some experts estimating that 81% of enterprises currently have a multi-cloud strategy in place, this is just about everyone.

The challenges in a multi-cloud environment include:

**Consistent protection** — Applications, data, and workflows tend to move across and between cloud environments. From a security perspective, this means that security policies need to be able to move seamlessly along with any transaction so that critical data and resources receive the same protection regardless of their location.

**Consistent policy** — The other challenge is that different cloud environments function quite differently, which means that moving policies between different cloud networks can be difficult. Different security functionalities need to be taken into consideration, and protocols need to be able to translate rules and policies on the fly to eliminate gaps in enforcement that can be exploited by cybercriminals.

## Addressing the skill challenge

The lack of skilled cybersecurity professionals, especially for cloud environments, may represent an existential crisis to our fledgling digital economy. Addressing this challenge requires a concerted effort on the part of both the private and public sectors of our communities. In the meantime, organizations need to identify IT personnel—preferably, someone with a DevOps background—that can be specially trained in the area of cloud security.

Those individuals then need to be embedded in both the IT security and DevOps teams to not only implement effective security solutions, but also serve to bridge the divide between traditional IT and the cloud. Failure to understand and effectively implement a cloud native security strategy can leave your organization vulnerable to policy and enforcements gaps, as well as limit the performance and functionality of your cloud infrastructure, applications, and services. And that can determine whether or not your organization is able to thrive in today's digital marketplace.■

*The author is Regional Vice President, India & SAARC, Fortinet*

# How Can CIOs Build Modern Workspaces?

## Companies are faced with many challenges while building and maintaining modern workplaces

**By Ankur Goel**

Gone are the days when workplaces were associated with traditional, desk-bound 9 to 5 jobs. Today, businesses are increasingly shifting towards new ways of getting work done, which gives more importance to employee flexibility and autonomy.

Businesses are more globalized, and workplaces often consist of employees and partner ecosystems from all over. It is now very common to see rows of people working in coffee shops with their headphones on and a steaming cup next to them or an employee who prefers to work remotely or from a client's location.

The workplace as we know it is changing and technology is playing a huge role in influencing both where we work and how we interact.

Companies that want to attract and retain top talent in today's app economy need to adapt their culture and technology to accommodate this shift in attitudes.

### Challenges while building modern workplaces

However, companies are faced with many challenges while building and maintaining modern workplaces. Examples include:

■ **Managing a diverse workforce.**
The workforce today is more diverse

than before. Millennials now make up the majority of the workforce and are maturing into leadership positions. Generation Z is joining the workforce. Baby boomers are returning to work as consultants or temporary workers. It is not uncommon for a company's workforce to be comprised of as many as five generations of workers. Organizations are in a tough position today as they are required to manage the expectations of this diverse workforce and ensure that they provide technology and facilities that cater to this varied audience.

■ **Demand for flexibility.** Due to traffic conditions in our cities and the need from the workforce to maintain a better work-life balance, employees prefer to work with organizations that allow them to work when and how they want. In the modern workplace, flexibility plays a crucial role. If companies do not encourage the flexible working culture, they are at the risk of losing out on top talent.

■ **Distractions in open office.** Due to rising real estate costs in India, many companies today opt for open offices. However, most employees can't escape the noise and interruptions coming from their co-workers. According to a recent survey by Poly, workers in India spend the least time at their primary workspace compared to other countries and spend the highest amount of time working with others. Not surprisingly then, India was the country with the highest number of people reporting being "always" distracted at work.

## How can CIOs manage the expectations?

CIOs play a critical role in creating modern offices as they are the experts on key workplace technology. They have a significant role in making sure that they offer the best employee experience. In order to create modern workplaces, it is important for CIOs to work closely with company leaders and human resources to build an energized and collaborative workforce.

A few tips for CIOs to build the modern workplace include:

### Provide greater choice and control over collaborative spaces

Today's workers increasingly depend on technology to achieve high levels of productivity. They expect to connect instantly, work smarter, produce outcomes and drive results quicker. Technology-enabled huddle rooms satisfy this need for real-time, productive collaboration and are now, more than ever, an important component in an organization's digital transformation journey. Huddle rooms are ideal for today's workspaces for teams who want to be mobile, connected and highly collaborative.

CIOs should work on creating strategically placed small meeting spaces that are designed to empower people to meet quickly and easily. A huddle room must be equipped with:

■ Powerful video collaboration, so employees can get the most out of their meetings

■ High quality audio, content, and video

■ Easy to use technology

### Implement technologies that support anywhere working and open workspaces

With the build of high-speed broadband networks across Asia Pacific and increased 4G penetration in India, technology can now give people the freedom to work the way they want. Regardless of their location, today's multi-generational workforce wants the ability to work and collaborate in a very human way that gets the job done and employers need to provide flexible working policies to attract and retain their best talent. CIOs must implement collaboration technologies such as video conferencing which supports this culture.

Also, the workplace itself has moved away from rows of cubicles to more open workspaces and offers employees flexible work arrangements. CIOs must embrace solutions that support new technology innovations, like noise cancellation, lighting adjustments and digital white-boarding.

### Allowing more technology choice within workplace

Employees expect to be able to use their personal phones, tablets, even some wearables, and experience the same performance in the workplace as they do at home. They want a single platform to run both their work and personal lives. Smooth integration of these devices with enterprise applications is a must, and it must happen without compromising data security or network function.

The latest cloud collaboration systems operate across devices and platforms, giving IT leaders the ability to connect employees while retaining control of company systems.

### Key takeaways

The way we think and feel about work has changed drastically over the past 10 years, and will continue to shift over the next 10. Ultimately the changing expectations of the worker and their impact on enterprise IT deployments can be summarized under three business pillars: Workspace, experience and workflow. It's the desire to collaborate anywhere, in a natural way and with impact. Workers don't just want unified communications, they are demanding high quality mobile and cloud solutions that are woven into their business functions. The CIO is at the center of significant technological and marketplace shifts and must take the lead in ensuring senior leaders understand how the world is changing and the role that collaboration technologies will play in strengthening customer loyalty, optimizing resources and driving innovation.

Only the most connected and collaborative organizations can ensure that they such a workplace and thrive in the workforce of the future. ■

*The author is Managing Director for Poly India & SAARC*

# Learning Lessons From Cyber Security Incidents

## Three banks in Bangladesh hit by cyberattack

**By Prakash Kumar Ranjan**

Recently three local private banks suffered major cyberattacks in Bangladesh. Of the three, Dutch Bangla Bank Limited (DBBL) is the biggest victim, losing approx. USD 3 million (around Tk 25 crore) to global cybercriminals, according to "The Daily Star" newspaper. Two other banks – NCC Bank and Prime Bank – also faced cyberattacks, but they have claimed that they were able to avert financial losses. This is the biggest cyberattack in Bangla-

desh after the hackers made off with USD 81 million from Bangladesh Bank's account with the Federal Reserve Bank of New York in February 2016.

These types of attack always raise concern over information security robustness in the banking systems. Cybercriminals are getting collaborative in hacking, but organizations are not learning lessons from the cybersecurity incidents happening globally or within the industry. According to the same newspaper, in this cyberattack, the

hackers planted a malware in the bank's switch around three months ago and made a perfect replica of the switch (Proxy or Shadow Switch), which was not detected by the bank.

The hackers were able to siphon around USD 3 million between May 1 and 3, 2019 from cash machines in Cyprus, Russia and Ukraine. However, the bank (DBBL) came to know about the fraudulent transaction when VISA asked the bank for settling the payment transactions made in Cyprus. It shows that there is some gap in building robust reconciliation process for transactions. Also, it shows that these banks have not implemented Enterprise Fraud Risk Management Solutions, else they could have easily detected these kinds of anomalous transactions originating in different countries and could have been alerted in the shortest time and saved enormous funds.

A similar modus operandi of the cyberattack could be seen in COSMOS Bank (Pune, India) cyberattack in August 2018, where the hackers made malware attack on the SWITCH and siphoned around INR 80 crore by using Proxy Switch system and self approving the transaction made by the attackers.

So these types of incidents show that organizations are not learning lessons from cyber incidents happening in their industry. Though in India, the regulator (RBI) has issued various advisories to secure critical Infrastructure like SWITCH, ATM, SWIFT, CBS etc., and has also been regularly sharing the IOCs (Indicator of Compromise) to the member banks to take proactive action. Regulators have been issuing advisories and are also taking confirmation on the action taken by member banks against such advisories issued to curb such yberattacks. However, an organization needs to collaborate with other organizations/industries to adopt best practices and share intelligence.

Some security hygiene which should be in place in banks or any payment organization are:



## These types of incidents show that organizations are not learning lessons from cyber incidents in their industry

1. Isolation of critical infrastructure from general IT environment (at least virtually).
2. Robust reconciliation procedure for all payment transactions, they may utilize RPA (Robotics Process Automation) to bring automation in reconciliation process to weed out manual error.
3. Implementing strong security solutions like anti-APT on servers and endpoints which can detect anomalous behavior of a malware.
4. Patching critical infrastructure with latest patch available (at least for security patch).
5. Monitoring the activity of administrators on the critical infrastructure.
6. Using PIM/PAM solutions to restrict privilege escalations and providing role-based access to the user.
7. Restricting the user logons from elsewhere on the network (type3)

access through Terminal Services, Remote Desktop or Remote Assistance (type10) and monitor for potential unauthorized access.
8. Implementation of Enterprise Fraud Risk Management Solutions to detect and respond to any anomaly in transactions.
9. Integrating critical infrastructure with SIEM to monitor and alert any anomaly on real-time basis. It should also include IOCs shared by the regulators or threat intelligence agency.
10. Disable PowerShell in servers where not required and disable PowerShell in Desktop systems.
11. Firewall rules to be monitored to block any unidentified outbound connections, reverse TCP shells or other potential backdoor connections. Alert should go to SIEM for any such connection requests.
12. Block execution of unknown files or executables, potentially unwanted application as part of hardening configurations. Develop Hardening Baseline document and apply the same to all Infrastructure in your environment.
13. Periodically conducting VA/PT exercise to detect any vulnerabilities existing in this Infrastructure ■

*The author is ICT Security, Risk & Compliance Manager at CNH Industrial*

# Backup As A Service: Why The Time Is Now?

Traditional backup methods do not guarantee 100% data protection and businesses need cloud data backup services: BaaS

**By Kumar Vembu**

A well-known pharma retail & distribution company with a vision to provide the best healthcare services to its customers, met with a big ransomware attack. What followed was a nightmare.

This is not an exceptional case. Getting the business running after data loss is a huge challenge. Businesses often lose critical data like customer data, supplier information, and accounting information. And very often, the situation occurs due to external factors like improper maintenance of systems, hardware failures, power surges and even natural calamities, etc. Restoring the lost data and finding an alternative in the meanwhile can take months Business suffers in the process.

**High on impact, high on probability**
Organizations are generating more data than ever, with market pundits throwing frightening market statistics. IDC projects that by 2025, the "global data sphere" will expand to 163

zettabytes (ZB) or 1 trillion gigabytes. And that figure will be 10 times the 16.1 ZB created in 2016. That is a substantial amount of data. And to keep your business protected and running uninterruptedly, you have to mirror a significant percentage of that data.

India is witnessing the world's highest number of data breaches over the last 2 years and the average cost of a data breach is rising 8% year-on-year to INR 11.9 crores (USD 1.7 million).

But it is not just the data breaches and thefts that are alarming.

We live in an era where data corruption happens very frequently. When valuable business data gets deleted or affected by a virus, it's either going to cost the business significantly and may take days to bring it back running. Significant reasons for data loss is database corruptions which could be because of human errors/data deletion, power surges, hard disk failures, system crashes, improper shutdown, software corrup-

tion, natural disasters, data theft from hackers or insiders.

For the continuity of business, the data needs to be backed up. Traditionally, the data was backed up manually.

But the manual back-up was:
- people dependent
- time-consuming
- error prone
- labour & skill intensive
- vulnerable
- harder & un-reliable
- time-consuming restoration based on the size of the data
- most importantly rising hardware storage costs

Hence, in order to mitigate the loss of data, a proper backup system in place is essential for any business. Setting up one's own backup might be time-consuming and expensive as it involves additional costs in the form of hardware like servers, hard-drives, computers and also one has to hire an IT professional exclusively to man-

age this. For a newly started company, this might be a challenge and also an added expense.

### The future: Backup as a Service (BaaS)

According to IDC reports, by 2020 nearly 40% of the information/data will be "touched" by cloud computing providers meaning that a byte will be stored, processed in a cloud somewhere in its journey from origin to disposal.

This has also given rise to cloud backup services, often called Backup as a Service or BaaS.

With BaaS, the complexities of data protection are now outsourced. This results in several benefits:
- **Lowered Total Cost of Ownership (TCO):** No upfront investment in infrastructure, no skill or expertise required to manage back-ups
- **Complete automation:** Data backup process happens in background, set-up once and it keeps on running
- **Less time consuming:** Data backup is periodic, incrementally & real-time
- **Secured and reliable:** Cloud back up in Amazon data center, protection against malware/ransomware
- **100% business continuity:** Restoration is faster with a single click
- **Enhances business efficiency:** Peace of mind as no skill required as backup is automatic, businesses can now focus on growth

Whether backup is local or automated, business needs to have a backup strategy before the catastrophic data loss happens. Traditional backup methods do not guarantee 100% data protection and businesses need cloud data backup services: BaaS.

Future-proofing data backup/restore methods will result in preventing data loss and costly downtimes. It is increasingly becoming a business imperative.■



**Setting up one's own backup might be time-consuming and expensive as it involves additional costs in the form of hardware like servers, hard-drives, computers and also one has to hire an IT professional exclusively to manage this.**

*The author is CEO and Founder, GoFrugal*

# Attention CIOs, The CDO Role May Soon Disappear

With many companies today looking at CIO to play the CDO role, CIOs should pull up their socks and get ready to add another feather to their cap

**By Sohini Bagchi**

With digital transformation becoming a norm in most organizations, the last couple of years saw the emergence of a new type of executive in the already crowded C-Suite: Chief Digital Officer or CDO. Irrespective of the industry or the specific organiza-tion, the CDO's mission is to help the organization stay competitive in the digital era. In simple words, his role is to lead the firm's digital agenda. So far, so good! But now a recent research report by PwC's Strategy Consulting Group highlights that despite the buzz, until recently, very few companies have appointed a full-time, dedicated CDO.

This brings back the debate if CDO position is at all needed in organiza-tions today or its responsibility can be shared by others in the C-Suite, namely the Chief Information Officer (CIO), who in recent years, have also been working very closely with the business on transformation.

## The CDO bottleneck

The Strategy Consulting report that looked at hiring patterns and the scope of the CDO role across the 2,500 largest publicly listed companies globally shows the numbers declined majorly since 2016. According to the study, only 54 companies (2.2%) sur-veyed created a distinct, new CDO position in 2018, compared with 124 that did so in 2017 and 160 in 2016. We can now say that 2016 was the high-watermark in CDO hiring.

According to the study, decision makers at several companies now believe that putting a single person in charge of digital transformation may not be the best approach. That's because, it is a strategic priority across the whole business as agility becomes critical to survival. The CDO role no longer leads a discrete function.

Moreover, companies that already have a CDO have changed their expectations of this role. Some believe, the role has become much more transformative across the entire organization. Hence, the CDO should work across functional silos.

At the same time, there is need to change legacy systems and implement new technologies, which means that the CDO must have the appropriate technology background. One-third of the individuals, who originally took up the CDO position have been replaced due to such changing expectations, shows the PwC study.

While the CDO role has emerged to accelerate digital transformation initia-tives across all industries, within many organizations, the role often lacks clear definition. Also, as noted by IDC researchers, having too many mem-bers in the C-Suite have often created unnecessary confusion and conflicts.

## Opinions are clearly divided

With the nearly overlapping CDOs and CIOs, it is natural to ask: "Can CIOs act as CDOs? Or do companies really need a separate CDO for driving digital transformation?"

Proponents of CDO role argue that a dedicated leadership role in the form of CDO is imperative for their successful digital transformation and ultimately their survival. Rowan Gibson, bestselling author and thought leader notes in his blog, "On the face of it, the CDO's job is to be a digital leader, someone who is capable of successfully driving the transformation effort across the whole enterprise. But it also represents perhaps today's most exciting and important corporate role, as companies face up to the new strategic challenges and business imperatives of the digital economy."

CIOs are traditionally associated with keeping the company running efficiently and effectively, at the lowest cost. Say, ERP implementation is as mission-critical today as it used to be years ago, but it's also the less glamorous side of IT. In contrast, CDOs role is about digital transformation and offering customer experience.

Investments in new digital platforms (the IT infrastructure part of driving innovation) are foundational to enabling digital transformation initiatives. These digital platforms provide greater reliability, efficiency, and ease of data access, delivering benefits that actually become even more important as companies create data-driven business models and services.

Gibson argues that without creating this critical leadership role, appointing someone qualified to fill it, and supporting the chosen executive from the very top of the organization, how else can companies hope to make the transformational journey to a fully digital future.

Also as Lindsay Trout, Head of Egon Zehnder's Global Digital Practice, mentions in a 2017 Forbes article, CDOs are forward-looking and entrepreneurial by nature, are not bound by the technical aspect of running a business. A common trait of CDOs seems to be their ability to help companies grow not only technologically, but culturally. "It's not only about technology; It's also about people," notes Trout.

## CIOs to replace CDOs?

However, analysts in general have a very different take on the relevance of CDO role. According to IDC, 60% of CIOs will be replaced by CDOs for the delivery of IT-enabled products and digital services by 2020, which is not too far. McKinsey also states that "Digital isn't merely a thing—it's a new way of doing things. Many companies are focused on developing a digital strategy when they should instead focus on integrating digital into all aspects of the business, from channels and processes and data to the operating model, incentives, and culture."

A SAP *Digital Transformation Executive Study* indicates that companies must combine the best of these modes – IT and digital, resulting in what is effectively a "bimodal" approach to driving innovation. The findings suggest that nearly 75% of digital transformation leaders see a bimodal architecture as key to maintaining their core processes while quickly implementing next-generation technology. Likewise, Naufal Khan, Senior Partner at McKinsey & Company, said at the MIT Sloan CIO Symposium last year, there is a growing trend of the CIO-CDO dual role.

The new European General Data Protection Regulation that came into force in May 2018 is a good example. There are huge fines for non-compliance, and any company that has European customers must take this law into account. Compliant innovation requires a strong approach to governance that has to integrate tightly with the new customer-facing initiatives. Often digital transformation goes wrong because it focuses on these small silos of innovation that can't be scaled to the company as a whole because of incompatibilities with core systems, lack of security, or compliance issues.

He explains, "With the digital revolution underway, the ideal CIO is one that possesses both technical knowledge and business acumen to help drive their company's digital transformation initiative forward. Hence CIOs leading digital transformation efforts shouldering additional responsibilities can undertake the job of a chief digital officer."

The SAP study further suggests that there are benefits to having digital transformation projects reside with one C-level owner: either with IT (run by the CIO) or a dedicated digital transformation group (run by the CDO). The CIO and CDO can – and ideally should – be the same person. If your organization must have two people for these roles, then the CIO should be a "chief infrastructure officer" – but with the CDO as the "primary business customer."

## Eventually, the roles will merge

Although the role of the CDO may be declining, the digital transformation journey is far from over, believe researchers. Digital technologies are rapidly emerging as disruptive forces for businesses. They are changing the way in which companies interact with customers, as well as paving the way for new business models.

Some may, at the moment, take the middle path. As the IDC research recommends that at present the roles can coexist. Going forward, organizations that identify their CIOs having adequate digital skills – and not just a leader of the technology function – should not give a second thought. Yet at the same time, where organizations have a CDO in place, the priority should be to ensure the CDO has the appropriate capabilities to move the digital transformation agenda forward.

But sooner or later the roles will merge, believe experts. It's time therefore for CIOs to pull up their socks and get ready to add another feather to his cap – that of the 'Chief Digital Officer' to carry forward the digital innovation.■
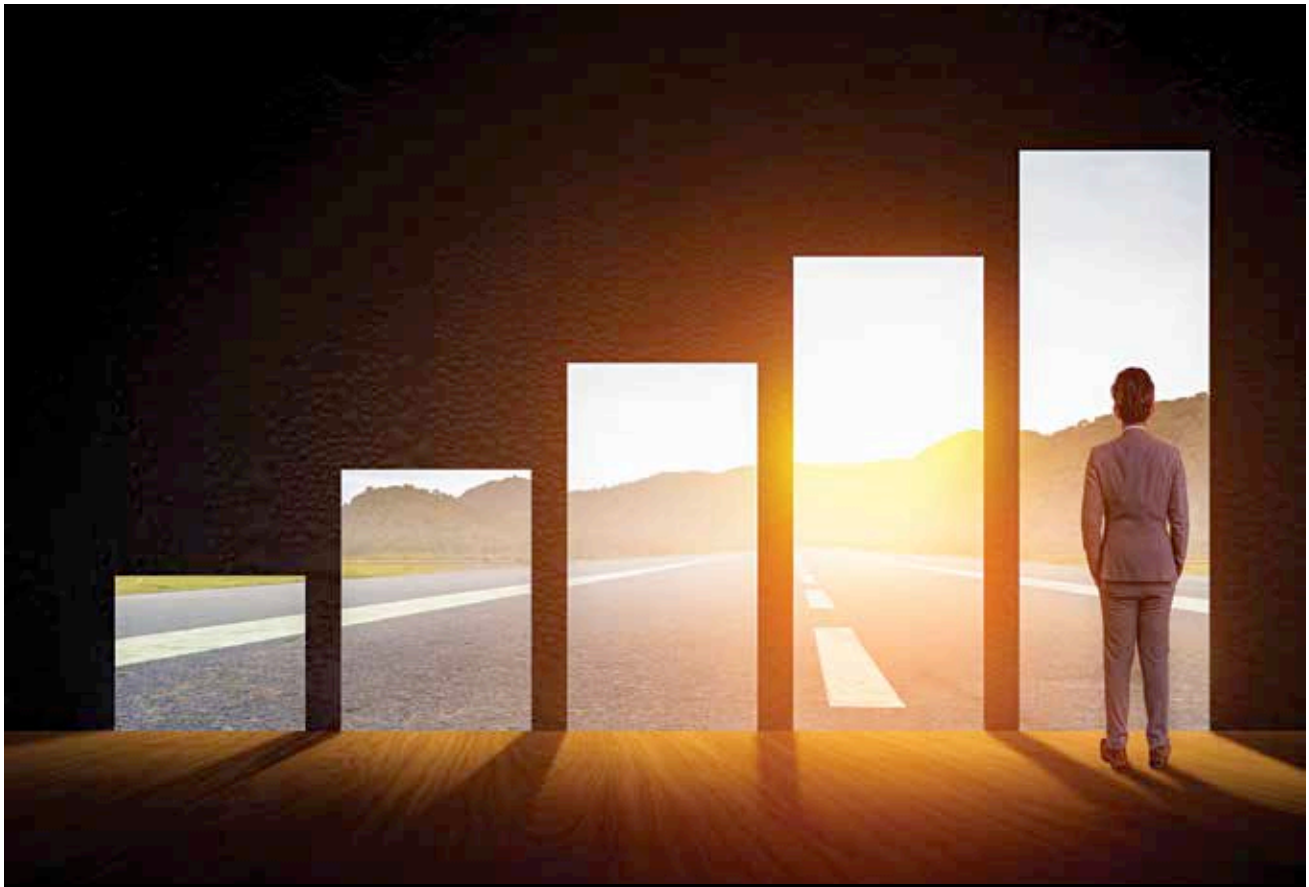
# How High Performing CIOs Stay Ahead Of The Game

Research shows building C-suite influence,
focusing on customers and digital workflow maturity
will unlock CIO's success

n a fast-moving world underpinned by the proliferation of cloud computing, AI, mobile technologies and big data, organizations must constantly adapt to stay ahead of the game. High performing CIOs are aware of these changes, notes a recent research – and this is what differentiates them from the rest.

They focus more on business leadership and the goals of the customers, employees, and other business functions, rather than technology operations, mentions the global survey of over 500 CIOs, conducted by Oxford Economics and commissioned by ServiceNow that examined the most important capabilities for the modern CIO.

## CIOs as business visionaries

While for many years, CIOs were focused primarily on IT, the survey shows that nearly two-thirds (63%) of CIOs believe business and leadership skills are more important than technology acumen – and, critically, the most successful CIOs are those who have positioned themselves firmly as business visionaries.

The three things that separate around one-fifth of CIOs that consider themselves effective, across the most important CIO capabilities, from the rest are, they are further along at digitizing workflows; they build C-suite influence and they focus externally on customers.

The highest-performing CIOs focus on strategy versus operations and aligning the goals of IT with the goals of the business. These CIOs also report higher levels of productivity, innovation and customer satisfaction in their organization and have the strongest relationships with other business leaders, in particular the CEO and Chief Human Resources Officer (CHRO).

## Collaboration is vital

There is a consensus among most CIOs that establishing partnerships and cross-team projects at C-level is

## The highest-performing CIOs focus on strategy versus operations and aligning the goals of IT with the goals of the business

a critical part of their role. For example, 64% of CIOs agree that their role is to educate other members of the C-suite on digital technologies; nearly 70% say collaborating with the CEO on setting organizational road maps is key to their role and 77% of CIOs say their core responsibilities include collaborating with the CHRO on talent strategies.

From a technology perspective, the most successful CIOs are those who are building consensus and action around automating and integrating work processes and introducing digital workflows to drive outcomes. They recognize the importance of digital workflows in increasing efficiency (80%), financial performance (78%), productivity (78%), employee performance (76%) and innovation (75%).

"As technology becomes critical to business success, expectations of the CIO have grown exponentially," says Chris Bedi, CIO, ServiceNow. "In the past the CIO was an organization's top technologist, but today the most successful CIOs are those who are

thought leaders, innovators and business visionaries."

"CIOs have the opportunity to take center stage in leading a transformational change for their organizations. Building C-suite influence, focusing externally on employee and customer experiences, and changing the operating model through workflow digitization are keys to unlocking high performance," Bedi says.

## Digitization a requirement, not an option

While the CIO won't be relieved from contributing cost savings through standardization and automation anytime soon, it's evident that forward-thinking business leaders understand that digitizing their organization is a requirement, and no longer an option.

The key to success in the digital era will be the ability to meet changing customer requirements and strategically leveraging technology to support new business models that manifest sustainable competitive advantage, concludes the study. ■

# Social CIOs' Tech Buying Behavior On The Rise: Study

Research shows how IT vendors can tap into the tech buying behavior of today's social savvy CIO

While CIO/CTOs are already keeping pace in a rapidly changing technology landscape, only a handful were active on social media until recently. That trend is changing now. Studies show, many CIO/CTOs are embracing social media as a way to connect with their peers, discover best practices, and become stronger leaders – all with the goal of doing their jobs better. In fact, a new research reveals that CTOs and CIOs in the last 2–3 years are keener on the use of social when compared to their other C-Suite colleagues.

The report, developed by LAB and Immediate Future, a specialist social media agency,

not only highlights social media habits of senior technology buyers, but also shows how social media provides an opportunity for IT vendors or marketers can use consumer neuroscience and psychology techniques to engage with and grab CIO's attention.

### Socially active CIOs

The study shows that IT and tech buyers over-index against their fellow C-suite execs when it comes to the use of social media, with 70% using Facebook and 43% using Twitter more than once a day. For example, tech leaders like to keep up-to-date on news and current affairs. They are 38% more likely than their other C-suite colleagues to follow news organisations on social channels, and 30% more likely to follow politicians.

The study also shows, 39% follow content that's relevant to their work, and 37% use social media to network for work purposes, with 69% using chat and messaging apps alongside social networking.

CIOs also use social media as a platform to find tech brands, with 45% following brands they like, and a third following brands they plan to buy from. Moreover, a fifth of those interviewed admit to clicking on a promoted or sponsored post from a brand within the last month.

According to Tom Head, Sales and Marketing Director at LAB: "Buyers rely heavily on brand content as they research, evaluate and compile their vendor short-lists. Savvy marketers should give them what they want, with useful, attention-grabbing content which they can also share with their peers in order to position themselves as thought-leaders. Status matters to these people!"

### Tapping CIO's social-savvy attitude

No matter how much inclined CIO/CTOs are becoming on different social media platforms, as buyers of IT and tech products, they exhibit some attitudes that are complex and varied in their motivations.

## CIOs also use social media as a platform to find tech brands, with 45% following brands they like, and a third following brands they plan to buy from. A fifth of those interviewed admit to clicking on a promoted or sponsored post

The research reveals that the technical C-suite are mostly rational thinkers, but also quite contextually-minded. This means that while they are interested in classic business concerns such as profitability and meeting targets, they are also thinking about receiving industry recognition and being champions of change.

Very often they go for IT vendors/marketers who better understand and empathize with them – and more importantly engage them in a way that strikes a chord, believes Head.

### Through peers, social 'word of mouth'

A lot of buying is currently happening on Facebook, as the study finds that Facebook is the social channel of choice for tech buyers. 42% of participants in the study are most engaged - either interacting or contributing - on Facebook, 34% on YouTube, 33% on Twitter and, perhaps surprisingly for senior business people, only 25% on LinkedIn.

"With these decision makers choosing to spend their time and energy on

what have traditionally been viewed as B2C channels, it's essential that brands communicate with them as human beings," adds Head.

When it comes to the themes IT professionals are discussing on social media, the study finds cybersecurity is still a hot topic, while the IoT has been superseded by more specialized terms such as AI, machine learning, blockchain, and various other smaller topic bubbles on business and robotics.

### Video is the way to go

The modern CIO/CTO is a complete visual entity and the study sees video is the obvious tool to woo senior tech professionals. It reveals, 41% of senior IT buyers watch videos on Facebook, and they are more likely to watch a brand's video on Facebook than they are to read an email newsletter.

The researcher highlights that videos are difficult to ignore because our primal brains are wired to be sensitive to movement. Using consumer neuroscience techniques enables marketers to create video which both attracts and retains attention.

Head mentions, "Many marketers believe that the more senior the target, the more difficult they are to reach – but our research tells a different story. Senior tech and IT buyers can be found – and they're open to brand messaging, but with so much noise on social channels, brands need to use behavioral insights to create content which gets real cut-through."

"There was once a clear line between B2B and consumer marketing, but social is changing this. CTOs and Heads of Innovation are now as much consumers as they are high-level execs. Knowing where they go, why they go there, and what they do when they're there, can help inform a brand's social strategy," adds, Katy Howell, CEO, Immediate Future.

"Creating content that senior IT professionals trust, that takes the right tone, and that is easy for them to like and share, will increase the chance of engagement," believes Howell. ■

# CIOs' Disconnect From C-Suite Holds Back Digital Transformation

CIOs must play a critical leadership role in the C-suite and collaborate to drive transformation, says a new study

C-suite organizations worldwide are achieving some success with digital transformation. But there's still a strong belief that this evolution requires radical, far-reaching changes to achieve success. One of the key barriers in digital transformation initiative is the lack of coordination between the C-suite and the IT team, shows a new study by NTT. Researchers believe that CIOs must play a critical leadership role in the C-suite and collaborate to drive transformation and ensure organizational continuity in the midst of digital disruption.

The research surveyed over 1,150 executives across North America, Europe, Middle East & Africa, and Asia Pacific, including India, shows that there are some obvious discontent echoed by business leaders and the IT team.

NTT's 2019 'Digital Means Business Report' shows that business leaders in nine of out ten organizations are dissatisfied with those in charge of spearheading digital transformation. The IT leaders opine that a lack of strong

transformational leadership and focus on the need to change people is holding many companies back.

## Lack of alignment between business and IT

There are some specific findings from the study. Some 71% of organizations in the early stages of transformation believe a complete restructuring of the business and operating model is the primary definition of digital transformation. Lack of executive sponsorship or ownership is ranked as the top barrier to success, they say.

The research also reveals that there's a direct correlation between organizations' ability to realize relevant, outcome-driven value from digital transformation on a regular basis, and their digital maturity. Yet, there still exists a discernible lack of alignment between IT teams and the wider business. For example, only 29% of organizations are embracing digital transformation as a collaborative effort between business and IT.

While 42% of respondents say business and IT are delivering in a more integrated manner, supported in part with the introduction of a Chief Digital Officer function, only 12% are highly satisfied that planning is flowing effectively through to execution. Almost half (49%) of digital transformation projects are still IT-led.

"Organizations are still grappling with how to shape their business to capitalize on a connected future," says Wayne Speechly, VP- NTT advanced competencies.

"Digital creates the opportunity for value to be constantly derived from transformation initiatives across the business. Organizations should focus less on perfecting a grand digital plan, and more on taking considered and iterative steps in their transformation journey to progress value and clarity of subsequent moves," he says, adding that any change has to be supported by pragmatic, self-aware leadership and collaborative efforts.

While digital transformation sweeps through industries world-wide, another report by Economist Intelligence Unit (EIU) reveals that most companies remain ill-prepared for the disruption. The study shows that less than one-fifth of global companies have defined and implemented an organization-wide strategy for digital transformation.

There is obviously a 'disconnect' between the execution of digital initiatives and the development of a corporate digital strategy. Some of this can be attributed to singular digital initiatives being undertaken in siloed corporate departments, and varying opinions in different units.

According to the EIU report, for example, only 14% of marketing executives say their organization has a company-wide digital transformation

## There is obviously a 'disconnect' between the execution of digital initiatives and the development of a corporate digital strategy...attributed to singular digital initiatives being undertaken in siloed corporate departments

strategy, whereas 26% of IT executives say one exists. At the same time, 30% of marketing respondents say individual departments have their own digital transformation strategies, compared with only 23% of IT executives who say the same thing.

The problem is that a siloed approach to digital transformation won't work. Collaboration is key, and the IT department is often stuck in the middle, trying to make everything function properly. More often than not, IT plays a legacy role maintaining current systems and operating as a service provider to the company instead of focusing on digital innovation.

## How CIOs can lead digital transformation

So, from these studies it is interesting to understand how CIOs can prepare themselves to lead digital transformation journey. The shortfall in both the studies highlight the need for business leaders to change themselves, build a different environment, and set new behavioral priorities and performance indicators in order to drive a more proactive, tactical, and incremental approach to transformation.

The NTT study shows that IT leaders must rethink end-to-end business processes and provide a core IT environment to enable business transformation.

While an understanding of Big Data, analytics, and cognitive computing help improve decision-making and planning, CIOs should focus on building an agile culture that supports rapid innovation and new offerings. For example, they should explore new channels to engage with customers and partners in new ways to enhance or develop diverse initiatives, using Internet of Things (IoT), mobile technology, cloud-based platforms, and other emerging initiatives.

At a time when it is no longer a question of if your company should transform, but when and how, IT leaders should be prepared to turn insight into action and lead organizations through digital transformation with the right strategy and execution. ■

# Double Scoop

## Two times the revelation

**Ankit Aggarwal**
Head - IT, PI Industries

A BOOK I LOVE READING

'Good to Great' by Jim Collins

MY FAVORITE GETAWAY

Goa

A TECH GURU I FOLLOW

Doug Rose

MY FAVORITE SPORT

Cricket

MY FAVORITE SOCIAL MEDIA PLATFORM

LinkedIn

MY PEER IN THE IT COMMUNITY

Tejinder Puri, AGM - IT - Business Solutions, Havells India

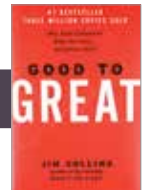**Tejinder Puri**
AGM - IT - Business Solutions, Havells India

MY FAVORITE SINGER

Kishore Kumar

A GADGET I MOSTLY USE

Smartphone

MY FAVORITE POLITICIAN

P.V. Narasimha Rao

A TECH SHOW I LOVE WATCHING

The Gadgets 360 show

MY FAVORITE HOLLYWOOD ACTOR

Denzel Washington