

www.pwc.in

TechWorld September 2018

Click to launch



pwc

About TechWorld

PwC's Technology practice is pleased to share its quarterly newsletter—TechWorld. This newsletter aims to share with its readers exciting new developments in the following sub-segments within the technology sector: a) IT & ITeS, b) hardware and electronics, and c) eCommerce and Internet businesses. Every quarter, we will be highlighting key market indices that will provide readers with a real understanding of the sector's performance. The second part of the newsletter will underline the key trends shaping the sector, along with our insights into how leading global technology companies are envisioning transformation in their businesses in the near future. At PwC, we are constantly on the lookout for new innovations and opportunities arising for our technology clients, especially since they are at the forefront of the ongoing technological revolution. Our objective is to bring to the fore important performance metrics, sector performance, 'value drivers' shaping the technology sector today, key challenges ahead of technology sector companies, future growth drivers and PwC's global thought leadership on these and more issues.

For suggestions or feedback, do write to us at sandeep.ladda@pwc.com / sanjit.acharya@pwc.com

From the Technology Leader's desk



Sandeep Ladda

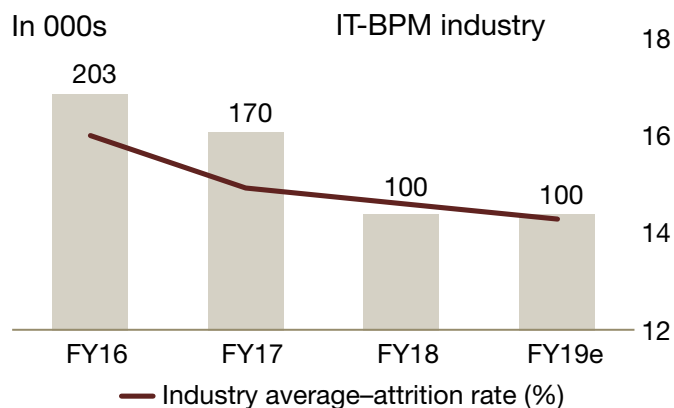
Partner, Global TMT Tax Leader
India Technology Sector Leader

In this edition, in the first section, we have analysed how Indian IT & ITeS companies in the midst of re-orienting their business model are driving operating efficiencies by improving resource utilisation and realising automation benefits. While this may provide a temporary cushion to strained margins, IT players would need to rapidly build capabilities in emerging digital technologies in order to grab a higher share of the growing demand for high-end IT services. Elaborating on this further, our 'spotlight' section talks about how emerging technologies are giving rise to new job roles, and how IT companies need to examine their workforce capabilities and adopt an agile model to meet the fast-changing needs of the industry. Our detailed point of view paper on 'Why and where IT players need to focus on' discusses the new capabilities that are required to sustain the momentum in these disruptive times. To know more, do reach out to us.

I hope you find this edition interesting and welcome your feedback.

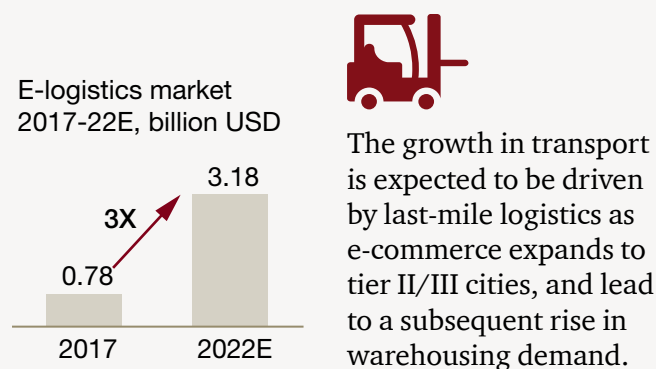


Reskilling efforts and stabilising attrition, leading to flattish growth in headcount additions



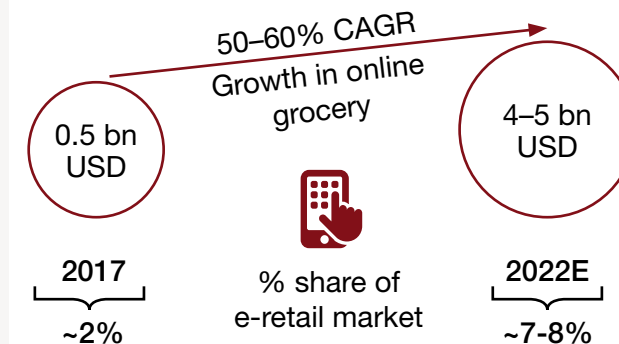
Source: Secondary research; broker reports; news articles

Could the e-logistics space give rise to India's next unicorn?



Source: PwC's report on 'Propelling India towards global leadership in e-commerce'

Online grocery is expected to be amongst the fastest growing segments in Indian e-tail.



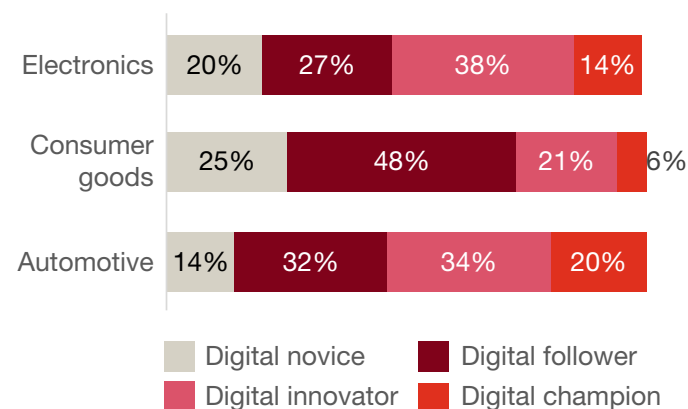
Source: Secondary research; news articles; CRISIL

Rethinking L&D strategies: KPIs to monitor

- Learning and development expense per employee (USD)
- Per-capita training man-days
- Contingent labour cost as % of total labour costs
- % share of specialists employed at project unit level
- % of key positions filled by internal succession planning

Source: PwC's report on 'Rethinking HR for the future of work'; secondary research

Among industries, electronics is a front runner in terms of digital maturity.



Source: PwC Strategy& 'Global Digital Operations Study 2018'

Cyberthreats, followed by availability of skills, tops the technology CEOs' list of worries.

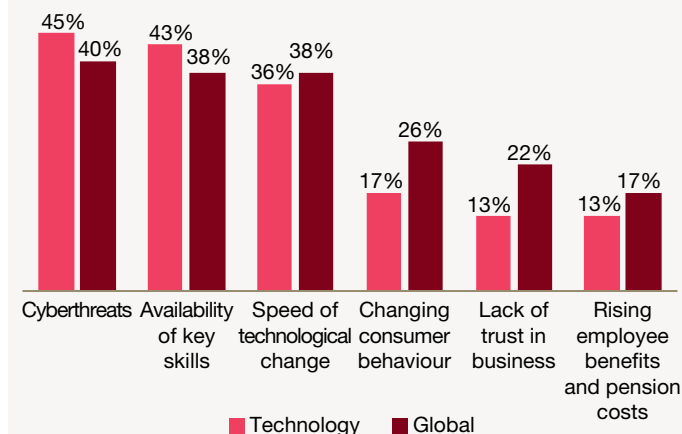


Chart shows percentage of respondents who stated 'Extremely concerned'

Source: PwC's '21st Annual Global CEO Survey'
Base: 127 technology respondents



Preparing talent for the digital age: The skills dilemma for the IT industry

The Indian IT & ITeS industry is going through one of its most demanding phases. The interplay of technology-led disruptions, over-regulation and increasing competition has brought in a new wave of change, forcing companies to take a hard look at the following aspects: 'the traditional way of delivering IT services', 'how IT services are adding value to their client's business', 'the ways in which the competitive landscape changed' and 'what they need to do to stay ahead in the game'.

Recent changes in the global regulatory environment are challenging the mobility of tech specialists, thereby leading to the hiring of more local personnel, setting up of near-shore centres, or outsourcing of work to subcontractors, all of which imposes a severe financial strain on IT companies. Meanwhile, clients are increasingly spending a larger share of their IT budgets on digital initiatives, leading to a lean demand for traditional IT outsourcing services.

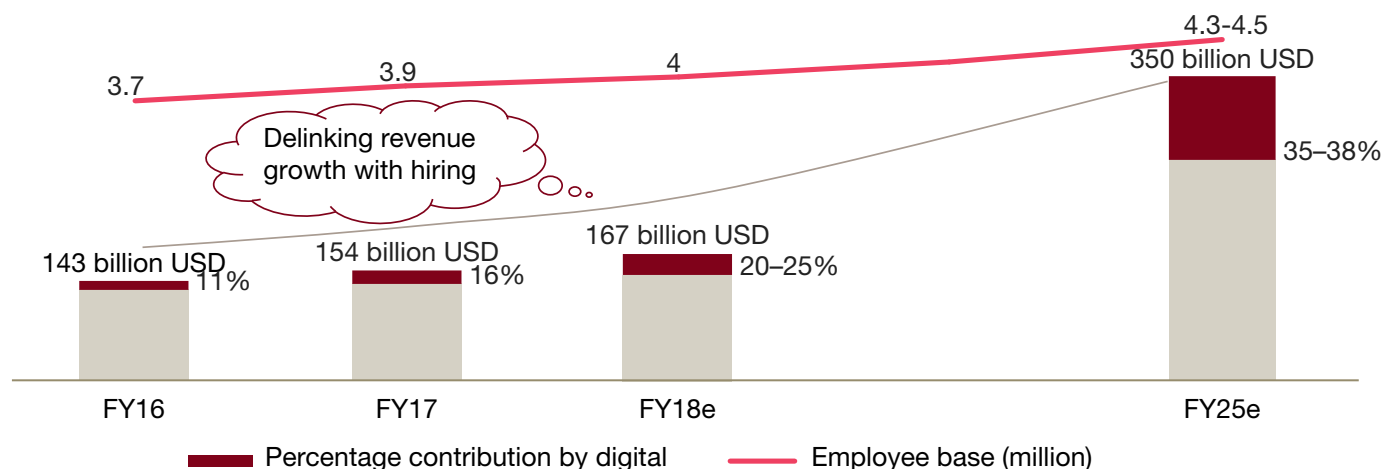
Gradually, as digital technologies proliferate across industries and become mainstream, IT companies will need to build their digital credentials in a bid to stay relevant and cater to the evolving client demand. This is expected to result in a natural change in hiring patterns. Going forward, IT companies would prefer skill before scale, and focus on improving productivity and resource utilisation to manage the pressure on billing rates.

Revenue per employee (FTE) has remained more or less constant, while employee expenses are on the rise.

Source: PwC Analysis

A combination of lower growth and high operating costs is resulting in contraction of operating margins at most IT companies.

Digital likely to drive non-linear growth in the IT-BPM industry



Source: NASSCOM; Crisil; secondary research

Recognising this need, the Indian government is also making efforts towards providing a conducive environment that promotes adoption, research, training and skill development in emerging areas such as robotics, artificial intelligence (AI), Industry 4.0 and big data. Its decision to double the allocation to the 'Digital India' programme, setting up centres

of excellence (CoEs) and forming expert groups to define regulatory frameworks will give impetus to the talent reskilling drive across the industry. For example, the government and NASSCOM's Futureskills initiative is paving the way forward for skill development and continuous learning in the IT-BPM industry.¹

¹ Futureskills website: <http://futureskills.nasscom.in/>

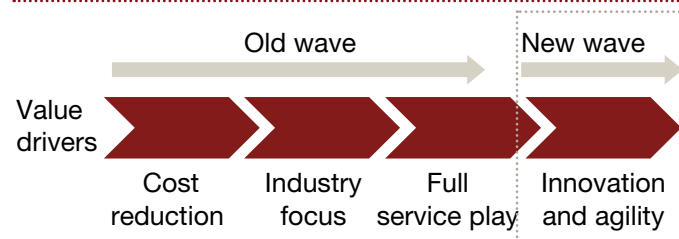


Today, as technology-led innovations and growth are tightly linked, companies across sectors such as banking, financial services and insurance (BFSI), retail and manufacturing are undertaking digital transformation projects and amplifying the demand for IT services. With opportunities on the rise, IT players face several challenges as AI and big data are also making deep inroads in corporate functions, leading to changes in the talent mix.

It is expected that 5–20% of jobs available in the IT-BPM industry would be completely different than what we see today.² Some of these jobs would include new roles such as data scientist, solution architect, cyber security specialist and blockchain architect.

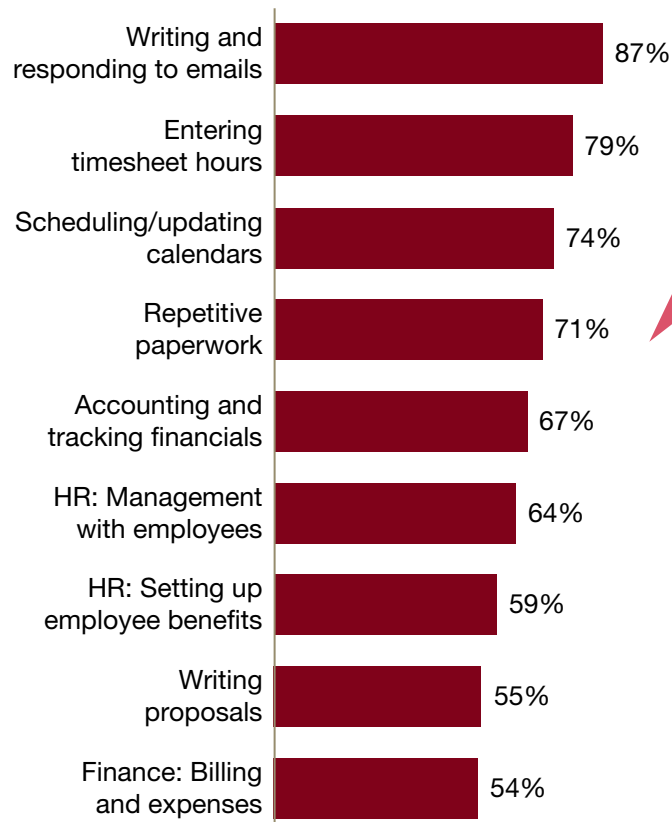
Unlike the past, where the Indian IT industry was able to take stock and respond to the changing business environment, disruptive technologies, 24*7 connected customers and cloud-based models are redefining the speed of change. The fast-paced 'new wave' will require new capabilities and agile business models which will enable IT companies to respond faster to the rapidly evolving market needs.

Indian IT industry – waves of change



Source: PwC's PoV on 'Why and where IT players need to focus on'

Job elements that can be outsourced to digital assistants



Source: PwC's report on 'Artificial intelligence in India – hype or reality'

67% of business decision makers (BDMs) believe that AI-powered solutions such as machine learning and robotic process automation (RPA) can be used to augment human capabilities and automate activities like accounting and tracking financials.



2 UNDP. (2018). India Skills Report 2018. Retrieved from <http://www.in.undp.org/content/india/en/home/library/poverty/india-skills-report-2018.html> (last accessed on 2 July 2018)

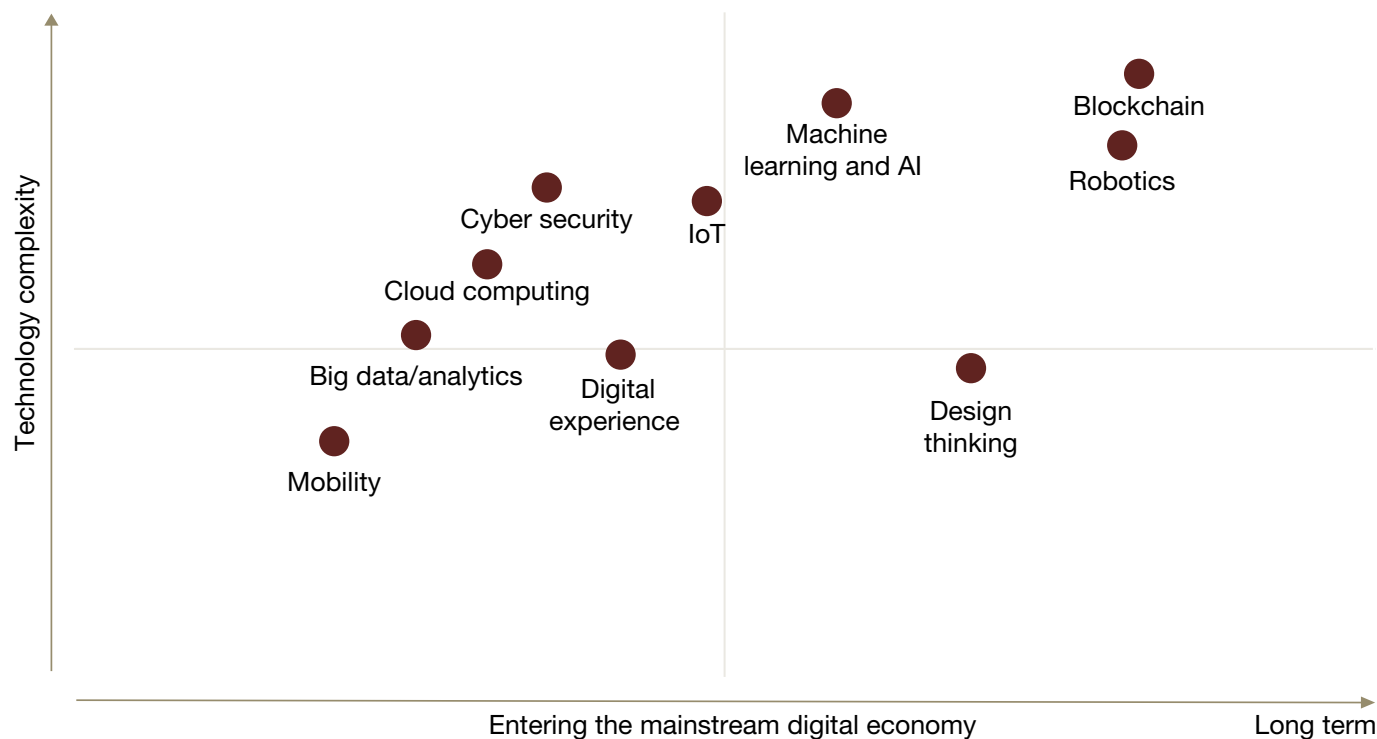


In order to thrive in this disruptive era, IT companies will need to build new skills which are seemingly difficult to hire given the limited supply. As per NITI Aayog, the country could face a demand-supply gap of 2 lakh data analytics professionals by 2020.³

Organisations have taken cognisance of the changing talent requirements and are introducing various upskilling/reskilling programmes to ensure their talent remains relevant to meet future client demands.

To meet the pace of a fast-changing business environment, reskilling efforts will have to be supported by the regular induction of new skilled talent. This could translate into more experienced hiring vis-à-vis sourcing freshers in bulk and providing on-the-job training. As a result, an upward shift of the employee pyramid may occur, with a large proportion of the workforce consisting of experienced employees in the age bracket of 28–40 years. Naturally, moving up the pyramid means relatively higher salary payouts, which in turn would increase the average employee cost for IT players. In order to accelerate the pace of innovation in emerging digital areas, IT enterprises are also investing in start-ups to develop new go-to-market strategies, and new products and services. Such collaborations do act as an important source of ideas as well as talent for larger companies, but working together could pose a few challenges, such as cultural differences, agile versus static work processes, varying work ethics and risk appetite.

Emerging areas for skill development



Source: Secondary research; PwC analysis

How are companies reskilling their workforce?



Online platforms

- Massive open online course (MOOCs)/in-house e-learning platforms



Technology solutions

- Talent acquisition and workforce optimisation powered by AI



Industry-academia partnership

- Vocational training, certifications, CoEs and R&D labs



Peer-to-peer learning

- Hackathons, coaching and crowdsourcing

³ NITI Aayog. (2018). National strategy for artificial intelligence discussion paper. Retrieved from http://www.niti.gov.in/writereaddata/files/document_publication/NationalStrategy-for-AI-Discussion-Paper.pdf (last accessed on 5 July 2018)



In such a dynamic and fast-paced digital world, traditional project management methodologies may no longer be as effective in responding to a customer's changing needs. To succeed in such an environment, companies will need to adopt various agile project delivery methods and develop the necessary skills to deliver high-quality work and move up the relationship ladder with their customers.

Need for an agile working model

For a majority of the past two decades, Indian IT companies have been following a linear waterfall model while serving their clients. However, shortening project timelines, open source, digital start-ups and the emerging gig economy are changing the playing field. At a time when margins are already under severe pressure, IT players will need to shift towards an agile business model that is centred on flexibility in project structure, smaller independent teams, outcome-based contracts and greater cross-team collaboration.

And that's why IT project managers are set to become ever so critical. Even as technology eases the transition towards agility, the role of a project manager is set to evolve. As per PMI's 2018 Pulse of the Profession report,⁴ the following are the top three technologies impacting project management success:



Disruptive technologies	Impact
Cloud	Offers new levels of collaboration and information access and frees up schedules so professionals can lend expertise to projects and customer issues.
Internet of things (IoT)	Offers constant connectivity and real-time data streams that enable more accurate data-driven decision making.
AI	Helps drive efficiencies due to reduced human error and ensures faster and more reliable decision making. Allows project professionals to devote more time to ensuring projects align with larger organisational goals.

4 PMI. (2018). Next practices: Maximizing the benefits of disruptive technologies on projects. Pulse of the Profession In-Depth Report. Retrieved from <https://www.pmi.org/-/media/pmi/documents/public/pdf/learning/thought-leadership/pulse/maximize-benefits-disruptive-technologies-projects.pdf> (last accessed on 12 July 2018)



With AI taking over mundane project management tasks, project managers will need to re-evaluate their core skill sets and develop new ones to ensure they remain relevant in the agile environment.

Just managing people, time, budget and on-scope delivery of projects will not be enough. Going forward, project managers may need to perform a wider range of activities:

Capabilities for agile project delivery

Nowadays, being more technology-enabled...

Project managers set to play a bigger role...



Project planning



Stakeholder management



Monitoring and controlling



Innovation and strategic thinking



Relationship building and contract negotiation



Project delivery



Coaching



Financial and risk management



Agile project delivery is based on five values:

Responding to change over following the plan

Customer collaboration over rigid contracts

Working prototypes over documentation

People over processes and tools

Risk mitigation over investigation

Source: PwC's report on 'Agile Project Delivery Confidence'; PwC analysis

Key questions to ponder

Do project managers understand the company's overall priorities and have access to tools that enable them to be productive rather than just administrative?

Do project managers have the relevant skills that enable them to spend more time on higher-value activities: design thinking, coaching team members and peers and overcoming obstacles in delivery?

In the agile world, have we redefined our KPIs to evaluate project managers' performance, taking a holistic view of people, processes and outcomes?



Most IT companies will look for experienced project managers who have both the technical acumen to understand the business drivers along with the softer skills needed to negotiate with stakeholders such as alliance partners, manage millennials and also ensure adherence to project plans. In their journey towards enhancing value delivery capabilities, building project management talent with the right skill sets will be imperative for IT companies in order to prepare the workforce of the future.



How to future proof the workforce?

1. Leading the way

Even though companies are cultivating new skills, reskilling programmes will have to be driven from the top. As per PwC's 21st CEO Survey, 70% of CEOs stated that they are concerned about the digital skills of their senior leadership team. To maximise opportunities and successfully manage risks, IT companies will need to add digital voices to their boards in order to keep up with the evolving digital landscape and understand competition. This would require their business leaders to possess a new set of skills, giving rise to new tech-related CxO roles such as digital officer, data officer, customer experience officer, risk and compliance officer, information security officer and even non-executive 'digital director'.

2. Soft skills needed to unlock true 'technical' value

For man and machine to coexist, IT companies will need to build a skilled workforce not just in the area of technical skills but also in soft skills such as adaptability, leadership, problem solving, creativity and innovation. According to a PwC study, 74% CEOs in India find it a challenge to recruit talent that is innovative and creative; and 66% said that it is difficult to recruit talent that is adaptable.⁵

3. Digital tools for workforce transformation

In order to gain a clear understanding of the digital fluency of its workforce, IT companies would need to deploy tools that can help assess the current digital fitness of their employees. This will enable firms to create personalised learning programmes in real-time and help fill in the gaps by hiring new talent with the required skill sets. According to PwC's 2017 Global Digital IQ Survey, 63% of respondents said that outdated or obsolete technology was stalling their digital transformation efforts.⁶

4. The people side of risk

As regulations gradually start to shape how the workforce of tomorrow will look and operate, IT companies will have to ensure they plug in human capital risks into their overall enterprise risk management framework. On the policy side, anticipating and effectively managing talent risks around worker flexibility, reskilling, mobility and rewards will be key to improving the overall employee experience.



5 PwC. (2017). 20th CEO Survey: Inside the minds of CEOs in India. Retrieved from <https://www.pwc.in/publications/ceo-survey/20th-ceo-survey.html> (last accessed on 3 July 2018)

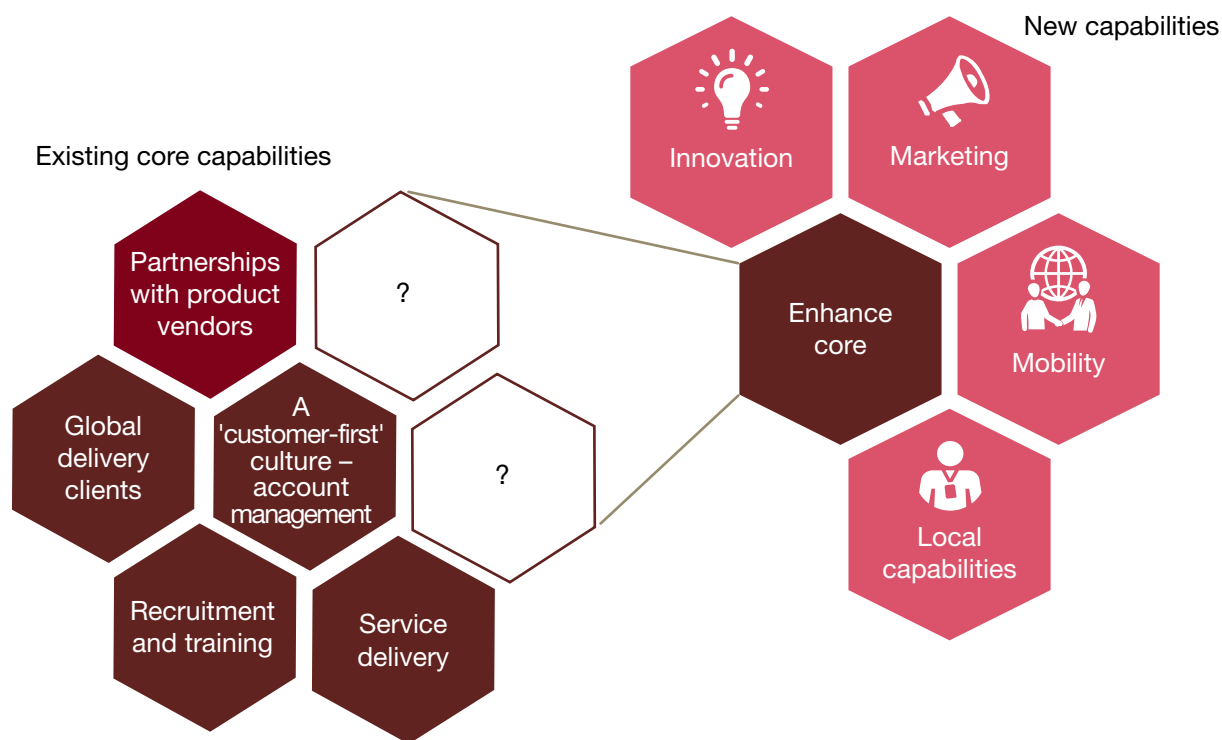
6 PwC. (2017). 2017 Global Digital IQ Survey: A decade of digital. Retrieved from <https://www.pwc.com/us/en/advisory-services/digital-iq/assets/pwc-digital-iq-report.pdf> (last accessed on 12 September 2018)



PwC has a dedicated Technology practice that is one of the best in the industry. We have teams of professionals with deep and world-class cross-functional experience who meet our clients' needs effectively and efficiently. We bring to the table extensive experience and understanding and provide

quality research on economic and industry data, undertaking robust and complex analysis of quantitative and qualitative information, and interpreting results to present findings in a clear and credible manner.

PwC's 'Disruption Solution Framework'



PwC's 'Disruption Solution Framework' has identified four areas—innovation, marketing, mobility and localisation—where we believe the IT industry needs to build 'new capabilities' in a disciplined way so as to

sustain growth and develop agile business models that can respond faster to market demands while keeping costs down. Contact us to know more.

The following are some of our key thought leadership publications released the world over:



[Click for more details](#)



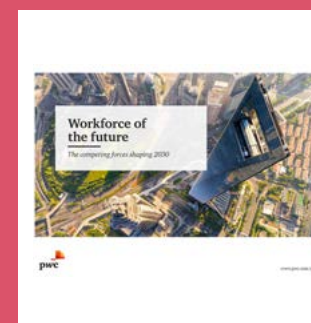
[Click for more details](#)



[Click for more details](#)



[Click for more details](#)



[Click for more details](#)



[Click for more details](#)



Core Technology Sector team

Sandeep Ladda

Partner and Global TMT Tax Leader
Technology Sector Leader, PwC India
Email: sandeep.ladda@pwc.com

Sanjit Acharya

Senior Director, Technology Sector
Email: sanjit.acharya@pwc.com

Suneet Mohan

Knowledge Manager, Technology Sector
Email: suneet.mohan@pwc.com

Pallavi Singhal

Partner and Tax Leader – Technology Sector
Email: pallavi.singhal@pwc.com

Padmaja Alaganandan

Partner and Management Consulting Leader
– Technology Sector
Email: padmaja.alaganandan@pwc.com

Manpreet Singh Ahuja

Partner and Risk Assurance Services
Leader – Technology Sector
Email: manpreet.singh.ahuja@pwc.com

Authors

Sandeep Ladda, Sanjit Acharya, Suneet Mohan



About PwC

At PwC, our purpose is to build trust in society and solve important problems. We're a network of firms in 158 countries with more than 2,36,000 people who are committed to delivering quality in assurance, advisory and tax services. Find out more and tell us what matters to you by visiting us at www.pwc.com

In India, PwC has offices in these cities: Ahmedabad, Bengaluru, Chennai, Delhi NCR, Hyderabad, Kolkata, Mumbai and Pune. For more information about PwC India's service offerings, visit www.pwc.com/in

PwC refers to the PwC International network and/or one or more of its member firms, each of which is a separate, independent and distinct legal entity. Please see www.pwc.com/structure for further details.

© 2018 PwC. All rights reserved

pwc.in

Data Classification: DCO

This document does not constitute professional advice. The information in this document has been obtained or derived from sources believed by PricewaterhouseCoopers Private Limited (PwCPL) to be reliable but PwCPL does not represent that this information is accurate or complete. Any opinions or estimates contained in this document represent the judgment of PwCPL at this time and are subject to change without notice. Readers of this publication are advised to seek their own professional advice before taking any course of action or decision, for which they are entirely responsible, based on the contents of this publication. PwCPL neither accepts or assumes any responsibility or liability to any reader of this publication in respect of the information contained within it or for any decisions readers may take or decide not to or fail to take.

© 2018 PricewaterhouseCoopers Private Limited. All rights reserved. In this document, "PwC" refers to PricewaterhouseCoopers Private Limited (a limited liability company in India having Corporate Identity Number or CIN : U74140WB1983PTC036093), which is a member firm of PricewaterhouseCoopers International Limited (PwCIL), each member firm of which is a separate legal entity.

HS/Sep2018-14574