

Top 8 challenges: Technology industry in the 2020s

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Today the Technology industry is an exciting place to be. Innovating constantly and evolving rapidly, it finds solutions for complex business needs. Immense competition is impacting organizations from all directions and balancing the pulls and counter-pulls is a critical task.

Speaking with Technology industry experts and leaders, we noticed a shift away from how they saw major challenges last year. The current decade will be full of surprises.

As per the study, the top 8 challenges that will impact in the 2020s, are:

- 1. Privacy, data governance, ethics & regulation**
- 2. Management of big data**
- 3. Finding technology talent & realigning jobs**
- 4. Digital transformation of enterprises**
- 5. Optimising AI's potential & risks**
- 6. Cloud networks & infrastructure**
- 7. Commercialising technology innovations**

1. Privacy, data governance, ethics & regulation

Akin to precious metals, data is a hugely valuable resource. Tech giants like Google, Facebook, Amazon, and Twitter gather data and employ it as a strategic business input to develop and monetise it for new revenue streams.

Electronic monitoring of people at the workplace or otherwise, interception of email and voice communications, merging of personal and professional databases and increasing hacking are all raising ethical flags.

Increasingly, data-security (and breaches) is a major challenge for every business. Even AI is perceived to be a facilitator of selective data-thefts. Thus the solutions for protection will also need to be more intelligent.

The public perception of such applications is raising a lack of trust issue. Thus, data protection has become extremely critical, inviting more government scrutiny, regulations and controls like GDPR.

2. Management of big data

Enterprises are becoming highly dependent on big data and analytics to harness their business potential. The data capturing tools employed include direct and hidden sources such as browser & search history, shopping logs, mobile text and voice communications, subscription of apps, and credit card payments. Capturing such a large volume of sensitive data and information, often infringing upon the user's privacy, makes it a digital hazard of immense proportion, prone to accidental leakages and misuse.

It also has huge applications in manufacturing, research, marketing, financial analytics, banking and healthcare in relation to optimising operations and process, predictive modelling and future planning.

Thus, securing the distributed and complex processing frameworks, which are primarily in the cloud, has also become very complicated.



3. Finding technology talent & realigning jobs

Great talent has always been rare; today even more so. Hidden and globally distributed, fiercely fought for retention by companies, the right talent can make a game-changing contribution to a technology company. Finding and hiring such talent is a critical success factor for tech companies.

Remote and virtual teams are working in complex matrices, cultural integration and motivation are real issues for business continuity, particularly for start-ups. Virtually on-demand tech bandwidth, productivity, performance and key- skills are critical for innovation and implementation. Thus, there is no time to train and no real substitute for lateral hiring.

At another level, there is fear that automation, robotics and AI will reduce the cost to take away lower-level repetitive human jobs. While some people believe otherwise, hoping AI applications would generate strategic hiring, the fear is not going away. There could also be a movement to less stressful industries and role.

Do you feel that the industry needs to realign its structure and job matrices?

4. Digital transformation of enterprises

Most companies will speed up their digital transformation journey becoming more agile and nimble-footed. Enhancement of process efficiencies, supply chains, customer experiences and lean systems for financial controls ensure they can maintain their business edge with respect to their competitors. However, there is a steep learning curve for the legacy managed organisation to navigate this successfully.

5. Optimising AI's potential & risks

Artificial intelligence, coupled with machine learning, has a huge business potential and is already being used widely. However, the AI is only as good as the development of its algorithms and the input of authentic structured data by the enterprises and users.

Further, there is a fundamental issue of bias inherent in its application. This is limiting its commercial usage to comparatively simpler applications and not the real high potential, high efficiency but riskier applications. AI applications also need tremendous caution and a balancing of risks and returns.

6. Cloud & infrastructure

With digital transformation of enterprises, greater usage of data-heavy applications, autonomous vehicles, interactive maps, smart city systems, AI, and IoT, coupled with rapid data-migration to private or hybrid clouds, there is an unusually high pressure on networks and telecommunication infrastructure.

Almost all tech applications now need stable and ultra-fast internet infrastructure that's lagging behind in various economies. The costs of enhancing these are huge, and timelines are long.

7. Commercializing tech innovations

While the industry is coming out with numerous AI, AR, VR, blockchain and other technology innovations, the commercialisation of these is not happening at the same pace. In view of the huge investment of time and money in their development, this is causing considerable stress and anxiety. The industry is struggling to find business models and solutions that can be rapidly developed, incubated and brought to market.

Gauging market-demand and assessment of consumer perceptions for futuristic products and creating marketing strategies in a crowded and highly-competitive technology market is critical.



8. Cyber frauds & deep fakes

There is a strong perception that with the advent of technology, the possibilities of breach of cyber-security, hacking of personal information and online financial frauds will increase dramatically. Further, the introduction of deep-fakes has raised major ethical issues as it has the potential to destroy our old deep-rooted belief that “seeing is believing”. Now, it would be impossible to believe even after seeing an act online. This would greatly infringe an individual’s ability for decision making and is viewed as highly disturbing.

So, what can the technology Industry do to survive the numerous challenges, stay relevant and grow as dramatically as it has been doing for the past many years?

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