



## The Technologies Senior Leaders Plan to Deploy in the Coming Years

### Cloud computing is expected to take a back seat to AI, big data analytics and blockchain.

Despite all the hype, augmented reality, virtual reality, mixed reality, blockchain and 3D printing have had a small impact on businesses in the last few years. Big data analytics has had the biggest impact, according to a **survey** I conducted with my colleague **Nathan Furr** of 317 INSEAD MBA alumni and participants in our Executive Education programmes. Our respondents were mostly senior executives and around 50 percent of them worked in large companies.

Big data analytics, cloud and machine learning have all had a significant impact on business in the past two years. Big data analytics seems to have changed almost all business areas (creation of new revenues, core business protection, improvements in operational efficiency, new customer acquisition, increased retention and loyalty of existing customers). Cloud computing primarily helped improve operational efficiency.

Looking ahead to the next two years, however, our respondents expect that the use of artificial intelligence will increase in almost all business areas, except those concerned with the attraction and retention of talent. The use of cloud is likely to decrease, or reliance on cloud technologies may simply become more of a staple in all companies' business models, much like smartphones today. Interestingly, the use of the Internet of Things (IoT)

and blockchain is likely to increase in the next couple of years. The expectation is that blockchain might primarily help companies improve operational efficiencies while IoT might help them create new revenue.

Q4 Which of the following technologies do you plan to use over the next 2 years for any of your company's business areas?



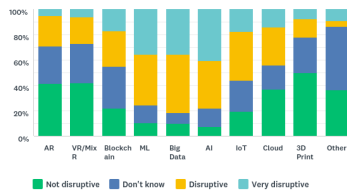
Source: INSEAD Digital Transformation Survey – Spring 2018

In the next five years, i.e. over the long term, big data, machine learning and artificial intelligence have the most potential for disruption, while virtual and augmented reality as well as 3D printing are expected to be the least disruptive. IoT and

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blockchain are in the middle.

Q5 Which of the following technologies do you think will be most disruptive to your company's business in the next 5 years (long term)?

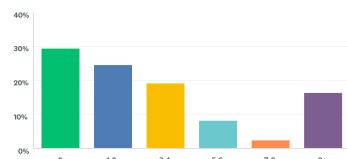


Source: INSEAD Digital Transformation Survey – Spring 2018

### Alliances, innovation boards and start-ups

When faced with a new technology, companies have three options. They can either build competencies internally, form alliances and partnerships with others who have mastered them or make acquisitions. Less than a third of our respondents tried to implement a new technology on their own, i.e. approximately 70 percent formed at least one alliance or joint venture involving the new technology. The picture is totally different with respect to acquisitions: Close to 70 percent of the respondents did not buy any company to help digital transformation. Apparently, companies use partnerships as the **dominant strategy** for dealing with digital technologies.

Q6 With how many partners did your company form strategic alliances or joint ventures in the past 2 years that had something to do with the above technologies?



Source: INSEAD Digital Transformation Survey – Spring 2018

In addition to partnerships, decision makers increasingly turn to an unusual source of innovative ideas – the board of directors. Traditionally, boards exist to ensure compliance, manage risk and supervise the top management team. However, over a third of our respondents (working for companies with a board of directors) indicated that their board strongly encouraged top management to pursue risky initiatives that could help reinvent the

company's business. This is an interesting finding: It seems that many companies are using directors as "innovation boards". My own **interviews with top management** indicate that, in some companies, board members actively suggest potential alliance partners and review the company's alliance portfolio. In some firms, the CEO even actively takes his or her board members on tech discovery safaris, so that they can become more acquainted with opportunities (and partnerships) to challenge the CEO later on.

Finally, slightly under 40 percent of companies joined start-up accelerators. Some of them were start-ups searching for corporate partners; the others were in the reverse situation. The needs of start-ups and corporate partners were different. Start-ups sought funding, credibility and advice while the corporate partners looked for innovative ideas, exposure to start-up talent and investment opportunities.

However, corporate partners do not automatically benefit from participating in accelerator programmes. Even if a company choose to work with a start-up, it may not necessarily be able to turn the start-up's ideas in a concrete project. Corporate partners that reported the most satisfaction from start-up accelerator programmes had individuals whose formal role was to act as an interface between the chosen start-ups and the rest of the firm. An engagement manager ensures that the company execute on projects with start-ups, as well as learn from them. (We need to increase the sample size to make the comparison statistically meaningful, but this seems like a plausible relationship consistent with our interviews.)

Overall, the survey showed the transformational nature of different digital technologies. Companies have a variety of options to deal with the impact of technologies on their business models: partnerships, corporate board engagement and start-up accelerators. There surely are other ways. We will be repeating this survey in the future to find out more.

**Andrew Shipilov** is a Professor of Strategy and the John H. Loudon Chaired Professor of International Management at INSEAD. He is the co-author of **Network Advantage: How to Unlock Value from Your Alliances and Partnerships** as well as of several articles on corporate governance, innovation and strategy. He is also the programme director of the **INSEAD Blue Ocean Strategy Executive Education** programme. You can follow him on Twitter @shipilov.

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