Future proofing business with real-time data.

The findings in this article are from two surveys covering over 1,700 senior business decision makers from around the world, carried out in January–February and May 2020. From the findings, Verizon Business created the Future of Work Index. This assesses 12 characteristics to rate a company's future-readiness. We call the top 20% of scorers in this index Pioneers, and those in the bottom 20% Late-movers.

In recent research into the future of work, Verizon Business discovered a distinct difference between the technology priorities of Pioneers and Late-movers. The two groups had very different investment priorities for the next two years, with Late-movers still focused primarily on foundational digital technologies, and Pioneers much more likely to be looking at transformational technologies.

Specifically, Pioneers were more ready to invest in artificial intelligence/machine learning (AI/ML), the Internet of Things (IoT), 5G and software-defined networking (SDN). In fact, many had already invested in these technologies and were seeing benefits. More than 90% of Pioneers that were measuring the impact of IoT and AI/ML said that they had seen benefits in terms of improved customer experience, revenue and profit. And almost 90% said the same about the impact of these technologies on managing risk.

Unlocking the full potential of data.

While each of these technologies can be implemented alone, it's when they are combined that something special can happen. Together, these technologies enable intelligent real-time data.

Today, if IoT data is being used in real time, it's almost always to respond in quite straightforward – if potentially life-changing – ways. For example, there's an artificial pancreas that gauges the amount of glucose in the bloodstream and administers insulin in response. And real-time tracking of deliveries has become commonplace. All very smart, but not the sort of innovative solution that AI/ML enables.

Where AI/ML is being used to act on data from IoT devices, it tends not to happen in real time. For instance, one company has reported how it has sped up processing car insurance claims using an app and AI/ML-based image recognition and fraud detection. Claims can now be resolved in days, even hours. Much faster than in the past, but far from real time.

Real-time IoT-driven AI/ML applications are still rare. Where they exist, they tend to use very limited AI/ML, or involve scenarios where the internet-connected nature of the IoT device isn't central to the real-time AI/ML application. Smart thermostats can learn the temperature preferences of their users and automatically adjust their settings – but it's very limited learning. Self-driving cars are very sophisticated, well-trained AI systems full of connected sensors, but most of the smart real-time stuff happens on-board.

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Research report

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5G changes everything.

Why has there been a shortage of use cases involving real-time AI/ML acting on data transmitted remotely from IoT devices? Simply because, until recently, there hasn't been a cost-effective way to meet the throughput and instantaneous connectivity needed.

Enter 5G. Together with important advances in edge computing, 5G offers fast, affordable connectivity for a massive number of IoT devices – this can mean single-digit millisecond latency and up to 1,000,000 connections per square-kilometre. That's game-changing. It's lightyears ahead of anything that's gone before in being able to exchange rich real-time data in large stores, factories and campuses – including video. It can facilitate intelligent collision-avoidance systems in forklifts – one of the most dangerous industrial machines globally. And it can deliver real-time augmented-reality guidance to engineers working on jet engines. In retail, there's no shortage of ways to deliver magical experiences for shoppers, like extended reality changing rooms and intelligent virtual assistants. The possibilities are almost endless.

Mind the edge.

Much of what we've discussed is enabled by edge computing, the processing of data at the edge of the network, not backhauling it to a data centre somewhere and waiting for a response. Modern networks are quick, but even they can't provide the instantaneous responses required.

But not everything happens at the edge. Ultimately, businesses want to pull data together to provide insight and shape medium- and long-term plans. That creates new pressures for core enterprise networks. Which explains why Pioneers are also investing in advanced core-networking technologies, such as SDN, to get the flexibility, scalability and control that they need.

Don't be left behind.

One of the main conclusions from our research is that far from distracting organisations, the pandemic has focused attention more acutely on strategy and innovation. The World Economic Forum has called this period The Great Reset. Around the world, leaders are looking at their business and reimagining for the future. They are thinking the unthinkable and embracing transformation.

Being successful at transformation has never been so important. The competition is huge and capital is scarce, so the stakes are extremely high. That's why companies must develop the right measures to assess the success of their transformation efforts, and be prepared to adapt their plans if things don't work out as planned or new opportunities emerge. And that takes building partnerships with like-minded vendors who understand the need for flexibility and progressive transformation.

Next steps

Learn more about the Verizon framework for assessing and responding to digital transformation readiness.

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