Case studies

ACCELERATED BUSINESS

The rise of next-generation connectivity

Contents

Case study

Ryder System: Embracing the intelligent supply chain

The supply chain traditionally has been a necessary cost of production. With the rise of next-generation connectivity technologies such as 5G, in which data lags are virtually eliminated, supply chains can become a source of value rather than a cost to businesses.

Digitisation of supply-chain information is already enabling companies to aggregate production-related data in near real time, conduct advanced analytics and automate many decisions. Indeed, supply-chain management leveraging next-generation technologies could establish how organisations might gain a competitive edge in the future by driving business value throughout the supply chain.

Think of how a business with global supply chains could slash costs if it could manage its inventories more closely and reduce wait times.

No one is more focused on these opportunities than Gary Allen, vice-president of supply-chain excellence at transportation and supply-chain management product provider Ryder System. The company provides commercial truck rental, truck leasing and last-mile delivery services. The transportation sector has not been traditionally a hotbed of technological innovation. However, the prospect of being disrupted by competitors intent on exploiting inefficiencies has companies like Ryder System transforming themselves from logistics firms to sophisticated data analysis providers.

"If you don't change, you're going to lose business," Mr Allen says.

Indeed, a recent survey of 400 business leaders,

conducted by The Economist Intelligence Unit and sponsored by Sprint Business, revealed that executives in the transportation sector are feeling more competitive pressure than other sectors. More than half of respondents from the transportation sector (55%) say that as a result of next-generation connectivity technologies, they are expecting increased competition in their sector in two years' time. That is higher than the average from the six other sectors, at 46%.

Data deluge

To stay ahead of the competition, Ryder System is rolling out equipment compatible with 5G wireless networks to enhance data collection and analysis at newer facilities and warehouses in Miami, Dallas and Chicago. Through a cloud-based product launched in 2017 called RyderShare, the company offers real-time data tracking from its trucks, trailers and GPS devices, so that the performance of people and vehicles can be monitored through devices connected to the Internet of Things (IoT). Ryder extracts enormous quantities of data from sensors in its smart warehouses and tracking devices.

The company ultimately doesn't just want to collect data. It is building out capabilities to analyse large quantities of data and automate actions such as notifying customers if a delivery will be late or if the temperature in a cold storage vehicle is off. The company is also focused on integrating its own systems with clients' operating systems, applications and platforms through application programming interfaces (APIs). The ability to offer seamless automation that can complement customers'

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own systems is the company's objective, not necessarily using the latest technology.

"Don't get enamoured by the technology itself. Have a strategy to integrate the data," Mr Allen bluntly says.

Integration, automation and transportation

Like many companies in the transportation sector, Ryder System places a high importance on automation. The company established a Centre of Excellence in Miami that is dedicated to automation and exploring the challenge of integrating data with new technologies.

"What we want is for data to trigger action. It's no use having smart sensors if they don't do that," Mr Allen explains.

In The Economist Intelligence Unit's survey, 79% of respondents from the transportation sector say they are confident they can exploit business opportunities related to automation of internal processes.

Consider Ryder System to be cautiously confident: "We are ahead of the pack, but everybody else is facing the same challenge. We all want to know exactly where things are and to automate the response to that question."

Automation still hasn't obviated the need for highly skilled people. Indeed, that is a challenge that resonates with Ryder System. Companies may struggle to find people with the right skills to implement a low-latency economy powered by 5G networks.

Yet our survey shows that the most frequently cited challenge to pursuing business opportunities related to next-generation connectivity is IT security; a lack of people with the right skills is the sixth most cited challenge. The survey also reveals that opportunities are in a nascent stage, and the vast majority of companies are in the early part of the product cycle.

Ryder System considers itself a forerunner of trends to come. Mr Allen offers simple advice to companies that must race to keep up with advancements in low-latency, supported by next-generation connectivity: make sure you have people with the right skills to make the most of those solutions.

With the right blend of people, processes and technology in place, many in the transportation sector are optimistic that financial rewards will follow. Just over half (51%) of transportation respondents say they anticipate a "significant improvement" in their company's profitability as a result of the business opportunities arising from next-generation connectivity (against a survey average of 42%), while a further 28% anticipate a "moderate improvement".

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> *Ryder System*

Case study

Jones Lang LaSalle: Smart buildings, smart workplaces

Smart workplaces attract smart talent. That's the idea behind a drive at commercial real-estate services and investment management company Jones Lang LaSalle (JLL) to transform office buildings and other places of work into innovation platforms.

Data collected from internet-connected systems, sensors and meters located around commercial properties can be used to transform them into "smart buildings" that offer more comfortable, convenient and productive working environments for occupants, explains Edward Wagoner, executive director for digital solutions at JLL.

These data might be used, for example, to monitor the function of turnstiles and elevators; to sense whether meeting rooms are occupied or particular corridors regularly become overly crowded; to optimise ambient temperatures and lighting for workers; and to keep an eye on a building's power and water consumption.

"Data leads to insight and insight leads to better experience," says Mr Wagoner. And this, in turn, enables the businesses at work in these buildings to recruit and retain the best employees.

Many companies are on the hunt for new insights via smart sensors. In a recent survey of 400 business leaders, conducted by The Economist Intelligence Unit and sponsored by Sprint Business, more than half (56%) of respondents report that they are currently pursuing opportunities to install smart sensors across buildings, homes and infrastructure such as utilities networks, while a further 32% have plans to do so in the next two years.

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Digital transformation at JLL

JLL's role in the smart building revolution lies in advising companies that are building or investing in new properties and occupiers of existing ones about the best technologies to choose and providing them with help to get them up and running. Many of those technologies, such as integrated workplace management systems, are provided by third-party specialists. Increasingly, though, JLL offers its own software solutions.

According to the company's CEO, Christian Ulbrich, JLL may in future derive as much as US$100m in annual revenue (which last year totalled US$16.3bn) from the provision of digital technologies and related services. The company has accelerated its digital transformation by recruiting senior executives from technology-sector companies and acquiring new businesses to expand its digital capabilities.

In addition, JLL has established a digital innovation lab. In 2017 the company brought on board two entrepreneurs from Silicon Valley to launch JLL Spark, a global division dedicated to identifying and delivering new so-called prop-tech (property technology) solutions. In 2018 JLL Spark launched a US$100m business incubator.

Mr Wagoner, meanwhile, recently moved from being the company's global chief information officer for corporate solutions to his new, more client-facing role, in which he leads many of these advisory conversations.

Connected lives at home and at work

"People lead connected lives now and that has totally changed their expectations of the workplace," says Mr Wagoner. "They're asking, 'If I have a connected experience at home, which allows me to adjust conditions for my comfort and convenience, then why shouldn't I have that same experience at the office?'"

As buildings become smarter, connected sensors, meters and devices are putting office occupants in the driving seat. For example, JLL has implemented and built apps that don't just enable them to adjust the heating, lighting or air conditioning in their immediate vicinity for physical comfort, but also to employ better strategies for personal productivity.

When integrated with occupancy sensors and a back-end booking system, an app can enable employees to identify and reserve spaces in a building for getting different types of work done: quiet, secluded areas for tasks that demand intense concentration, or more open, communal spaces for those involving collaboration and creativity.

The commercial real-estate industry has already experienced a significant benefit of pervasive connectivity, he says: whole areas of prime commercial real estate once reserved for data centres and computer rooms have been freed up, as servers have been shifted to co-located data centres and to the cloud. But this is just the beginning.

"I'm not just talking about 5G, but also 6G and onwards," Mr Wagoner says. "We're on the cusp of networks offering super low latency and extremely high device density, and that will have a huge impact in terms of how much data you can collect and how quickly, and in our world, that directly impacts how connected and responsive a smart building can be."

And that, in turn, will have a bearing on the kind of talent that building occupants are able to attract. Our survey also found nearly four out of ten respondents (38%) say that exploiting the business opportunities offered by next-generation networks will require them to hire people with more relevant skills. Their chances of attracting digitally savvy talent would probably be higher if their premises offer a smart match for modern expectations.

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CVS Health:
Rebooting US healthcare

Claus Jensen, chief technology officer and head of architecture for CVS Health, has an ambitious goal: he wants to help revolutionise consumer healthcare in the US. In November CVS completed its US$69bn acquisition of health insurer Aetna, and since then work has been under way to build a new healthcare model in which digital technologies and connectivity will play a major role.

The deal combined CVS Health's nearly 10,000 pharmacies nationwide, in-store health clinics and pharmacy benefit management company CVS Caremark with Aetna's 22m health insurance customers. CVS has said that the bold aim is to make healthcare more local, easier to use and less expensive for consumers.

"This isn't just about IT systems and networks—it's way more than that. It's about connected processes, supported by IT systems, networks, digital apps and IoT devices that all become integrated parts of the healthcare fabric," he says. "It's about solving the fact that, in many ways, healthcare today can come across as disconnected because we're working with disparate information sources that aren't necessarily consistent, and that needs to change."

Local, predictive and convenient

Customers of the newly combined company, especially those managing chronic conditions such as diabetes and cardiovascular disease, will be able to access the prescription medication and medical advice they need closer to their own homes, since around 70% of people in the US live within three miles of a CVS store.

Many of them already use this bricks-and-mortar physical presence to order prescription refills online, for example, and then collect them locally or have them delivered. However, the hope is that the addition of Aetna's customers will persuade many more to use these stores. Increasingly, they're also able to consult face-to-face with in-store healthcare professionals rather than make an appointment to visit a clinic or hospital. This will make CVS's "MinuteClinics" a more convenient place to access primary health services or, for recently discharged hospital patients, to get advice on their recovery programmes.

Mr Jensen's work involves making the vision a digital reality. That includes not only building an IT architecture that supports the newly enlarged business scope of CVS Health, but also enabling healthcare providers with connected medical devices to have better and more effective monitoring of their patients and their therapies. CVS hopes to help healthcare providers predict and prevent major health events before they occur and ensure that patients take their medications as prescribed.

Mr Jensen's team is also responsible for identifying emerging technologies that could help, applying them through lab trials and proof-of-concepts to real-life challenges, and defining the underlying enterprise architecture that will bring new and existing systems together in a holistic way.

Essentially, he explains, it involves integrating data from a wide range of disparate back-end IT systems and siloed databases, newer digital applications and, increasingly, connected medical devices. One of the challenges of IoT is

that connected devices, systems and databases don't speak the same language. Thus Mr Jensen and his team spend a great deal of time building APIs that enable different systems to interact with one another, in order to support different customer needs and business processes.

"A gnarly problem"

The rollout of 5G wireless networks will usher in new opportunities and raise challenges, too. For example, Mr Jensen and his team are figuring out how CVS Health will cope with the sheer volume of incoming data as connected medical devices become a more important part of delivering patient care. The stakes are especially high when dealing with people's healthcare.

"With IoT, we will have more data than we could ever process or store streaming in from all these devices. It simply wouldn't be possible," Mr Jensen says. "So there are choices to make here, in terms of figuring out which data represent a relevant and significant health event, and are sufficiently important to store."

This represents the next milestone in the digital transformation of healthcare: being able to filter, identify and isolate data that should be retained and then integrated and contextualised with other information sources. "That's a gnarly problem," he says.

Machine learning will probably play an important role in being able to filter and contextualise massive amounts of both structured and unstructured healthcare data. That's an idea that Mr Jensen's team is already exploring in some depth, but he says the use of artificial intelligence will need to be augmented with the insight and understanding that medical professionals can offer. "It's definitely not an either/or situation, it will need to involve both

humans and machines. A lot of thought and planning will need to be spent on figuring out how we can best make this work for patients to get the best outcomes for them," Mr Jensen notes.

Turning vision into action

Connected healthcare is by no means an idea unique to CVS Health. In a recent survey of 400 business leaders, conducted by The Economist Intelligence Unit and sponsored by Sprint Business, 62% of executives from the healthcare and life sciences sector say that their organisation is investing in new digital technologies. By way of comparison, healthcare was only narrowly behind financial services (where 63% of executives say the same) and well ahead of the survey average of 53%.

And when it comes to the control of remote devices and physical infrastructure, healthcare and life sciences is the survey leader: 67% of executives from this industry are already pursuing opportunities here, most likely related to connected health trackers and medical equipment, versus a survey average of 54%.

CVS Health has the scale and resources to enact transformative change in the sector. There is, of course, still a lot of work to do when it comes to building the digital capabilities to deliver on the vision of the company.

"The slogan for my team is that we turn 'vision into action'," Mr Jensen says. "And the goal here is to provide health consumers with a connected, seamless experience, regardless of the different channels and touchpoints through which they interact with us, both physical and digital."

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