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wheels

NO JOY RIDE FOR *Wheels*

THE TEMPTATION WITH any cutting-edge technology, especially something as white-hot as machine learning and AI, is to run with something out of the gates and worry about the business impact later.

Not so for Wheels, a leading provider of fleet management solutions. Instead of playing around with experimental machine learning and AI-based projects, the company waited until it had a strategic business case to jump into the fray, leveraging the new technology to launch an adjacent service

to help companies better manage and control costs associated with personal vehicle reimbursement. “Instead of throwing up technology and then focusing on what’s possible, you need to find a really good business problem to solve,” explains Brian Chau, chief innovation officer for the company.



Brian Chau

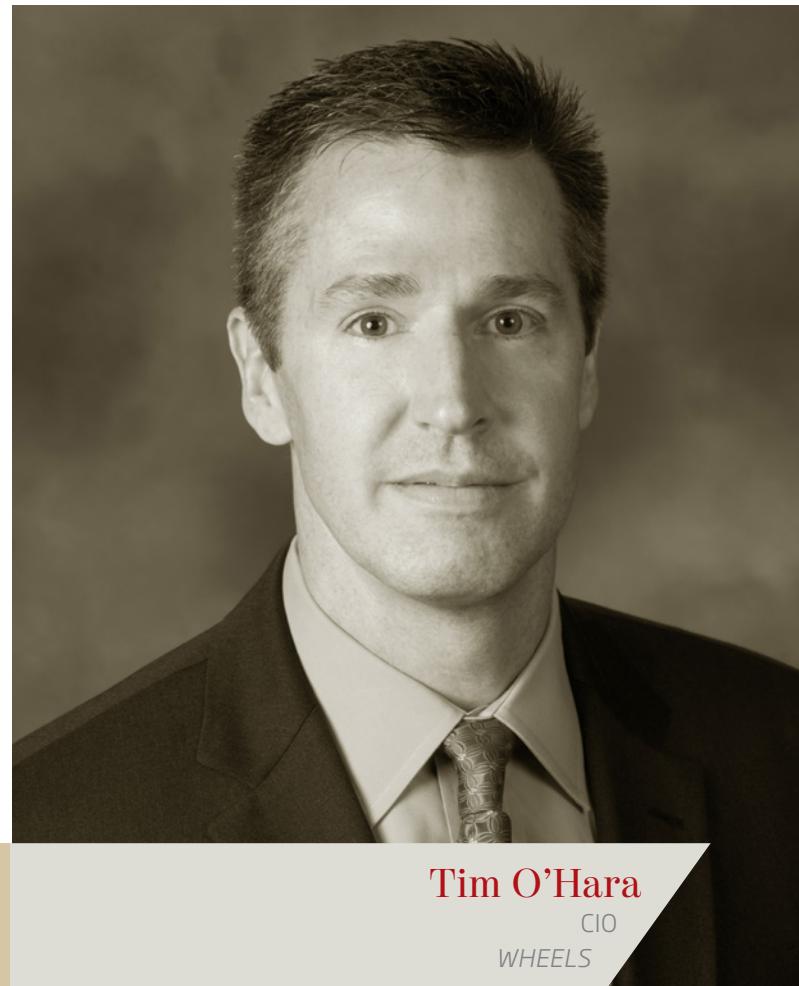
CHIEF INNOVATION OFFICER
WHEELS

CIO 100 WINNER

For Wheels, that business problem had everything to do with the challenges many of its customers faced trying to effectively reimburse employees for use of personal vehicles on the job. While the bulk of Wheels’ business involves managing corporate vehicle fleets, there was a growing sector of its

customer base (and potential new markets) that was routinely reimbursing employees for use of personal vehicles while also incurring risk due to the lack of oversight for insurance and maintenance. “The more we learned about reimbursement, the more we saw it wasn’t really being managed beyond cost and we felt there was an opportunity to play a role,” says Tim O’Hara, Wheels CIO. “We felt we could help customers manage more than the cost side, including the risk — not just to drivers, but to a company’s reputation.”

With the business case identified, Wheels set up a pseudo skunk works to dig into building the solution, which included using machine learning and pattern matching algorithms to create a ratings engine that queries market sources and proprietary fleet cost indexes to determine a fair reimbursement rate for drivers based on their location and other relevant factors. Typically,



Tim O’Hara
CIO
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firms use the IRS maximum rate to reimburse employees for personal vehicle use, which means they likely over pay and have no real way to maintain controls over what is being claimed for reimbursement, O’Hara says.

miles are properly documented or need further attention. In addition, a pattern matching algorithm defines fair market costs in each localized market for individual drivers based on ZIP codes and reflecting any market changes.

“Our unicorns are people who understand the business well enough to know what matters and **have the technical chops** to pull together all that’s necessary to get it done.”

—BRIAN CHAU, CHIEF INNOVATION OFFICER, WHEELS

With the Wheels Reimbursement solution, which launched as a product last year, an algorithm learns from driver mileage entries to determine whether business

There is also a mobile app that makes use of a phone’s GPS and accelerometer capabilities to help drivers keep IRS-compliant business trip logs.

The two AI-based algorithms were built using R language neural networks and leveraging proprietary Wheels data sources, such as fuel history from 300,000 drivers across the United States as well as vehicle maintenance history from over 500,000 managed vehicles. Market rates for insurance from every U.S. locality were

also factored in. While Wheels could have cobbled together a solution without using machine learning and AI, the process would have been much more complex and the results not nearly as effective, O'Brien says. "There's so much data complexity ... we need to make sure when drivers looked into the local markets, what they were seeing for reimbursement was equitable and fair," he explains.

While the AI-based system has already helped some customers significantly reduce reimbursement operating costs and opened up a new revenue stream for Wheels, the company is learning as it goes. One thing is certain — it's all about finding talent that can apply technology to solve real business problems.

"Our unicorns are people who understand the business well enough to know what matters and have the technical chops to pull together all that's necessary to get it done," Chau says. ♦



Michele D'Alessandro

VICE PRESIDENT AND CIO OF MANUFACTURING IT
MERCK

CIO 100 WINNER

Merck leaps to insight-driven business

WITH HELP FROM MANTIS

Like many companies, Merck & Co. is staking its future on using data to drive innovation and competitive advantage. While there was no shortage of the raw resource, pinpointing the right data and spinning it into something that could actually benefit the business turned out to be a challenge.

"People have to learn to **view data as an asset** — not a throwaway."

—MICHELE D'ALESSANDRO

Dozens, maybe even hundreds of Merck plant, laboratory, distribution and planning systems were continuously churning out copious volumes of data, but data scientists within the pharmaceutical maker's divisions struggled to gain access to what they needed to generate insights and create reports. Highly paid experts spent upwards of 60 percent of their time hunting down relevant data for analysis rather than parlaying those same man hours into actual data exploration and deep dive analytics, according to Michele D'Alessandro, vice president and CIO of manufacturing IT at Merck.

"We wanted to deliver online access to information that wasn't readily available, our hypothesis being that we have years of data we