

Concurrency leverages data, analytics, and AI to help manufacturers achieve operational efficiency



Challenging the status quo

Leveraging technology, Concurrency and Microsoft are enabling manufacturers to improve operational efficiency and increase profits.

Increasing speed to implementation

A suite of vertically specialized solutions delivers applied AI to enhance and extend software applications.

Solving real business problems

Concurrency is helping manufacturing customers improve their operations with solutions on Microsoft Azure.

Concurrency, a business and technology professional services firm, is an organization of change agents driving technological innovation and organizational change management. The firm's technologists challenge the status quo, creating value and helping customers find better ways to rely on technology to fulfill their strategies and improve their businesses.

Concurrency specializes in helping manufacturers leverage technology to improve operational efficiency and increase revenue and profits. Through AI, advanced analytics, and machine learning, the firm enables its customers to improve efficiency, drive innovation, and create scalable, resilient supply chains.

The Microsoft 2020 US Manufacturing Partner of the Year, Concurrency is a multiple-time Microsoft Partner of the Year winner and ServiceNow Premier Partner. The firm also has Microsoft gold certifications in 14 key areas, including Cloud Platform, Data Platform, and Data Analytics, and is recognized as among the top technology service providers nationwide.

Delivering AI for modern supply chains

Concurrency has developed a suite of vertically specialized solutions delivering applied AI to manufacturers to enhance and extend software applications, driving outcomes and increasing speed to implementation. The firm brings deep expertise in data science and AI to create modern supply chains, agile factories, and smart products, while deepening customer engagement.

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— Nathan Lasnoski, Chief Technology Officer, Concurrency

In its data and AI practice, Concurrency primarily serves two sets of customer stakeholders:

- IT organizations, with support for effective IT operations life cycles, increasing readiness and enabling cloud transformation for the business, modernization of legacy estates, and commoditization of the secure modern workplace.
- Business decision makers, who are increasingly realizing that every company is a digital company, with solutions to unlock operational savings, increase revenue, improve customer engagement, and achieve marketplace disruption.

Both groups, according to their own specific needs and priorities, are leveraging capabilities in data and AI to solve real business problems.

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Multiple customer wins tell the story

Concurrency is helping customers across the manufacturing sector improve their operations with solutions on Microsoft Azure.

A leading metal processor and distributor came to Concurrency needing help with applying conversational AI to solve a business problem and develop a competitive advantage. Most of the customer's orders come in through email, chat, or phone. An internal team of 600 Customer Service Representatives (CSRs) responds to orders and requests for quotes.

Time is of the essence. Because of the competitive nature of the industry, any order inquiry not responded to within five minutes is likely to be a lost sale.

The company's CIO wanted to streamline and improve the process by developing a digital system to receive orders, analyze requests, and provide CSRs the availability and pricing information they need to make the sales.

Concurrency used AI models hosted on Microsoft Azure Community Services to train a conversational bot in the intricacies and highly specialized language of the metals industry, including complex measurements, the customer's SKUs, and inventory.

“Coming in as data scientists and engineers for this project, we had much to learn about metal-industry language,” says Swaminathan Venkatesh Ph.D., Solutions Architect with Concurrency. “I mean, even that a thing like metal language does exist! That's an unconventional nomenclature, a world of its own. But we learned its nuances very quickly.”

“Together with Concurrency, we're helping manufacturers automate manual processes and improve operational efficiency by applying the power of analytics and AI on Microsoft Azure. Our collaboration is customer-centric with strong focus on helping organizations to accelerate the pace of digital innovation and realize new growth opportunities.”

— Simran Sachar, Analytics & AI Director, Microsoft Global Partner Solutions

The AI-based solution consisted of a combination of two models: one that identifies the metals-related words and another that translates these words into a specific inventory item approved for inclusion on an app. The composite solution, using Azure App Service, Azure Kubernetes Service, and Azure Databricks, brought the average time to respond to an order down from five minutes to 10 seconds, resulting in dramatic operations efficiencies and meaningfully increased revenue.

Another Concurrency customer, a global provider of engineered products for infrastructure development and agriculture equipment, worked with the firm to address its challenges with demand and inventory forecasting.

The manufacturer, just dipping its toe in the modern data stack, was still dependent on manual processes. Its legacy systems were not only inefficient but so inaccurate as to cost the organization significantly.

Concurrency adopted a minimum viable product approach (MVP) to meeting its customers' needs, not only modernizing the end-to-end process but also laying the foundation for what the manufacturer's modern data environment will look like on the Azure stack.

"We took an incredibly manual process and an inaccurate inventory forecasting model and showed what we could do," says Daniel Heron, Data Architect with Concurrency. "And how we could build a more sustainable and accurate model."

The MVP moved to a production process with Concurrency building a demand inventory forecasting model that's within two percent of accuracy at a per site level for a given week's pricing, current usage, and forecasted usage. The solution is now being augmented with external data to provide the manufacturer reliable tools

for futures pricing.

A third, longtime Concurrency customer with a leadership position in developing and manufacturing crafts for the recreational marine industry had challenges around preventive maintenance.

Concurrency had helped this manufacturer's IT organization with its initial cloud foundation and the migration of legacy resources to the cloud. Taking the next step beyond data center modernization, the manufacturer's business decision makers were seeking to create an intelligent relationship between boat owners and their boats to improve performance, maintenance, and security.

"Anyone who's owned a boat has had an experience of planning to take their boat out for the day," says Lasnoski. "Kids are in their life preservers, you've got everything in the coolers, everybody's getting into the boat. Your family's all ready and you're about to back away from the dock. You go to start the boat and it doesn't start. And your fun day has turned into an awful day."

Concurrency used its suite of solutions delivered on the Azure IoT framework to build a connected boating platform that enables on-boat and off-boat experiences to leverage an owner's digital engagement with their boat. Ensuring that a battery is fully charged, or that winterized engine maintenance has been done is now easy for the boat owner through a Concurrency-built app on the owner's phone.

This customized solution created a direct-to-consumer communication channel for a company that distributes through a dealer network and has historically not had this type of engagement with its end customer. It also improved boat owners' experience and built brand loyalty, resulting in increased revenue through marketing of accessories and repeat sales of new boats.

A collaboration benefitting manufacturers

Microsoft provides Concurrency the toolbox to solve any business problem. Whether supporting its “below line” IT organization customers or “above line” business decision makers, the firm believes that with Microsoft it’s never limited in its ability to engage customers and drive substantial change. The Concurrency-Microsoft collaboration serves customers across an organization by empowering IT to move beyond delivering systems and services and become drivers of meaningful business outcomes.

Unlike with other technologies, Concurrency finds that building on Azure is an enabling factor for it to digitize its customers—and especially to digitize their business models.

“It really comes down to marketplace disruption,” says Jeffrey Lipkowitz, Technical Architect with Concurrency. “Microsoft provides the tools, which we use to build out these products. We work very closely with the Microsoft product team as new services and features are coming up to make sure that we’re offering not just a great product to solve our customer’s business challenges, but one that Microsoft is excited about, too. We’re closely aligned with Microsoft to work together toward the goal of helping our customers increase operational efficiency and make a difference in the market.”

As Concurrency has found success in vertical-specific solutions scenarios, Microsoft has provided the technologies and programs that have allowed the firm to accelerate its support of manufacturing customers and grow its own business.

“Together with Concurrency, we’re helping manufacturers automate manual processes and improve operational efficiency by applying the power of analytics and AI on Microsoft Azure,” says Simran Sachar, Analytics & AI Director, Microsoft Global Partner Solutions. “Our collaboration is customer-centric with strong focus on helping organizations to accelerate the pace of digital innovation and realize new growth opportunities.”

Doubling down on AI and automation

Concurrency is doubling down on its strategy of applying AI and advanced analytics to meet the needs of manufacturers. Many of the traditional manufacturers in this space, though, still view AI as aspirational.

Continuing to build on its collaboration with Microsoft, Concurrency is taking AI out of the aspirational zone into the practical realm for organizations in this vertical. “Some of our customers don’t even have data estates built. And even if they do, they aren’t data science-friendly. By creating manufacturing vertical-optimized solutions, we’re helping customers get traction, move towards where the future of their business lies, and grow much faster,” says Lasnoski.

Products like Azure Purview provide additional opportunities for growth: data governance is an increasing need for manufacturers building out their data warehouses.

More automation is the next frontier for Concurrency—helping customers automate manufacturing and supply chain processes and integrating them to make their business run smoother, better, and more profitably.

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