The Futurum Group

Enhancing Demand Planning with Microsoft Dynamics 365

Infusion of Copilot and new demand planning capabilities enable greater collaboration and visibility

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Demand planning is a necessary competence for nearly all companies, across all industry groups. Whether an organization sells digital or physical goods or services, it must contend with both predictable and unpredictable elements, including the cost and availability of labor, energy, transportation, and production, as well as unexpected elements, including weather events, civil unrest, and other disruptions. Given the complexities of today's supply chains, it is imperative to implement systems that enable organizations to nimbly respond to internal and external factors that can introduce variance between forecasts and actual events.

Based on a statistical forecast, a demand plan considers several influential factors, such as available inventory, marketing, and sales activities, and specifies where to distribute products to meet the anticipated demand. The demand plan then feeds into the next steps in the supply chain planning process, which includes material requirements planning (MRP) and production planning. After a product is manufactured, planning can extend to include warehouse and transportation management.

Failing to address demand planning can result in lost revenue, either due to inventory or supply issues resulting in not getting enough product to market, or wasting money producing, storing, and transporting surplus inventory. However, when done properly, demand planning can result in better end-to-end supply chain visibility. Within an organization, this planning will enable greater inventory control, shorter cycle times, and improved worker productivity, utilization, and efficiency.

The benefits of more accurate and integrated demand planning also extend to outside the organization. Effective planning can result in greater visibility and control over the transportation of goods via the use of alternate shippers and routes, based on real-time data, and reduced external supplier costs by incorporating more precise forecasts.

Traditional methods of demand forecasting and planning have included rule-based forecasting, statistical methods such as extrapolation with regression analysis, and time-series analyses. But the rise of the type and volume of data has led forward-thinking organizations to take a multilayered approach to demand planning, incorporating a variety of statistical models to integrate the many factors that influence demand for products in the marketplace over time. In addition, the emergence of AI, including both predictive, analytics-based machine learning (ML) models and generative AI-based tools, can help organizations achieve better supply chain performance with insightful demand planning software and more granular visibility and control over elements within their supply chains.

Addressing complex demand signals with ML

In today's increasingly phygital world, where demand signals and fulfilment activities can occur in the digital realm or in the physical world (and cross between them), demand planners must account for a wider range and higher volume of signals. One key way in which organizations are managing this influx of more complex data is by using ML algorithms. According to a **February 2022 study conducted by McKinsey**, four out of five supply chain leaders expect or already use AI and ML for planning purposes. More specifically, 20% of those surveyed said they already use AI and ML, while 60% indicated they plan to use AI for some or most planning activities in the future.

The value in using AI for forecasting and planning is clear; another **McKinsey study** conducted in 2022 found that applying AI-driven forecasting to supply chain management can reduce errors by between 20% and 50%, and result in a reduction in lost sales and product unavailability of up to 65%. Furthermore, use of AI-based models can reduce warehousing costs by 5%-10% and cut administration costs by 25%-40% percent.

New demand planning capabilities within **Microsoft Dynamics 365 Supply Chain Management** are available in public preview, and are designed to help organizations predict demand with AI and ML models. The AI-powered forecast model not only automatically selects the best algorithms and parameters for every product but also enables planners to fine-tune the parameters based on their individual business needs. Both internal data and external data can be integrated to create more accurate forecasts, and by leveraging the power of the Microsoft platform, adjustments can be made across all relevant systems, aided by Microsoft's generative AI-powered copilot features and functions.

Unifying data for holistic planning and management

In the past, organizations would simply conduct demand planning by aggregating information contained within their enterprise resource planning (ERP) software. However, the proliferation of external data and systems that contain additional demand signals must also be incorporated within planning activities.

The increasing availability of more real-time data, some of it transmitted by IoT sensors, and the availability of cloud-based collaboration tools and mobile devices, are enabling demand planners to share information and to react more quickly to changes in supply and demand. Further, digital transformations happening within organizations of all types is helping to connect more supply chain participants, including manufacturers, distributors, logistics providers, and sellers, all the way to the consumer. As a result, there is a greater need for a truly demand-driven supply chain in which the supply is more responsive to actual consumer demand rather than an educated guess.

Moreover, as supply chains expand and lengthen due to the expansion of resource providers, distribution channels, and markets, organizations will require greater visibility and more granular control over different aspects of their supply chain. Organizations will require more capable software platforms that can integrate data from a variety of sources, often on a real-time basis, enabling more supply chain visibility and control, which ultimately helps to drive cost savings, revenue, and profitability.

Integrating multiple systems to improve responsiveness and agility

However, agile organizations do not want to force planners to sift through multiple applications and systems to find and update data. Instead, comprehensive platforms that can easily ingest data from a variety of applications and data sources are required.

Microsoft Dynamics 365 Supply Chain Management is designed to help reduce the time that planners spend collaborating with stakeholders within the flow of work. Because the company's productivity tools are natively integrated within the platform, planners can gain consensus on a demand plan in a collaborative manner, communicating with teammates across a variety of channels, while allowing full version control of the forecast. Users can also easily modify forecast inputs using a guided no-code approach and can simulate the impacts of changing the forecast models before they are applied.

For example, Domino's Pizza UK & Ireland's inventory planners were using hundreds of spreadsheets to predict demand to match variable of external factors. Dominos switched to using Microsoft Dynamics 365: Finance and Operations to implement a new demand planning app that will help the company make better decisions about inventory levels, deliveries, and its carbon footprint. The app will use AI data models and predictive analysis to forecast future demand, enabling Domino's to reduce waste, avoid unnecessary deliveries, and improve customer service.

Using the demand planning in Microsoft Dynamics 365 is a good fit for Domino's because it gives the company the opportunity to combine multiple sources of data into one system. This permits demand planners to speed up fact-based decision making, by using a single source of truth that provides a granular, detailed view, while also allowing them to cascade up into the category and supply chain center levels, and then very quickly revert to the inventory item level view again. Most importantly, it allows planners to remove emotion-driven decisions, and rely on data to drive decision making.

In addition to leveraging the AI demand planning models within Dynamics 365 Supply Chain Management, Microsoft also enables customers to bring and incorporate their own models, ensuring that organizations can retain and continue to leverage previous investments in customized forecast and planning models.

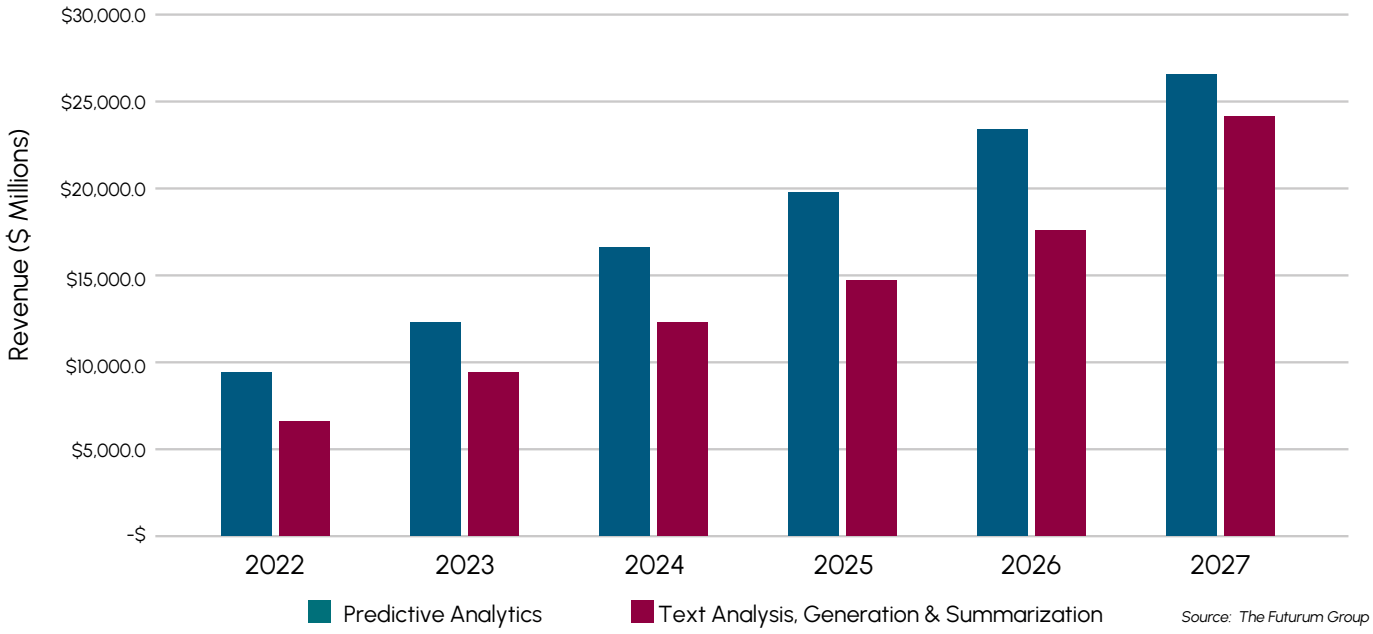
Further, Dynamics 365 Supply Chain Management is designed to take advantage of the native workflow orchestration capabilities of the Microsoft platform and its family of applications, including Outlook, Teams, Excel, and Word. Organizations that want to consolidate all demand planning and supply chain management activities within the platform can do so, enabling seamless collaboration across all stakeholders using the common data model and connectors to share data across each application. For most organizations, Dynamics 365 Supply Chain Management will serve as an integration hub, enabling organizations to consolidate information from any data source, including third-party data providers, suppliers, and partners, and view, manage, and generate insights within a single platform.

Leveraging generative AI to assist humans in the demand planning process

Regardless of how organizations leverage the platform, Microsoft has focused on making it easier for planners to interact with demand planning and supply chain data by leveraging Copilot, its generative AI-powered assistant. Combined with the predictive analytics functionality used to power forecasting models, users can leverage AI technology to improve accuracy, reduce redundant work, and easily extract insights, projections, or next-best actions.

The use of AI by organizations of all types is growing, according to data from The Futurum Group. Predictive analytics is projected to reach $26.1 billion in spending by 2027 globally, rising from $9.4 billion in 2022, reflecting a compound annual growth rate (CAGR) of 22.6%, according to The Futurum Group's Artificial Intelligence & Data Analytics IQ Dashboard. Meanwhile, generative AI spending, which includes text analysis, generation, and summarization technology, is expected to grow by 23.1% between 2022 and 2027 on a CAGR basis, rising to $19.5 billion by 2027 from $6.9 billion in 2022.

Predictive Analytics vs. Generative AI Software, Services and Compute, World Markets: 2022-2027

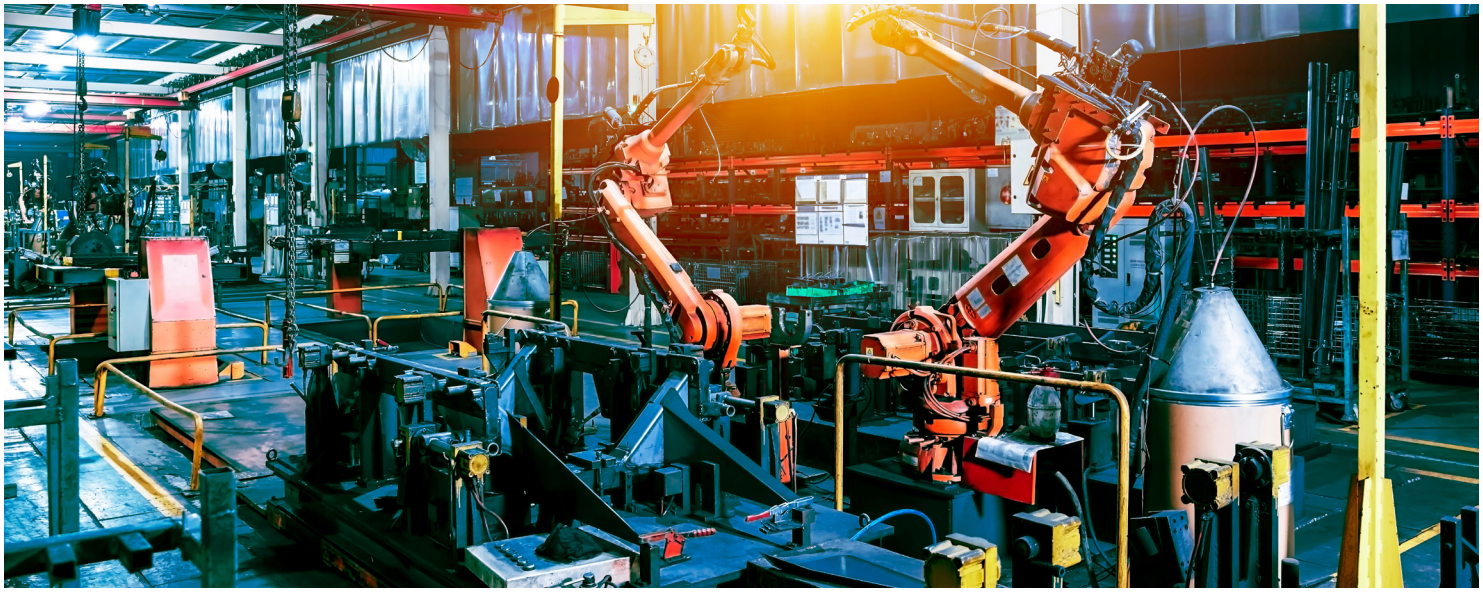


Source: The Futurum Group

The latest Copilot capabilities that are currently available in public preview for Dynamics 365 Supply Chain Management allow supply chain teams to take the next best action based on insights with conversational help while working. Planners will be able to query the system in natural language, such as by asking, "Why is this variance occurring?" or "What is causing this shipping delay?" and then receiving a response. The goal is to increase productivity and improve collaboration among employees across supply chain and other cross-functional teams.

Microsoft is also adding new Copilot capabilities that will enhance inventory visibility and enable businesses to promise orders with improved accuracy. These capabilities will be available in public preview in November 2023 and will enable organizations to boost their consumers' buying experience.

Other features that will be integrated in the future include demand planning capabilities with Copilot that will help planners explain how a forecast was created and assist them in identifying patterns and anomalies. These tools will further help planners understand complex correlations across datasets using natural language interactions and will automate the mundane tasks of preparing demand review reports, saving the planners precious time to focus on high-impact activities.



Enhanced visibility and control help organizations respond quickly to changes

The power of a comprehensive view of demand planning data and supply chain activity provided within a single platform lies in the ability to always have situational awareness, easily deployed mechanisms for quickly understanding both big-picture trends and more granular data insights, and the tools to adjust on the fly.

Without these tools, organizations are at risk of potential supply chain disruptions that can drastically affect their ability to supply products to customers and keep them happy. As organizations build out their demand planning and supply chain management software tools, they need to consider the following challenges:

- **Siloed systems that are unable to share data with one another or unable to pull data through to a single platform:** Without a holistic view of how demand measures up against real-time supply chain activity, organizations will struggle to manage both slow-growing trends and lightning-fast market disruptions.
- **Suppliers delivering low-quality materials or goods or missing deadlines:** With manufacturing plants working with smaller crews, unanticipated demand can affect product quality or delivery times.
- **Outside forces that affect the supply chain:** Weather, labor disruptions, shipping or transportation delays, civil unrest, and natural disasters are outside the control of supply chain participants.

Using a data-driven approach to forecasting demand and assessing supply chain operations helps organizations identify slow-growing or hidden risks to supply chain disruptions. They can also help assist with contingency planning in the event of an unforeseen act that disrupts typical activities by connecting internal planning data with external suppliers or providers to determine alternative solutions more quickly to manufacturing, distribution, or transportation issues.

This level of agility is most efficiently delivered via a platform that can provide AI-based demand planning capabilities, as well as directly integrating with systems that offer monitoring and management of supply chain activities. The use of generative AI as a front-end to the system enables more natural interaction with that data, enabling faster analysis and the ability to quickly respond to internal or external changes that can affect operations.

Important Information About this Report

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