**ikigai**

# Driving predictable outcomes with AI-powered planning

Ikigai Demand Forecasting solution for retail

Accurately predicting demand for products and services is a struggle for most businesses, but for retailers dealing with dynamic demand, the challenge is even greater. Managing a diverse array of SKUs, multiple locations, various online channels, and unpredictable customer preferences introduces complexities that make traditional forecasting methods less effective. This complexity is compounded by real-time and external factors such as seasonality, short-term promotions, changing market trends, weather conditions, and social influences.

When your demand planning misses the mark, the consequences impact the bottom line. Plan for too much demand, and you have a lot of excess inventory sitting in your warehouses racking up carrying costs, then often being sold at a loss of profit. On the flip side, stockouts lead to lost revenue and dissatisfied customers. Both situations put unnecessary strain on your business and impact your profitability and brand.

# 25% of global revenue is lost annually due to out-of-stock products

## Rethinking supply and demand in the retail supply chain

Ikigai is a next-generation AI platform that specializes in structured and time series data. It's ideally suited for complex retail use cases that are highly dependent on both historical data and dynamically-changing external data. The platform uses generative AI to stitch together disparate data sources, cleanse dirty data, and bridge information gaps, resulting in a single source of truth. Business users and data scientists can then easily predict and adjust inventory needs with an AI-driven forecasting model that iteratively senses, learns and adapts to real-time influences. With greater accuracy comes the ability to continually optimize across the full supply chain – from ordering, stocking, and transportation to staffing, promotions, and end-of-life strategies as well as greater collaboration with suppliers.

## Benefits of the Ikigai Demand Forecasting solution for retail use cases

- ▶ **Optimize inventory**
  Keep adequate stock on hand for high-demand items, reducing the risk of stockouts

- ▶ **Reduce costs**
  Minimize excess inventory, lowering storage costs and potential markdowns

- ▶ **Grow sales**
  Meet customer demand effectively, driving increased sales, customer satisfaction and retention

- ▶ **Increase supply chain flexibility**
  Provide real-time insights to enable quick response to changing demands

## Optimizing Retail Forecasts with the Ikigai Demand Forecasting solution

Built on the robust Ikigai platform, the Demand Forecasting solution is an end-to-end solution, designed for retail use cases that require highly precise demand forecasting and real-time demand sensing. Streamlined workflows make it easy to connect a wide variety of internal and external data sources, marrying historical, timestamped enterprise data with dynamic external data to continuously inform and improve forecasts. Ikigai's patented Large Graphical Models (LGMs) are specifically designed for multivariate time-series forecasting, making them well-suited to retail use cases which must consider a variety of related factors, such as sales, inventory levels, online engagement, and pricing changes.

Leveraging the core capabilities of **aiMatch** to connect and harmonize data, **aiCast** to sense and forecast demand, and **aiPlan** for what-if scenario planning, pre-built workflows help retailers tackle the most difficult challenges, including overstock and understock issues, omnichannel data reconciliation of inventory and sales, marketing and promotion optimization, and supply chain disruptions.

| **aiMatch** | **aiCast** | **aiPlan** |
| --- | --- | --- |
| **Unified data foundation** | **Real-time forecasting** | **AI-powered scenario planning** |
| Integrate regional demand forecasts for unified views | Leverage historical and real-time data | Explore 'what-if' scenarios across the supply chain |
| Incorporate actual inventory positions, shipments, and constraints | Continuously identify patterns to refine predictions | Identify optimal tradeoffs between cost, service, and inventory |
| Continuously improve data accuracy | Spot demand anomalies early | Understand how decisions affect cash flow and profitability |
| Understand cross-functional patterns and relationships | Set optimal inventory based on demand signals | Rapidly iterate simulations |
| | Establish accurate reorder points | |

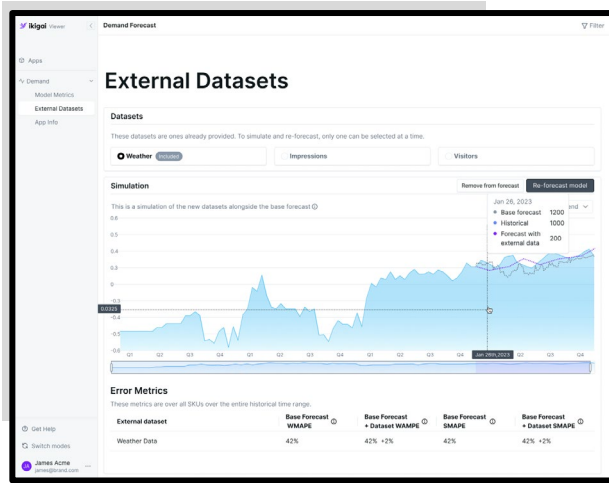## Improving outcomes with generative AI plus human intelligence

The eXpert-in-the-loop (eXtl) feature blends human expertise with the power of AI. In the context of retail and supply chain management, it is a vital bridge between data-driven insights and real-world decision-making, enabling domain experts to train and improve the AI models with industry-specific knowledge and intuition. This fusion of human expertise and artificial intelligence empowers more informed, context-aware choices, driving greater competitive advantage and profitability.

## Why Ikigai?

▶ **Built-for-purpose**
End-to-end demand forecasting and sensing app for retail use cases

▶ **Robust user interface**
Intuitive drag-and drop UI for the business user; console experience for data scientists

▶ **Reinforcement learning**
Integrated eXpert-in-the-loop for greater accuracy

▶ **Data normalization**
Connects and reconciles data from 200+ internal and external data sources

▶ **Demand forecasting**
Based on patented Large Graphical Models for greatest accuracy with tabular, time-stamped data

▶ **Demand sensing**
Real-time adjustments based on external influences

# An end-to-end platform for demand sensing and forecasting

With its intuitive, end-to-end customer experience, the Ikigai Demand Forecasting solution helps retailers speed time to value while delivering more accurate, interpretable, and explainable outcomes.



Connect and match historical data with real-time external data for more accurate demand sensing and forecasting



Drive greater confidence and adoption of AI-driven forecasts with clear insights into confidence intervals, seasonality, and SKU composition



Ensure best in class model performance using historical, forecast, and error model metrics

## Getting started with Ikigai

▶ Explore the Ikigai Demand Forecasting solution with short simulated demos, designed to quickly demonstrate business value.

▶ Dive deeper with a free 14-day test drive with the most typical business scenarios.

▶ Convert to a nominally-priced QuickStart package and put Ikigai to work on your own business use cases with your own data and help from Ikigai AI experts.

## Learn more

www.ikigailabs.io

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