4R

Intelligent Inventory Optimization

DEMAND
PLANNING

Enter the new era in digital selling, maximizing profits, and achieving top-line growth.

Consumer buying preferences are ever-changing. Purchases made online or in-store are now shipped to the customers or picked-up at the physical location. The buying process may sound simple, but it creates complexity and challenges for the retailer. There is a risk of not having the item available when the customer comes to pick it up and a failure to fulfill can easily alienate the customer.

The cost of not having the right amount of inventory, at the right time, in the right location is much too high.

So, how do retailers account for items purchased in the virtual world, fulfilled in the physical store and at the same time make sure that they do in fact have those items readily available? That's where next-generation supply chain optimization solutions come in, leveraging the latest in AI and Machine Learning technologies that enable retailers to **make better decisions, support business strategies and grow revenue.**

A Better Way to Forecast & Plan

4R uses science & technology to help retailers maximize profit from their omnichannel inventory investment.

Retailers chose 4R not because we do demand forecasting and planning, but because we do demand forecasting **most accurately.**

Make Better Business Decisions

› Harness the power of machine learning, AI and proprietary algorithms to accurately forecast pure demand that align with real-time customer demand.

Improve Efficiencies & Reduce Cost

› Utilize one complete view of the supply chain (up- and down- stream) to get the right amount of inventory in the right locations, in the right amount of time.

Happy Customers = Loyal Customers

› Improve the overall customer experience, regardless of the channel.

DEMAND **MANAGER**

DEMAND **DECOMPOSITION**

PROMOTIONS **MANAGEMENT**

SEASONALITY **MANAGEMENT**

Our machine learning forecasting solution enables retailers to identify pure demand with our proprietary approach to demand decomposition and lost sales estimation, tightly coupled with all 4R predictive analytics solutions.

Demand Planning Features

Demand Management

Take control of your customer demand to accurately drive upstream and downstream processes, making better informed decisions to increase efficiencies and revenue.

› Unified source of multi-hierarchical demand that drives supply chain and merchandising functions

› Easy to use, flexible interface with impactful visualization of demand forecast across supply chain

› Integration with BI and reporting tools for deeper analysis

Demand Decomposition

Decompose the various demand streams to measure true demand more accurately and predict future demand to optimize profitability.

› Sophisticated set of proprietary algorithms applied to raw sales and inventory data

› Normalize demand by intelligently estimating lost sales, de-seasonalizing and de-pricing raw sales

Seasonality Management

Forecast seasonal fluctuations to take advantage of customer buying patterns at ideal times to maximize revenue opportunities.

› Create a catalog of intelligent, best fit seasonal profiles based on differences in periodic fluctuations in normalized demand.

› Detect SKU profile reassignment opportunities that adapt to ever-changing demand trends to maintain accurate forecast
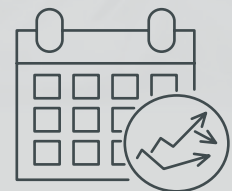
Promotions Management

Optimize promotions with more accurate lift modeling to increase promotion revenue by up to 15% through positioning the right level of inventory, at the right time and place.

› Analyze promotion history and apply machine learning to determine future promotional lifts

› Forecast and differentiate lift factors based on various promo types and product attribute nodes (e.g., TPR, complex non-price, buy x for y off, catalog, class, dept, etc.)
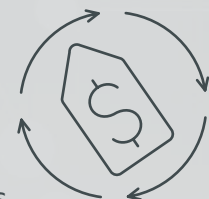
Case Study
Large Convenience Store Retailer

US-Based
but with stores in Canada

Annual Sales
$1B

Physical Locations
700+

Challenges

› Experiencing a rapid increase in current YTD sales, however the previous years' sales trends are too conservative to rely on to predict how the future will behave

› Expecting to outperform sales expectations by over 20% in the next 90 days and needs assurance of ample inventory, while mitigating the risk of lost sales

› Having visibility to the stores that have supply issues or high lost sales, in order to rapidly address the problems

› Proactively preparing locations in hard-hit hurricane areas with extra units of certain items during hurricane season

› Aligning their promotion schedule with the inventory planning and replenishment process to create accurate promotional forecasts and prevent low availability and lost sales or costly spoilage and markdown losses

How does a $1B convenience store retail apply COVID-19 pandemic results to prepare for a post-pandemic boom, adjust to the ever-changing environment, mitigate risks, and continue to grow their business?

The Customer Selected 4R Because:

› 4R had a proven track record, for over 20 years, in successfully deploying Supply Chain Management (SCM) & Analytics Platform and services

› The 4R team sought to understand the why and how they could proactively help them enhance the customer experience, yielding greater profitability

› The 4R Customer Success team's commitment and involvement from the earliest touchpoints of onboarding, through initial deployment, to full rollout and optimization

The Solution

The implementation took 3 months. Once configured, the 4R forecasting model provided analytics and recommendations immediately to support:

› Demand Planning and Replenishment for over 700 stores

› Identify Phantom Inventory – Or inventory registering in the system but based on historic sales rate, has a high probability of not being available at the store, due to theft, user error, breakage

› Promotion Forecasting

Customer Success

The customer participated in weekly check-ins and Quarterly Business Review with the Customer Success team to optimize the solution and maximize business results.

Results

› Annualized Sales lift of over 6%

› Margin improvement of 50 BPS (basis points)

› In-Stock Improvement of 88 BPS

› Estimated Sales increase of $4.1M if phantom inventory is addressed

Our Expert Customer Success Team

The Customer Success Team provides a wide range of services to assist you in your journey- from the earliest touch-points of onboarding, through initial deployment, to full rollout and optimization of the 4R Supply Chain Management & Analytics Platform and Solution. In our quest for customer success, clients can expect quarterly business reviews, recommended best practices, and ROI optimization workshops throughout their journey with us.

When You're a 4R Customer, You Can Feel:

Typically, our team works with customers who are leaders of:

› Enterprise, or Lines-of-Business
› Supply Chain and Demand Planning
› Sourcing & Procurement
› Customer Fulfillment and Market Development
› IT
› Finance

Confident about your 4R deployment.
Our team has over 20 years experience in successfully providing 4R Supply Chain Management (SCM) Solutions & Analytics' platform and services to a wide variety of commercial sectors.

Assurance that you will achieve your goals.
The best fit and use of our solutions is part of your success, but more importantly, our success teams seek to understand the why and how we can proactively help you maximize your customer's experience, yielding greater profitability.

Connected with SCM experts for best practices.
We provide tiered levels of service and support, based on client needs. Connect with the Customer Success team during regularly scheduled weekly business meetings, live chat or through user forums; or access the 4R knowledgebase with articles, explaining industry best practices, 4R product features, tips, and troubleshooting info.

Supported by a team committed to your success.
Our team becomes part of your team to proactively provide simulation and analysis, production processing, feature calibration and optimization management , with a keen focus on business success.

Why Choose 4R?

Predictive Demand Planning
Machine learning forecasting solution identifies pure demand with our proprietary approach to demand decomposition and lost sales estimation.

Replenishment Planning
Delivers true multi-echelon recommendations for every SKU at every location within.

Allocation Planning
Allocates the next unit of product to the best store that maximizes in-season sales and minimizes stranded end-of-season inventory.

Assortment Optimization
Identifies the most profitable assortment of products for each location.

Markdown Optimization
Maximizes full sales price while at the same time exiting the seasonal cycle as profitably as possible.

- › Highly experienced SCM and analytics team that can help guide you towards a fast ramp-up and quick results.
- › Harness the power of Big Data and Machine Learning to drive insights.
- › Monitoring and measurement of critical events in your supply chain that require attention and real-time adjustment.
- › Proven algorithms that reduce complexity and optimize inventory performance.

- › Integration of customer data, ERP, marketing, distribution and CRM data to provide analysis and insights on critical forecast & profitability variables and promotion effectiveness.
- › Scalable solutions that grow with your business, so you pay only for what you need.
- › Quarterly health reports that include a wide array of performance data.

4R