How U.S. Retailers can Prepare for Stock Surges

In today's turbulent retail market, the ability to predict and forecast staff and stock effectively has never been more valuable. This is something we've recently seen Sears find out the hard way. After years of losses and struggles, the 132-year-old retailer has been forced to file for bankruptcy after being unable to meet a hefty debt payment. In court papers, Sears revealed that it faces catastrophic consequences if it can't repair its supply chain and keep merchandise flowing to the company’s stores and warehouses. For many, this news won’t come as a surprise: once the go-to store of middle-class Americans, in recent years, Sears had become visibly both understaffed and understood.

Unfortunately, this is a familiar story among other retailers. Traditional forecasting methods have been found to present an error rate of 20-30 percent and as a result, many retailers are being left with too few staff on the shop floor and in the warehouse, and insufficient stock in place to meet sudden upturns in demand. Typically, this results in an unfortunate mix of abandoned shopping baskets, unfulfilled sales opportunities and increased costs.

However, as retailers begin to recognize this disparity in their planning efforts, typically using inaccurate forecast data to run their business, they're now looking to improve their ability to accurately forecast demand and stock surges. Artificial intelligence (AI) and machine learning could be the solution to all their problems. As computing and data processing power ramp up, retailers are also likely to see a significant impact on their sales and profitability through automated technologies.

Data for Effective Forecasting

Key to the success of any forecasting system is the data fed into it. At a base level, this will be historical data such as footfall coming into the store on a quarter-hourly, half-hourly or hourly basis as a baseline indicator of a demand level.

The latest forecasting solutions in this area look to categorize this kind of activity against the day of the year so businesses can start to look for patterns by using machine learning. Is footfall at its highest on a weekday, weekend, public holiday a Friday or a Saturday on any week? For example?
All these existing metrics will be used to predict likely future demand, but future events can also be brought in to influence retail plans. These could be long-range weather forecasts, or future events, both on a national or global scale like the Super Bowl, or on a local level, like an annual music festival. The model, supplemented by consulting from expert data scientists, can help retailers expect what would otherwise be the unexpected, and plan much better for likely future demand.

When used in conjunction with a labor modeling tool, the benefit could be that the retailer can save money by reducing staff levels when demand is likely to be low, but still more likely capitalize on opportunities to drive sales by bringing in staff where demand is expected to be high.

Benefits extend beyond the shop floor into logistics and the supply chain of course. On the product side, forecasting looks at different categories, highlighting how demand for each may change, how it can be seasonal, for example becoming popular in the run-up to Thanksgiving, or what product lines are working well in that category.

All this information should be rapidly taken up the supply chain to allow retailers to quickly engage with their suppliers, manufacturers, or in the case of groceries, even the farmers. After all, the more awareness retailers can offer the supply chain as to what demand is likely to be, the more likely they are to have a product ready for those retailers and increase profits all-round.

Labor planning in warehouses and distribution centers is also linked in this chain and is another factor that is considered. Planning and forecasting solutions, coupled with latest workforce management technology, are enabling smarter planning of labor and stock levels in distribution centers.

Machine learning will also take warehouse management solutions to the next level. Currently, they are set up to ensure that the approach is not to pick solutions alphabetically or by product type. However, moving forwards these systems will be expected to take this to the next level, looking for more complex patterns in how items are ordered together and increases in demand.

**Looking to the Future**

As Sears can attest, times are tough in the retail market. Retailers must be willing to implement the latest in Ai and machine learning in order to be prepared for surges in demand, whether caused by weather, sporting events or national holidays, and achieve that ever important competitive edge.

Accurate demand forecasting is key to supporting the retail industry, keeping customers happy with products and stock and ensuring staff morale remains high. The retailers that capitalize on this the fastest and start implementing the technology are more likely to find themselves one step ahead of the competition.