

Cloud

The Answer to Out-of-Stock

Customer loyalty is vital to retailers. It can take a long time to win, but can be lost very easily. If a customer finds the brand they are looking for is out of stock in their favourite store they will shop elsewhere. In fact, few aspects of retailing are as fundamental as maintaining fully stacked shelves and few concerns rank higher with an ever more demanding customer than consistent product availability.

And yet, despite technological advances, on-shelf availability remains a huge challenge for the industry. Product portfolios are dynamic and becoming ever more sophisticated, staff and cost cuts are ongoing, especially given the economic climate, and the supply chain is increasingly complex. These factors combined have made maximizing on-shelf availability a real challenge that has, in many cases, proved too much despite numerous improvement efforts. The challenge's causes are very complex and they are to be found at all stages of the supply chain.

The good news, however, is that a set of best practices supported by modern, powerful and affordable software tools enables retailers of all sizes to improve availability without investing in multi-million IT projects or highly complex supply chain analysis projects.

The value in retail data

Supply chain, point-of-sale and customer data is a very rich source of vital information. When exploited smartly, it has the potential to directly improve profitability by reducing supply chain cost, providing insights into customers needs and, very importantly, increasing on-shelf availability. Until only a few years ago, the sheer amount of data in question posed a serious challenge to retailers. Not only did it have to be captured, but it had to be stored in an efficient way that required infrastructure that was often prohibitively expensive for all but the largest retailers. Additionally, the analytic capabilities of technology were limited.

This situation, however, has radically changed. Today, exploiting retail data through smart analysis has turned into a very profitable undertaking independently of the size of the retailer. Cloud

computing, open source software and software-as-a-service delivery (renting hosted software) has completely altered the landscape. Cheap, secure and large storage capacities in the cloud, combined with open source software applications, provide tools that are extremely powerful at the same time as being affordable and hence a relatively affordable investment.

Capture and data storage democratized

You can't optimize what you can't measure. Without an efficient capture and storage of the data generated by the businesses, value is virtually destroyed every day. Two sets of data are particularly critical for availability optimization:

Point-of-sale (POS) data is extremely rich in information relating to what is happening in store. Accurate sales

forecasts, out-of-shelf and inventory monitoring, customer buying patterns and marketing are some of the most profitable applications. Modern, powerful POS software has become very affordable in the form of open source and hosted Software-as-a-service solutions; they improve efficiency and make the capture of point of sales data simple.

Supplier data is key to optimization of replenishment processes by accurately tracking supplier activity and lead times. Again, open source software tools today are high in quality, powerful and affordable for retail businesses of any size.

Data storage has been democratized by cloud computing, which provides cheap, secure and flexible storage capacities that can be rented 'a la carte'. This not only makes the capture and storage of masses of data easy and cheap, it also increases the accessibility of the data by a large factor. While data mining used to be a painfully slow and very costly process, cloud storage now enables rapid access and analysis of the data assets.

Inventory planning and optimization '2.0'

Sound forecasting and inventory planning is the basis for achieving high shelf availability. While forecasting and inventory planning technology has been around for decades, it has remained a complex and resource intensive process. The sheer amount of products, point of sales and data used to pose a major challenge. Managers had the choice between settling for a rudimentary optimization or making continuous and significant investments in manpower and tools. The arrival of cloud-based planning tools in combination with new methodologies such as Quantile Forecasting has opened a new chapter in inventory optimization in food retail.

Advanced store-level forecasts have the potential to hugely impact the accuracy of inventory planning. Reduced inventory levels, obsolescence and supply chain cost as well as an increased availability are direct outcomes. Automated, cloud-based forecasting platforms easily scale to thousands of points of sale while delivering advanced statistical forecasts that improve accuracy over traditional methods by an impressive 10 to 50 per cent. Furthermore,

time consuming, manual processes become automated and valuable store management time is freed up.

Inventory optimization analysis builds on 'raw' forecasts and delivers directly operative optimization metrics such as reorder points. Lead times, desired service levels, expected demand and demand volatility are taken into account to arrive at a suggested optimal inventory level that delivers a lower cost and a higher availability.

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week, classic forecasting practices deliver values that are statistically correct but not useful in practice. Crude rules to mitigate this problem pose additional stress on planning accuracy and product availability. New methodologies, such as Quantile Forecasting, for the first time provide a vastly improved accuracy in these cases and help to reduce stock-outs in the long tail.

Supplier service levels will directly impact



Above: With its purchase of 193 Netto stores, Asda is clearly positioning itself for a challenge with

inventory levels and availability. Sharing advanced forecasts is an effective method to improve supplier service levels and reduce supplier inefficiencies and costs.

On-shelf availability monitoring

While shelf availability is a top concern for customers and retailers alike, even the tier I retailers mostly rely on manual checks by store staff. This puts a large burden on employees and, in addition, response times to out-of-shelf situations are slow.

An emerging class of out-of-shelf monitoring technology identifies products that are not on the shelf and then sends alerts to store staff. A prioritization by strategic ('must have products') or economic ('profitability loss velocity') factors increases the profitability of this technology. Instead of tedious manual checks, staff can focus on removing the identified out-of-shelf

situations and on identifying and curing root causes.

Intuitively, these out-of-shelf analysis tools work by comparing expected (forecasted) and actual sales. What sounds simple requires massive and fully automated calculations, which used to be prohibitively expensive. Cloud-based software as-a-service solutions represent a new class of tools that combine a step change in performance with low cost and a close-to-nil investment requirement, making these solutions profitable even for small retailers.

The days of software that takes month – or even years – to implement and that often swallow large amounts of money while never living up to expectations are ending. None of the tools mentioned above should be purchased without an extensive, full-scale test. Unlike common perceptions, the testing of these systems can easily be set up even at full scale, as merely the data transfer needs to be organized. By providing software to rent on a subscription basis in a hosted model, these vendors do not require large upfront investment and can be discarded in case of underperformance any time.

The result of using these tools is quite often a rapid rise in profitability while keeping risks low. Retailers of all sizes are finally empowered to improve on-shelf availability in a holistic and efficient way. ■