Beauty Product Retailer Improves SKU Productivity

Introduction

Many brick & mortar retailers are forced to make assortment plans months in advance and with a limited understanding of SKU productivity. And then lack the ability to adjust their plans quickly when sales performance deviates from the original plan.

Consider this:

1. If you were to assess your current product lineup, would you be able to identify your top-performing and underperforming items in terms of revenues and profit?

2. Could you identify which product to swap in and out to rectify your sales trajectory?

In a context of volatile demand and shifting consumer preferences, two capabilities emerge as crucial determinants of success: understanding SKU productivity and agile assortment management.

SKU productivity can be defined as the proportion of overall sales attributed to a specific SKU. It can be measured in terms of revenues or profits. This analysis can be applied to a specific store, product category, brand, etc.

For example, mascara from brand X accounts for 1% of sales and 2% of profits for store #123.

Agile assortment management is the ability to modify any assortment plan on a continuous basis with up-to-date sales data in order to reach your commercial objectives, whether they are measured in terms of revenues, profits, units sold, sales per square meter, etc.

In this context, a clear understanding of the interdependency between SKUs and the tradeoffs that can result from modifying the assortment plan are critical.

For example, I could increase store sales by 0.5% if I replaced SKU 123 with SKU 456, but sales of SKU 789 would go down by 1%.

This article delves into how Lynx Analytics built a powerful solution to enable a major personal care and beauty product retailer to manage and optimize its assortment plan on an ongoing basis as a function of SKU productivity and SKU interdependency. It highlights the importance of agile assortment planning to drive revenue growth, improve operational efficiency, and enhance the customer experience.

Business Challenge

The client had a large network of stores that carried its own brand of products as well as third-party brands. Every store was dealing with hundreds of thousands of SKUs across many categories such as lipstick, eye shadow, skin care, etc. The client was able to assess the historic performance of any SKU in its stores up to the present day and they could see results at the store level, category level, and brand level for comparison purposes.

To create seasonal assortment plans, the client was using basic forecasting models. These models did not consider any interdependency between SKUs, meaning the sales impact of adding or removing a SKU on all the other SKUs . This is an often-overlooked aspect when optimizing assortment plans because it is complex and difficult to properly map these impacts.

Once the plan was created, the client had no means to adjust the forecast on an ongoing basis using SKU productivity data. In the end, category managers had to rely on gut instincts when

modifying the assortment plan in between seasons while trying to manage leftover inventory and new additions to the portfolio.

Adding a layer of complexity, the client had to consider contractual constraints with their third-party brand partners when creating the quarterly assortment plan. Their plans typically had to include specific SKUs, across fixed categories from tens of different brands, which in the end formed more than 50% of the entire stock.

The client wanted to predict through simulations the impact on revenues and profits for any store when making changes to the assortment plan. This would allow them to optimize its assortment plan, reduce long tail inventory, and increase productivity of each SKU.

The Lynx Analytics Solution

Lynx worked with the Merchandise Planning team and IT team in defining the requirements and focused on three key scenarios to develop predictive capabilities:

- Changes in SKUs within a brand

- Changes in relative category space within a brand space (i.e., Streamlining brand space by changing location of product categories)

- Introductions of new brands to replace non-performing SKUs

Lynx developed a machine learning model based on SKUs as part of its Assort AI solution that was deployed on the client's cloud platform.

A crucial part of the solution delivered by Lynx was the capability of the predictive model to understand the interdependency between all the SKUs and the impact on revenues within a specific store. This enabled the client to gain a view on key dynamic effects between SKUs:

- Cannibalization: a SKU diverting sales from another SKU in the same brand or category
- Boosting: one SKU driving sales of another SKU
- Complementarity: SKUs that are mostly sold together
- Substitution: if a SKU is not in stock, which other SKU to replace it with

In addition to the interdependency of SKUs, the model takes into account contractual parameters, which imposed certain bundling constraints for SKUs. For example, there needs to be a minimum of 30 different SKUs within a product category for brand X.

This information allowed the client, through their use of the predictive model, to balance product performance, brand performance, and store performance based on their commercial constraints and evolving business objectives.

With the predictive model outputs, the client was able to identify opportunities to balance in-store performance by making relevant SKU replacements. The model accounted for commercial constraints and aligned to the evolving business objectives, while giving revenue lift opportunities.
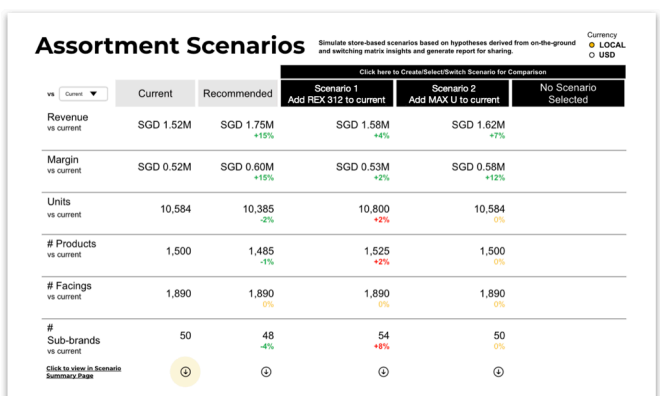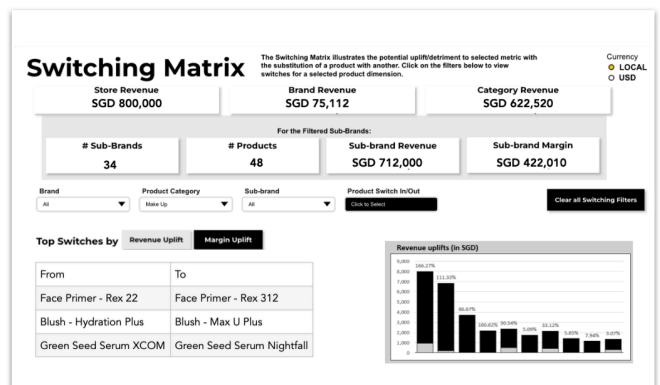
Solution Benefits

In a test store, the client was able to identify that 50% of its SKUs were responsible for only 20% of sales. After removing these bottom performing SKUs, the customer was still able to achieve 94% of the previous period's revenue. Thus, the remaining group of SKUs were 14% more productive in the aggregate (i.e. from 80% of revenues to 94%). By removing underperforming SKUs, the customer had eliminated the distractions of other products (cannibalizing sales or simply wasting retail space) and boosted SKU productivity for the remaining SKUs. The 6% percent revenue gap was more than compensated for by the decrease in cost of inventory and set up

costs, which translated into improved profitability.

In parallel to in-store operations, the merchandising teams now have performance data to support their negotiations with third-party distributors. They can justify changes of SKUs in store and give immediate feedback to their partners, allowing for a simpler and more dynamic process with third parties.

Following the successful roll out of this solution, the client is now planning to expand this solution to other key global markets for its stores and implement this approach for their e-commerce and omnichannel operations.

Lynx Analytics Offerings

We develop tailor-made AI solutions for retailers to predict and improve business outcomes such as sell- through rate, sales per square foot, margins, and inventory turnover. We operate globally with offices in San Francisco, Budapest, Singapore, and Hong Kong, to serve our clients wherever they do business.

We nurture long-term partnerships with our clients and focus on outcomes. Our clients cover different retail categories, from fashion apparel to FMCG to high-end jewellery.

What unites them is a common desire to improve their performance across all channels through the better use of data and analytics at scale.

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