

## Optimize Pricing Strategy Using Data Analytics for an E-commerce firm in Africa

*The client is a large E-commerce/M-commerce firm in Africa. They wanted to maximize their top-line revenues and improve their bottom-line profits by optimizing their pricing strategy. The client had a set of broad pricing strategies in place such as price skimming, cost+, premium pricing, loss-leading pricing, etc., for their portfolio of existing SKUs and new products. These were adopted depending on the fluctuating market conditions.*



### THE CHALLENGE

The client's existing strategy was delivering sub-optimal results. We identified two opportunities for the client to leverage data analytics for improving their existing business metrics:

- Determination of optimal price points for various SKUs
- Delivery of measurable financial impact

### THE SOLUTION

#### **Determination of Optimal Price Points**

The team at Prescience explored various factors such as the time of the year, product rarity index, procurement expenses, inventory cost, promotions, events, demand cannibalization, competition, competitor prices, etc. Based on this, the team created a multivariate study to build

the relationship between each SKU's price and sales. Using these relationships, the SKUs were categorized into 6 different modules. The primary modules used were:

**I. Longtail Module**

Used for new products where an attribute similarity score was created with correlated SKUs

**II. Elasticity Module**

Used to analyze seasonality and cannibalization scenarios for SKUs with rich past data

**III. Key Value Items (KVI) Module**

Used to develop a specific strategy for high-priced SKUs

In addition to these, the omnichannel module, competitive response module and time-based pricing (dynamic pricing) module were also implemented.

Based on our analysis, a customized combination of clustering and pricing algorithms were used to fit to the above modules. Depending on the category of products, various algorithms such as Recurrent Neural Networks (RNNs), tree-based models and generalized linear models were implemented to **arrive at the optimized price points**.

**Delivery of Measurable Financial Impact**

We used the various price points to plot the Probability Density Function (PDF) of demand and revenue. Based on this, the team was able to perform different what-if analyses on the data. This approach enabled the client to minimize revenue loss while also identifying the optimal price points for the respective SKUs. Additionally, the team at Prescience created a **sales roadmap for hundreds of SKUs, as well as for each category and sub-category of products**.

## THE IMPACT

Our approach to analyzing the pricing strategy from the ground-up, with the clearly defined business goals in context, helped the client realize significant gains from their investment in contextual data analytics.

- The client was able to set individual price points that maximized their total revenue and minimized losses. They were able to **improve their revenue by about 8%, during the first six months** after the implementation of the analytical models.
- The identified pricing strategies helped **improve the client's profit margin by ~ 1.5%**.
- The client **increased their ability to offer the lowest daily pricing** of its products in the marketplace by **60%**.

### About Prescience Decision Solutions

*Prescience is a business focused analytics firm that empowers organizations to find meaningful insights in their data. Our Business-Backward Approach helps create tangible data-driven solutions that provide users with timely inputs for astute decision making. We do this by leveraging our expertise in machine learning and advanced data science technologies, deep domain knowledge and our customers' business knowledge. Visit us at [www.prescienceds.com](http://www.prescienceds.com) or send us an email at [info@prescienceds.com](mailto:info@prescienceds.com) to get in touch with us. You can also follow us on LinkedIn.*