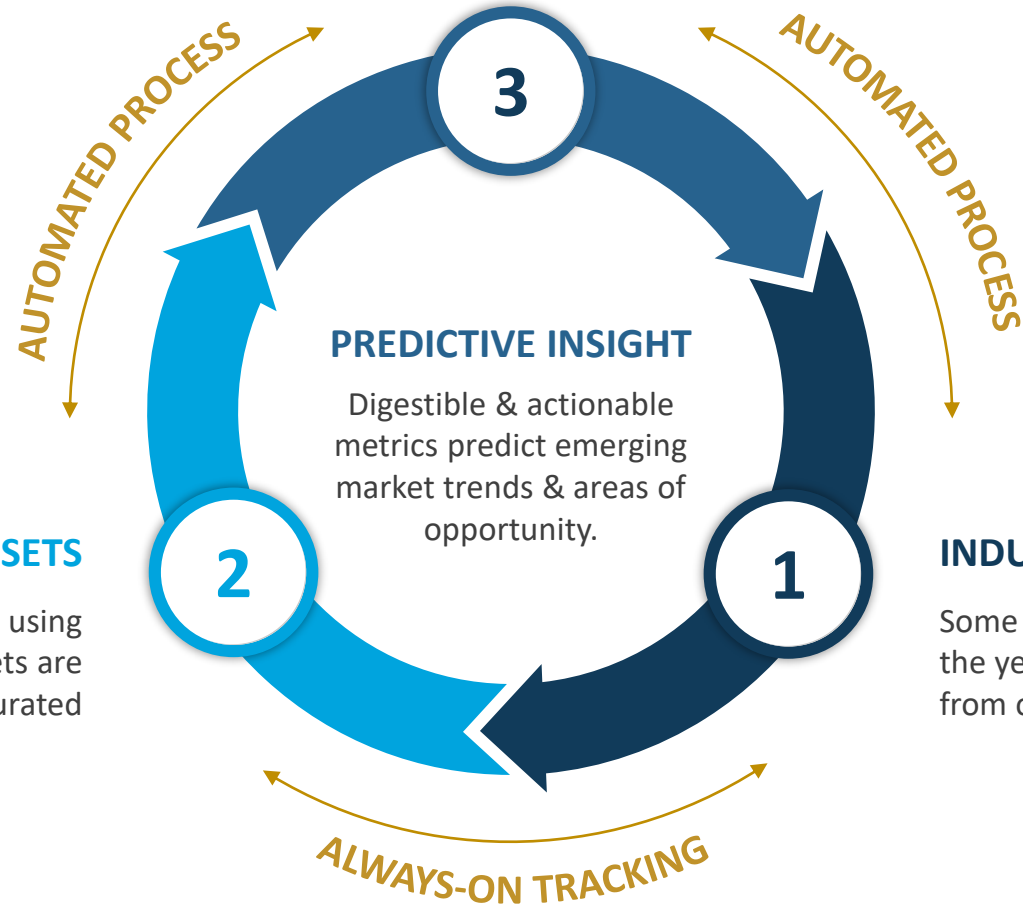# Predicting Demand and Scenarios

Kline's 3 pillars of robust predictive insight

PREDICTIVE ANALYTICS SPECIALISTS

A specialist team of elite data science experts develop advanced & accurate predictive analytics tools

AUTOMATED PROCESS

AUTOMATED PROCESS

3

PREDICTIVE INSIGHT

Digestible & actionable metrics predict emerging market trends & areas of opportunity.

2

1

ROBUST DATASETS

Kline's proprietary datasets are researched using robust methodologies & third-party datasets are thoroughly curated

INDUSTRY EXPERTISE

Some of the world's leading companies rely upon the years of experience & dependable insight from our team of business analysts

ALWAYS-ON TRACKING

Kline

Our predictive analytics capabilities

TECHNIQUES

ANALYTICS PLATFORMS
1. Microsoft Azure
2. Databricks
3. Data Factory Automation
4. SQL Server Manager
5. API Call Automation
6. Kline Core Research UI

ALGORITHM CREATION
1. Python
2. R
3. SQL
4. VBA

TOOLS

DATA MANAGEMENT
1. Data Storage
2. Data Engineer
3. Data Cleaning & Governance
4. Data Access & Distribution
5. Data Architecture

DELIVERY TOOLS
1. Power BI Dashboards
2. Web Applications
3. Real-Time War Gaming
4. Direct API Feeds
5. PowerPoint & Excel Delivery

PREDICTIVE SOLUTIONS

TRADITIONAL ANALYTICS
1. Statistics
2. Econometrics
3. Correlation Analysis
4. Linear Regression

ADVANCED ANALYTICS
1. Forecasting
2. Time-Shift Analysis
3. Bayesian Recursion
4. Natural Language Processing
5. Machine Learning
6. Decision Tree Algorithms

Kline

Forecasting tool to extract insights and support planning

Kline Consulting's forecasting tool allows you to not only ascertain the expected future market environment but also plan for different potential scenarios.
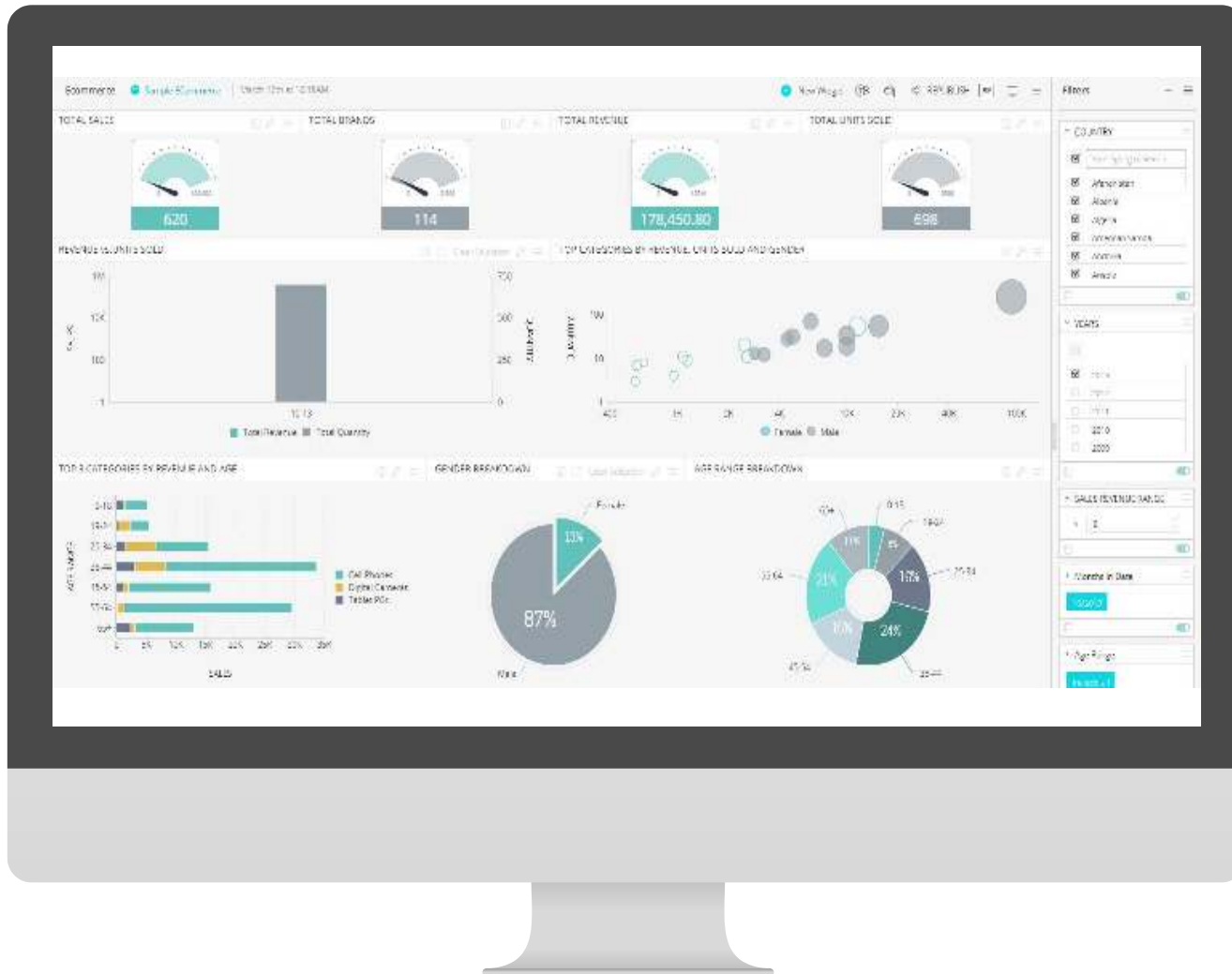
DRIVER CORRELATION
The historical relationship between drivers & market data is analysed.

MARKET FORECASTS
Advanced data science algorithms predict future market values based on these relationships.

SCENARIO PLANNING
Revising future parameter values provides updated market forecasts based on correlated relationships.

DASHBOARD VISUALISATIONS
Scenario planning & forecast results provided in easy-to-use dashboard, driving stakeholder engagement.

Forecasting models tailored to the specifics of your project

Driver Effects (%)

DATA INGESTION

1. Combine Kline's proprietary market data with economic and industry data to fully assess the total market
2. Decode industry trends by researching 'market drivers'
3. Effect of each 'market driver' on the industry drills down into information that target the right consumer audience with portfolio opportunities
4. Incorporate regular data refreshes to develop new insights

INTERACTIVE DASHBOARDS

1. War-gaming capability allows for creation of scenarios to simulate their effect on beauty segments
2. Specialist team create interactive dashboards as per KPIs, metrics and predictive requirements
3. Support end-to-end business case, accounting for all eventualities

Volume Sales (Million Units)

Kline

And highly customized for your specific business

MARKET INSIGHT

Determine the leading strategies that exploit trends and consumer behavior. By understanding which market drivers are shaping the industry and their subsequent impact on the market, your strategies will be future-proof.

PRICE ELASTICITY

Our forecasting tools can incorporate pricing data, determining its relationship with market sales. By decoding this relationship you can identify the optimal price point to maximize sales and/or to assess competitor pricing strategies.

FLEXIBLE STRATEGY

By leveraging our war-gaming module you have the power to unveil the future market landscape based on your own created scenarios. Build flex into your strategy, gain first-mover advantage and navigate the best way through uncertainty.

FUTURE FOCUS

By combining the power of these different tools you can build end-to-end, compelling business cases and strategies. Understand the target customer, trends, opportunities and price, while building in the flex needed to succeed in your industry.

Kline

Informed by Industry Data, Information Assets and Factor Map

Market drivers considered to understand the trends and factors that predict demand

ECONOMIC INDICATORS
1. Data on the health of the economy
2. Gross Domestic Product
3. Consumer Purchasing Power, Disposable Income
4. Inflation, Consumer Price Index

SOCIAL METRICS
1. How consumer attitudes are reflecting on societal trends
2. Shopper Footfall
3. Consumer Confidence
4. Social Recovery Indices

DEMOGRAPHIC MAKEUP
1. Makeup of society
2. Gender, Age & Ethnicity
3. Income Thresholds
4. Tribe of society

INDUSTRY INFORMATION
1. Data on retailers, innovation & business upkeep
2. Registered Businesses/Stores
3. Patents & Trademark Applications
4. Commercial Renting Price, Business Overheads

Market Drivers

CONSUMER SENTIMENT
1. Social listening determining attitudes towards hot topics
2. Ingredient Prevalence, Sentiment & Pricing
3. Category Trends
4. Product Prevalence, Sentiment & Pricing

CONSUMER BEHAVIOUR
1. Consumer surveys to understand the reasons for trends
2. Consumer Attitudes
3. Consumer Attitudes Towards Hot Topics
4. Future Purchasing Intent

KLINE PROPRIETARY DATA
1. Researched market data from Kline's industry experts
2. Kline Proprietary Data
3. Total Market Category Data
4. Expert Industry Interviews

INTERNAL DATA
1. Your internal datasets to size product portfolio opportunity
2. Granular Level Sales Data
3. Marketing & Advertising Spend
4. Expert Internal Interviews (Product Managers etc)

eKline

# Forecast veracity drives robust predictions

CORRELATION ANALYSIS

The extent to which each 'market driver' impacts the 'market data' is analysed, considering linear, surging & deteriorating interactions over time.

Market Data

Driver Data

Year 1   **Year 2**   **Year 3**   **Year 4**

TIME-SHIFT ANALYSIS

The delayed impact of 'market drivers' on the 'market data' are studied to determine the optimal time-shift. This models real-life scenarios accurately where an event takes one, two or even more years to take effect.

Market Data

Driver Data

Year 1   **Year 2**   **Year 3**   **Year 4**
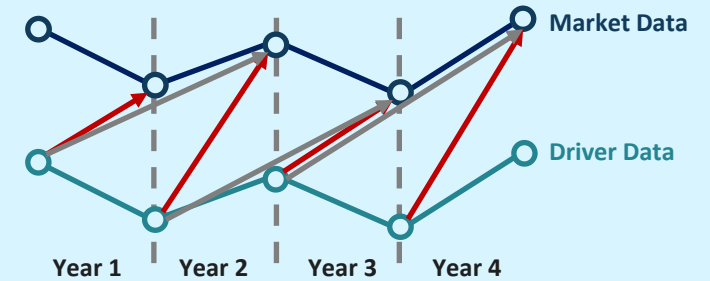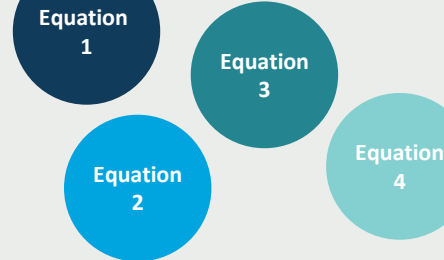
BAYESIAN RECURSION

A Bayesian iterator is applied to determine the equation that best fits the 'market data' & will be used to determine future market predictions to the highest degree of accuracy.

Accuracy

Equation 1

Equation 3

Equation 2
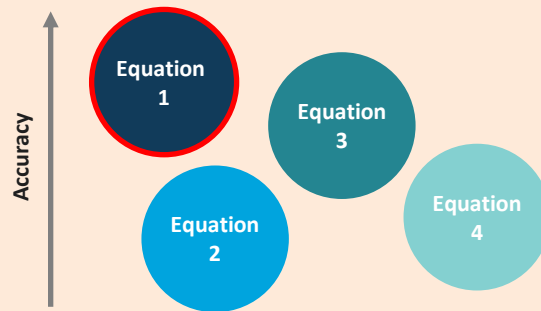
Equation 4

AUTOMATED DATA SCIENCE SOFTWARE

Equation 1

Equation 3

Equation 2

Equation 4

MULTI-FACTOR RELATIONSHIP

A series of equations that represent the 'market data' through the 'market drivers' are created based on the two analyses detailed.

Kline

THE ASK

- Global beauty manufacturer wants to understand future category sales
- Devise optimal pricing strategy
- Enable sales success with key accounts

THE SOLUTION

- Developed a 'bespoke' forecasting tool, incorporating several economic drivers
- Interactive tool highlighted effect of different pricing structures on volume sales
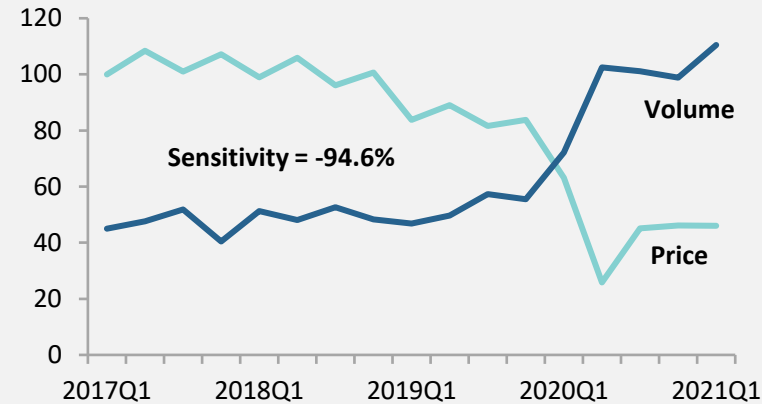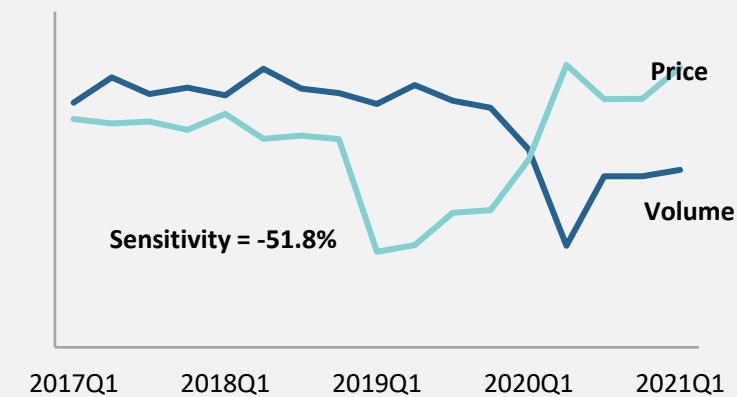- Also assess impact of economic scenarios

THE OUTCOME

- Central strategy team used tool as key input to work with category managers
- Decoded the different pricing & economic dynamics & impact on category performance
- Optimised pricing model to maximise sales with end consumers
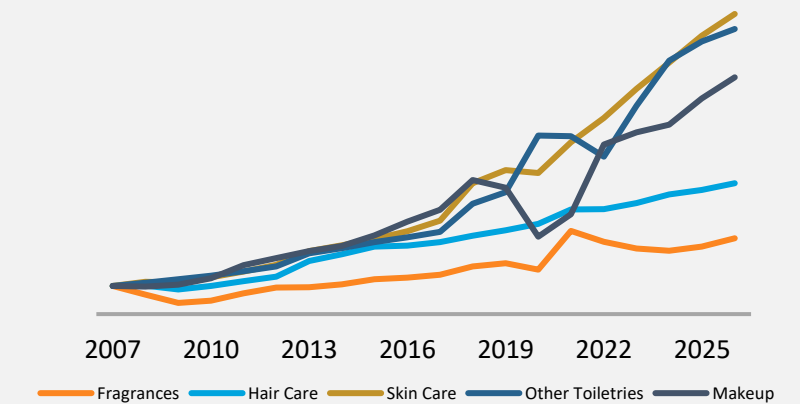
Case study: beauty category planning

Hair Styling Products & Sprays

Sensitivity = -94.6%

Volume

Price

Category Forecasts

Legend: Fragrances, Hair Care, Skin Care, Other Toiletries, Makeup

Conditioners

Price

Volume

Sensitivity = -51.8%

Driver Impact by Category

Legend: Inflation, GDP, Disposable Income, Population, Price of Energy, Price of Coal, Commodity Index, Price of Gas

Kline