

SKU Max Inventory Optimization

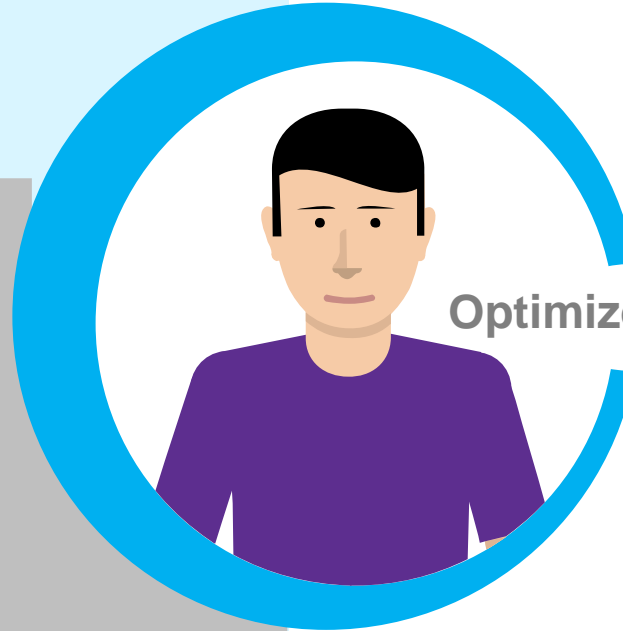
Solution Overview Webinar

GOAL:

Increase sales by having the right product portfolio for every customer

How can I identify which products are trending in my market?

How do I optimize our shelf space for maximum revenue?



Optimize Sales with Actionable Insights



Speaker: David McClellan, Practice Director

March 2nd, 2017



Microsoft Partner

Gold Data Analytics
Gold Cloud Platform



Microsoft Cloud Hosted Project Architecture

Azure SQL Data Warehouse, Azure Machine Learning, Azure Storage, Azure Data Factory, Power BI, HD Insight

Neal is a Specialist, Microsoft Exclusive Partner



Our Vision

Build a Global Advanced Analytics business focused on Microsoft's data technologies and opportunistically spin off data-enabled SaaS applications.



Our Mission

Enable commercial and public entities saddled with rudimentary analytical techniques today, with rigorous and ROI-focused end to end data and analytics capabilities



Our Company

We are fast-growing, Seattle-based Systems Integrator with over 50 employees, including data engineers and scientists who have helped dozens of customers improve their businesses. We were founded in 2011.



Industry Alignment

Our objective is to make analytics accessible to institutions of all sizes across our verticals. Our team specializes in creation of analytical practices to help companies grow and scale.



Partnership

We are a Microsoft partner that develops solutions on using the MSFT Data Insights platform, including the Cortana Intelligence Suite and the Azure IoT Suite.



Solutions

We have a variety of solutions available in the Retail, Energy, Manufacturing, and Education spaces, including inventory optimization, advanced demand forecasting, predictive maintenance, quality optimization and many more



Our Credentials and Key Team Members

Microsoft Partner of the Year
2015 Finalist

Big Data and Analytics

Microsoft Partner

Gold Data Analytics
Gold Cloud Platform

Board of Directors



Dylan Dias

CEO, Co-Founder

- Principal Consultant, The Arnold Group
- Consultant, Booz Allen Hamilton
- MBA, Northwestern - Kellogg



Greg Gomez

VP Sales

- Dir Enterprise Sales at Extended Results – acquired by Tibco
- IBM, Software Sales
- MIS, Univ. of South Florida



Carl Albrecht

BOD, Co-Founder

- Partner, The Arnold Group
- Principal, Booz Allen Hamilton
- MBA, MIT – Sloan School



Zach Perkel

Practice Director

- BS, Bioengineering – UC Berkeley
- MBA, Georgia Tech
- MS, Mechanical Engineering – Georgia Tech



Simon Witts

BOD, Advisor

- CVP, Microsoft EPG
- MSc, Univ. College of London



David McClellan

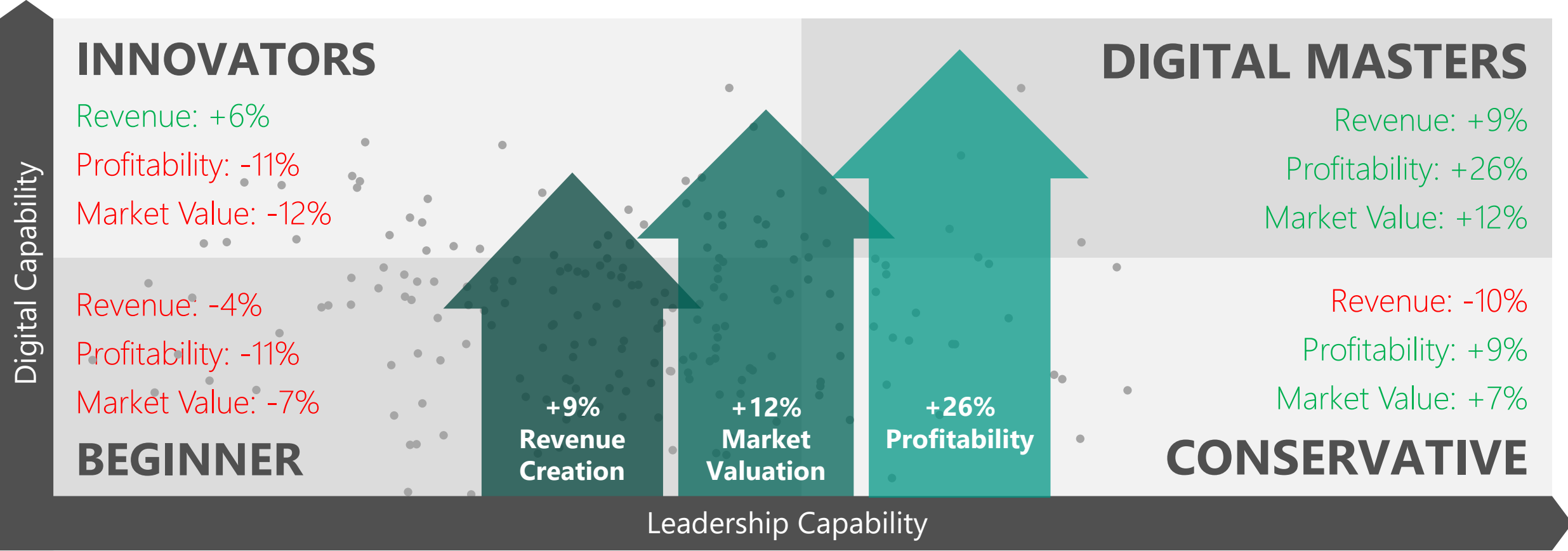
Practice Director

- MBA Big Data Analytics, Washington State University
- BA Operations Management, Washington State University

+ Partners at The Arnold Group (Michael Spencer and Jim Neuburger)

Organizations that master digital are prospering

“Digital masters generate 9% more revenues with their employees and physical assets and, on an average, are 26% more profitable than their industry competitors”



Source: MIT/Sloan “How digital leaders outperform their peers in every industry”



Retail & Consumer goods can keep up by embracing change

The changing face of the consumer

Dominant forces that will drive change in consumer landscape over next few years:

Aging population

Women in workplace

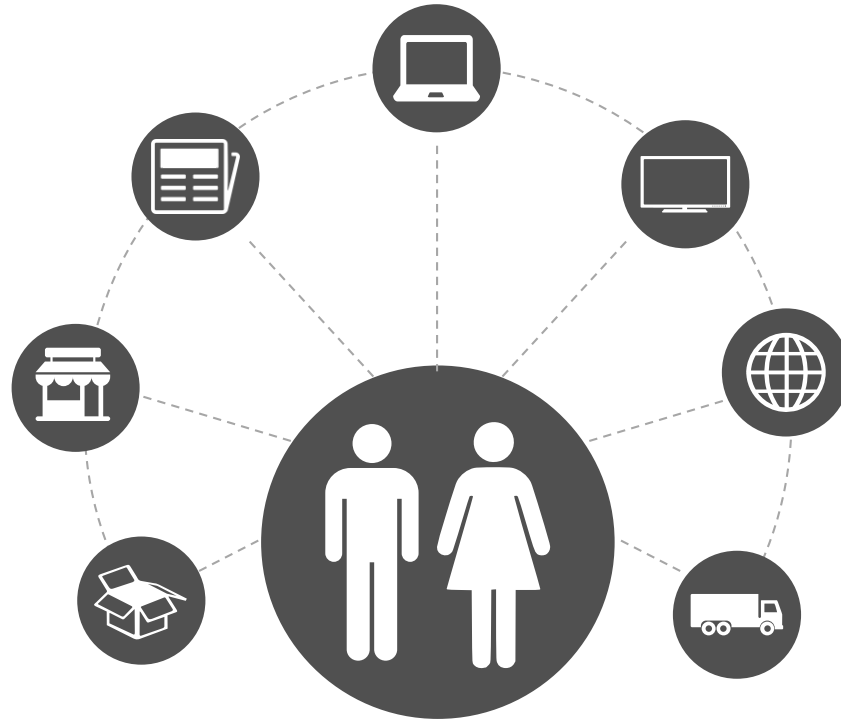
Digital-first consumers

Middle-class explosion

Urbanization

Shrinking household size

The blurring of boundaries between consumers, stores, and brands



The rise of digital

The pace of change has surpassed all prior shifts in the nature of an industry – and the move to digital shows no signs of stopping:

18% growth rate in online sales every year

9.5% annual increase in online grocery shopping

18% of brand purchase decisions are made at home

Consumer **spending on household goods and services** is expected to rise by an annual average of **8.5% in Asia** over the next five years. Major players will **shift their focus more towards Asia as digital spending continues to rise.**



Managing inventory correctly isn't easy

Technology provides solutions to existing and emerging problems

<p>Keeping up with rapidly changing customer preferences feels out of reach with my current forecast methods</p>	<p>I need to be able to meet demand anywhere, on any channel, but I'm hindered by disconnected processes</p>	<p>I want products to delight customers, but we lack up-to-date SKU and trend information</p>	<p>Providing more personalized, relevant offers to clients would require mobile analytics that I don't have</p>	<p>I want technology to be a growth engine for the business, but legacy systems hold me back</p>
				
<p>Merchandising Director</p>	<p>COO</p>	<p>Sales Director</p>	<p>Field Seller</p>	<p>Analytics Director</p>

18.5%
growth in the number of SKUs stored in distribution centers in 2015⁴

1.5%
increase in US manufacturers' and trade inventories from 2015-2016³

143%
of inventory per total sales is the amount of stock US retailers are sitting on¹

44%
of CPGs don't have adequate resources to interpret analytics outputs²

¹ <http://www.scdigest.com/assets/newsviews/15-04-23-1.php?cid=9231>

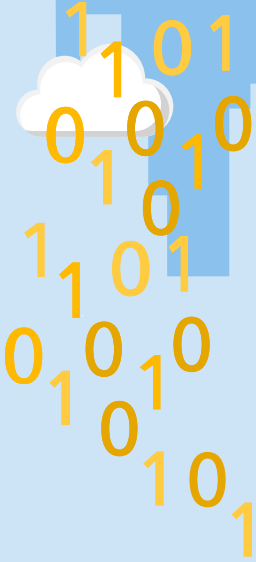
³ https://www.census.gov/mtis/www/data/pdf/mtis_current.pdf

² EKN Survey 2016

⁴ http://www.supplychain247.com/article/2015_warehouse_dc_operations_survey_results

Pilot Charter

- DELIVER IMMEDIATE BUSINESS VALUE THROUGH ADVANCED ANALYTICS
- REDUCE EXCESS INVENTORY AND MATCH PRODUCTS WITH EACH MARKET
- BUILD ANALYTICS INTO OPERATIONS



Leverage Proven Modeling Techniques for Immediate Operational Business Value

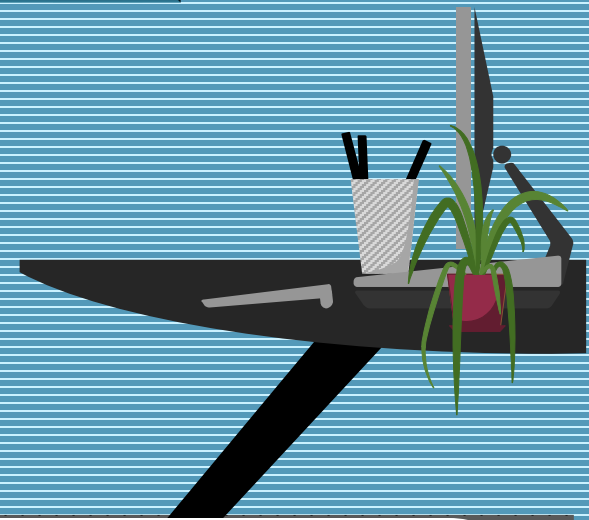


Tap into Microsoft Azure's Cloud Analytics Capabilities Without Worrying About Integration and Operations




Ensure Each and Every Outlet has the Best Portfolio of Products to Maximize Sales and Profit

We're offering our customers more choices than ever, yet our sales don't show it!



Could we be missing sales opportunities as often as we're gaining them?



My team has every tool, report, and analysis they could ask for, but we can't keep up with ever evolving market demands!

Despite our best efforts, our SKU portfolios are often out of date, generic, or just not a good fit and I know we can do better.

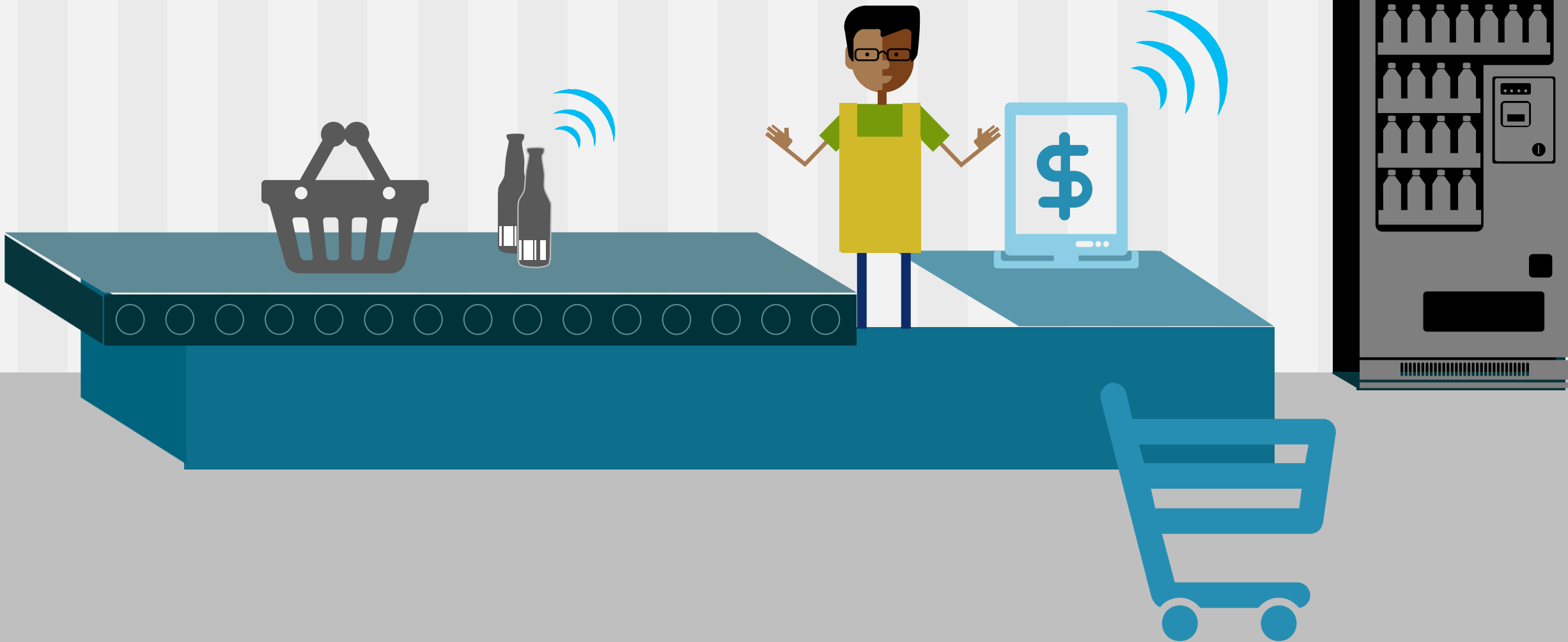
To start, we need an effective way to get our analytics insights into the hands of operations so they can make a difference!



This allows us to meld the experience of our account specialists with insights from advanced data science modeling

SKU Max Inventory Optimization attacks the problem from a different perspective by asking the question-
Which SKUs are responsible for above average sales performance?

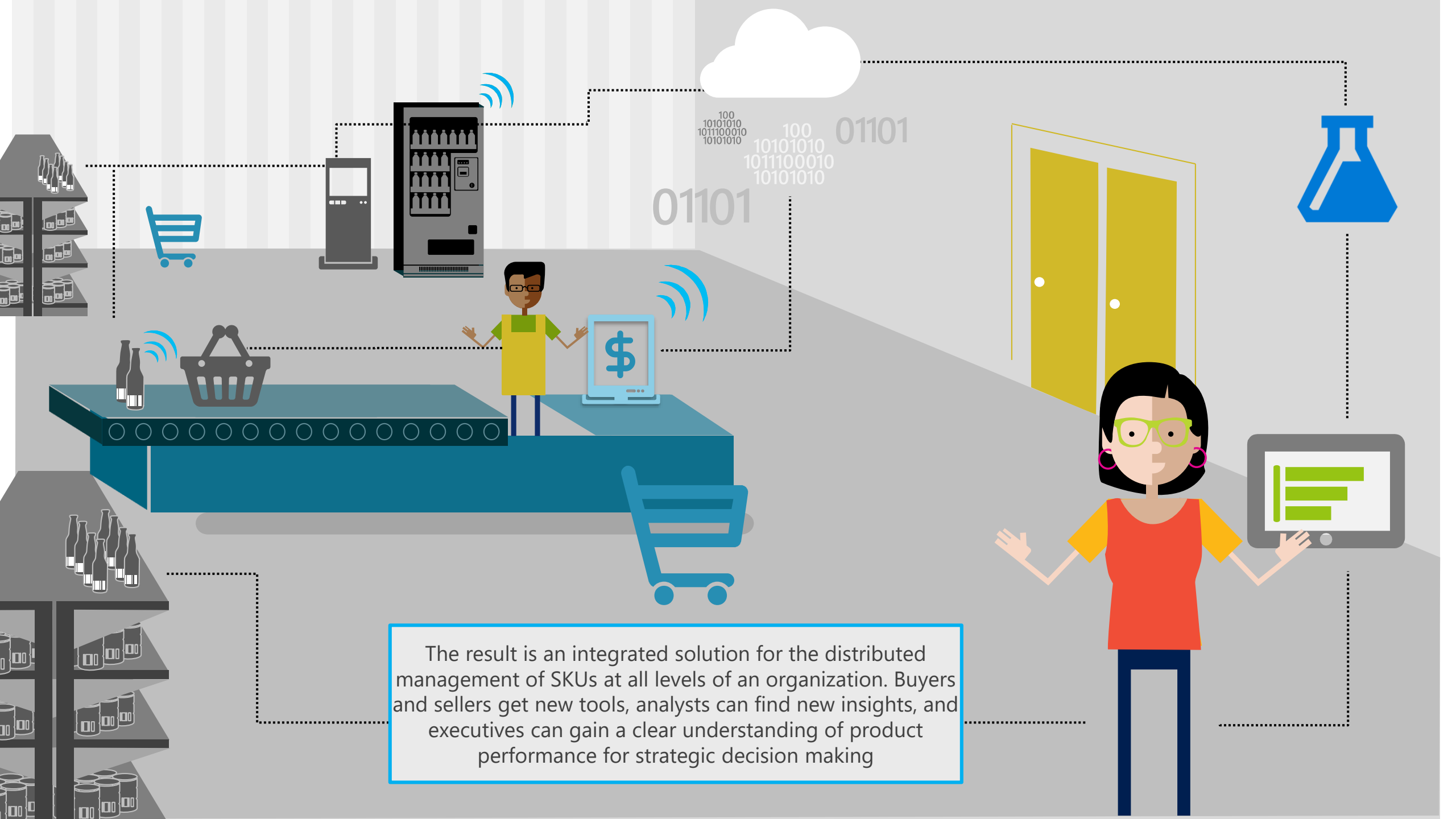
My competitor is selling a whole bunch of widgets, I should carry them too!



Some Retailers have SKUs with limited shelf lives before they are upgraded, but that's OK because we can analyze the characteristics of products to see what's trending and order new products that meet those new customer needs.

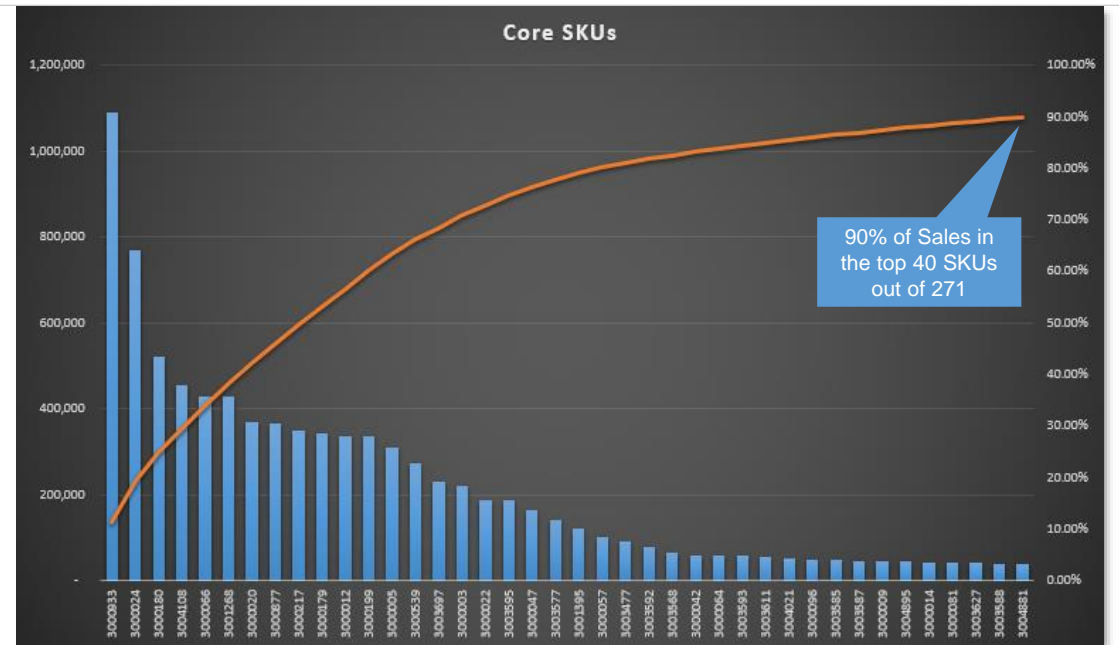
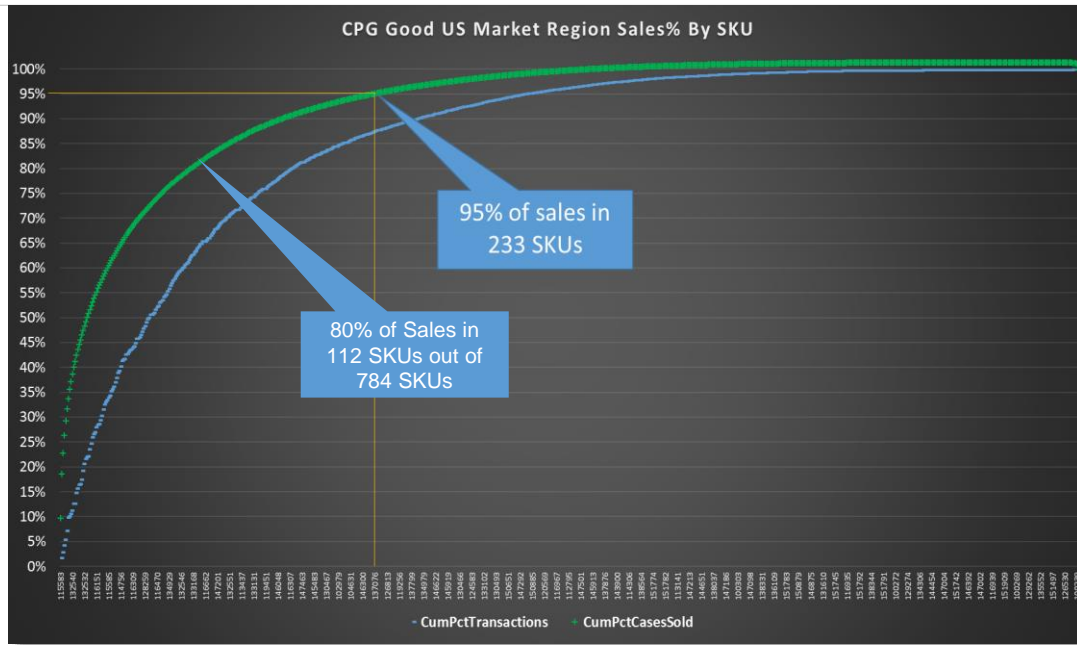


Looks like last year's Chardonnay vintage is gone, but I found this year's edition from the same winery

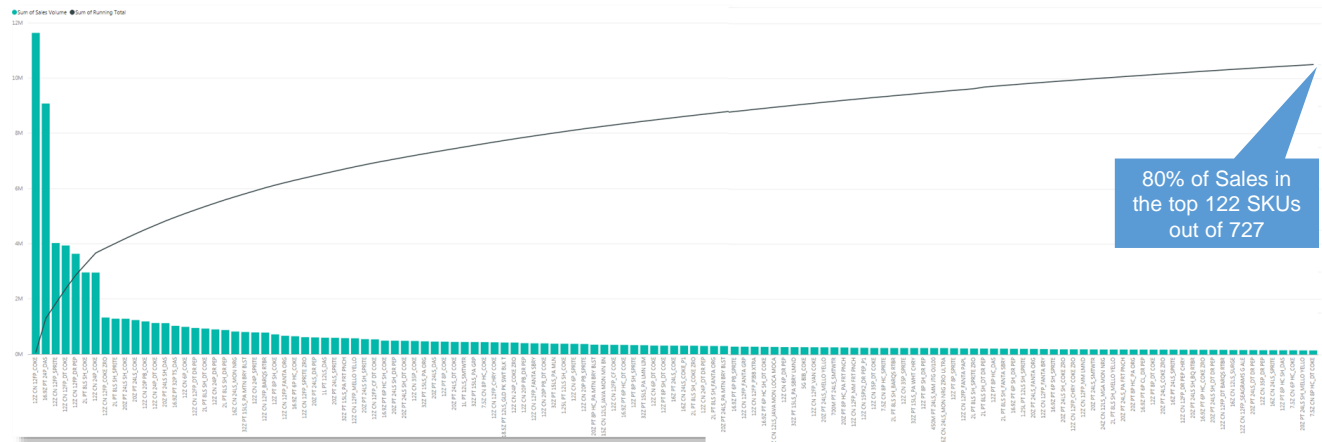


The result is an integrated solution for the distributed management of SKUs at all levels of an organization. Buyers and sellers get new tools, analysts can find new insights, and executives can gain a clear understanding of product performance for strategic decision making

Sales are not Equally Distributed Across SKUs



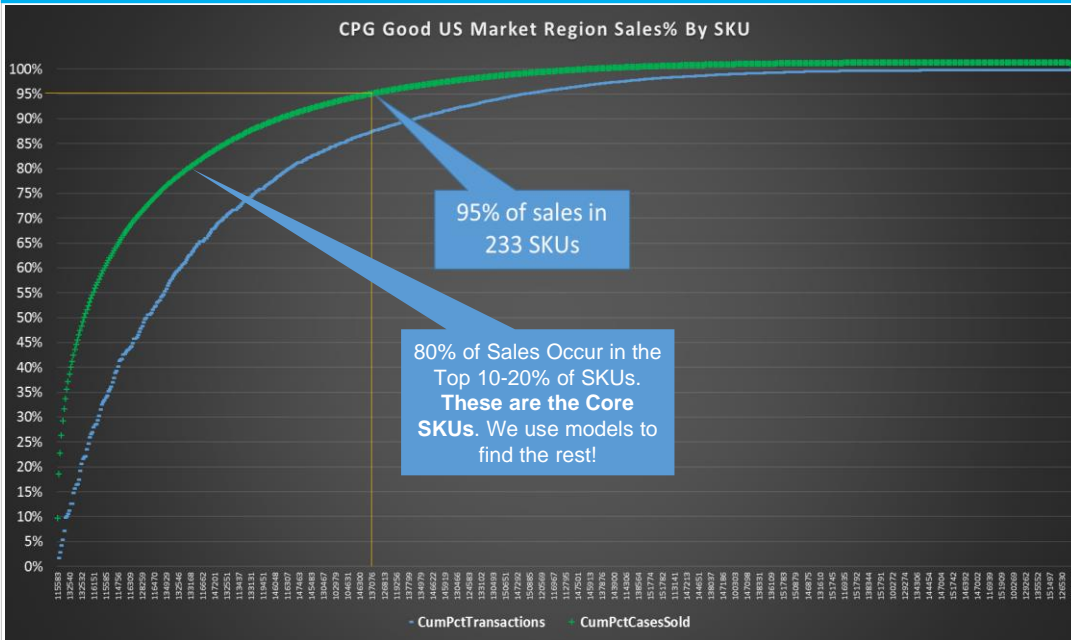
80-90% of SKUs generate nominal sales volume



Even when filtered to only Core SKUs, sales are still very skewed!

SKU Optimization Classifies SKUs into 4 Groups

Sales Distribution by SKUs



Undersold SKUs:

SKUs that significantly increase sales when present, but have low penetration and are crying out to be distributed more

Winning SKUs:

SKUs that are excellent performers in every market they are present, and penetration should be further increased

Unprofitable SKUs:

SKUs that are underperforming and have low revenue/volume. They can likely be removed

Core SKUs:

High volume, commonplace SKUs that have marginal sales lift but should not be replaced

Sales Lift

Market Penetration

● High Volume ● Low Volume ● High Revenue ● Low Revenue

Four SKU Categories

Core SKUs:

Widely Distributed, High Volume SKUs

Winning SKUs:

Moderate Distribution, High Performing SKUs

Undersold SKUs:

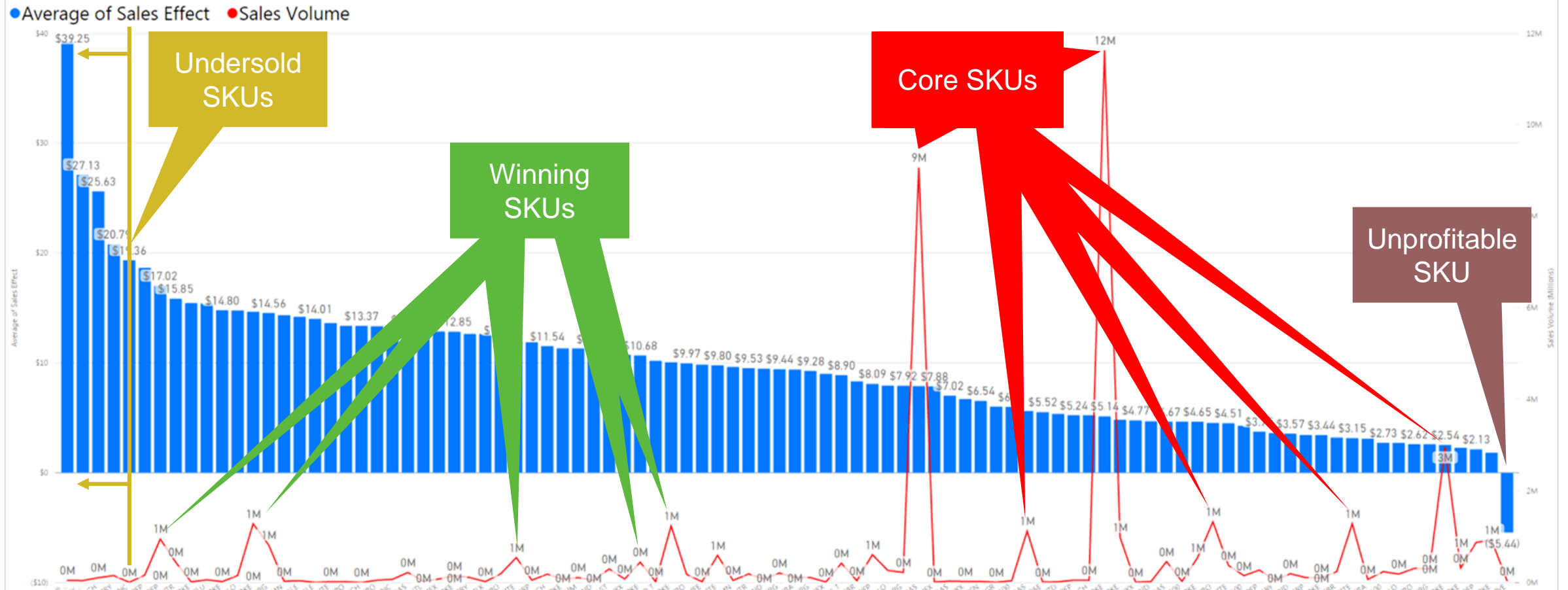
Low Distribution, High Performing SKUs

Unprofitable SKUs:

Low Distribution, Low Performing SKUs

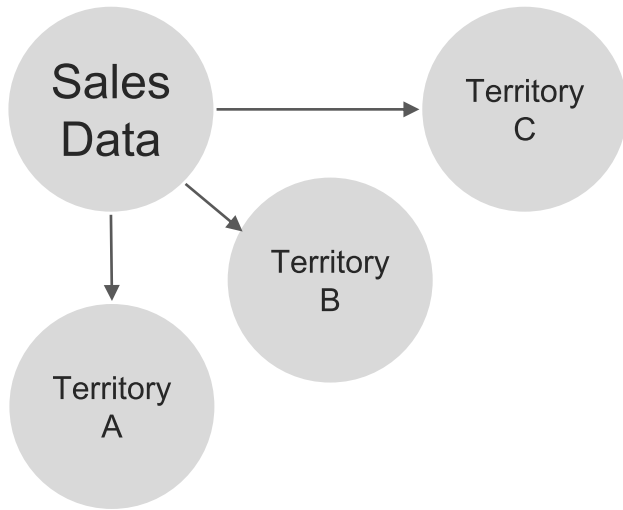
SKU Sales Effects Identify SKU Categories

SKU Effects on Weekly Sales Per Store



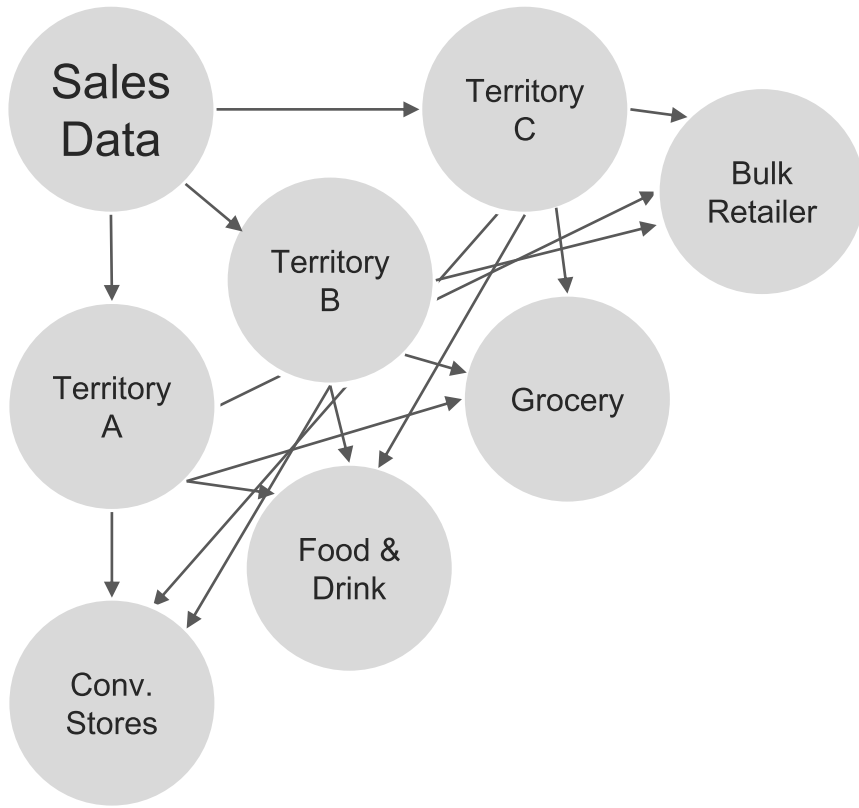
Example SKU Portfolio for Large Convenience Stores in California

SKU Optimization using Machine Learning



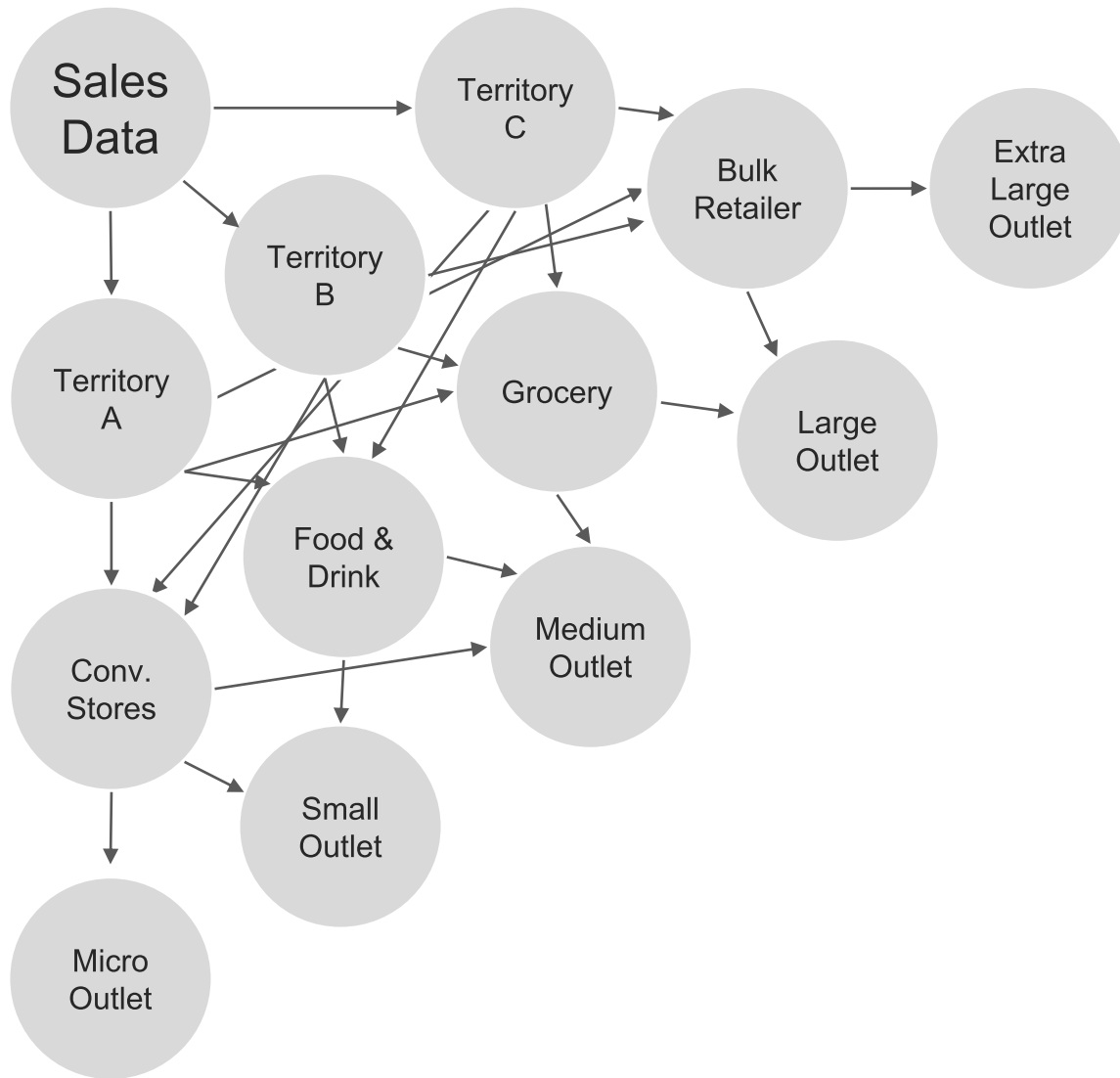
...It is common to optimize SKUs using sales analysis and Business Intelligence,

SKU Optimization using Machine Learning



...It is common to optimize SKUs using sales analysis and Business Intelligence, but many SKU portfolios are too large and complex to be effectively managed using traditional methods,

SKU Optimization using Machine Learning



...It is common to optimize SKUs using sales analysis and Business Intelligence, but many SKU portfolios are too large and complex to be effectively managed using traditional methods, so we segment sales outlets using a variety of traits, then use Machine Learning to measure SKU performance

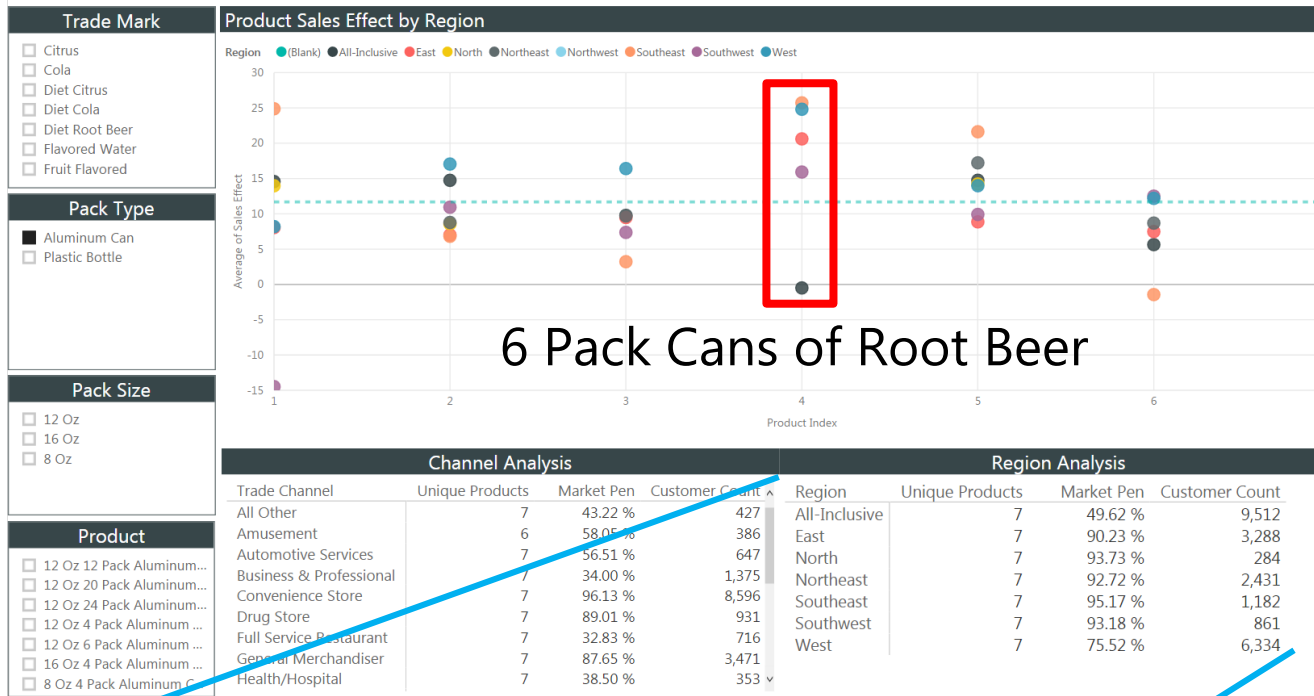
SKU Optimization using Machine Learning



Insights from Analyst Dashboards

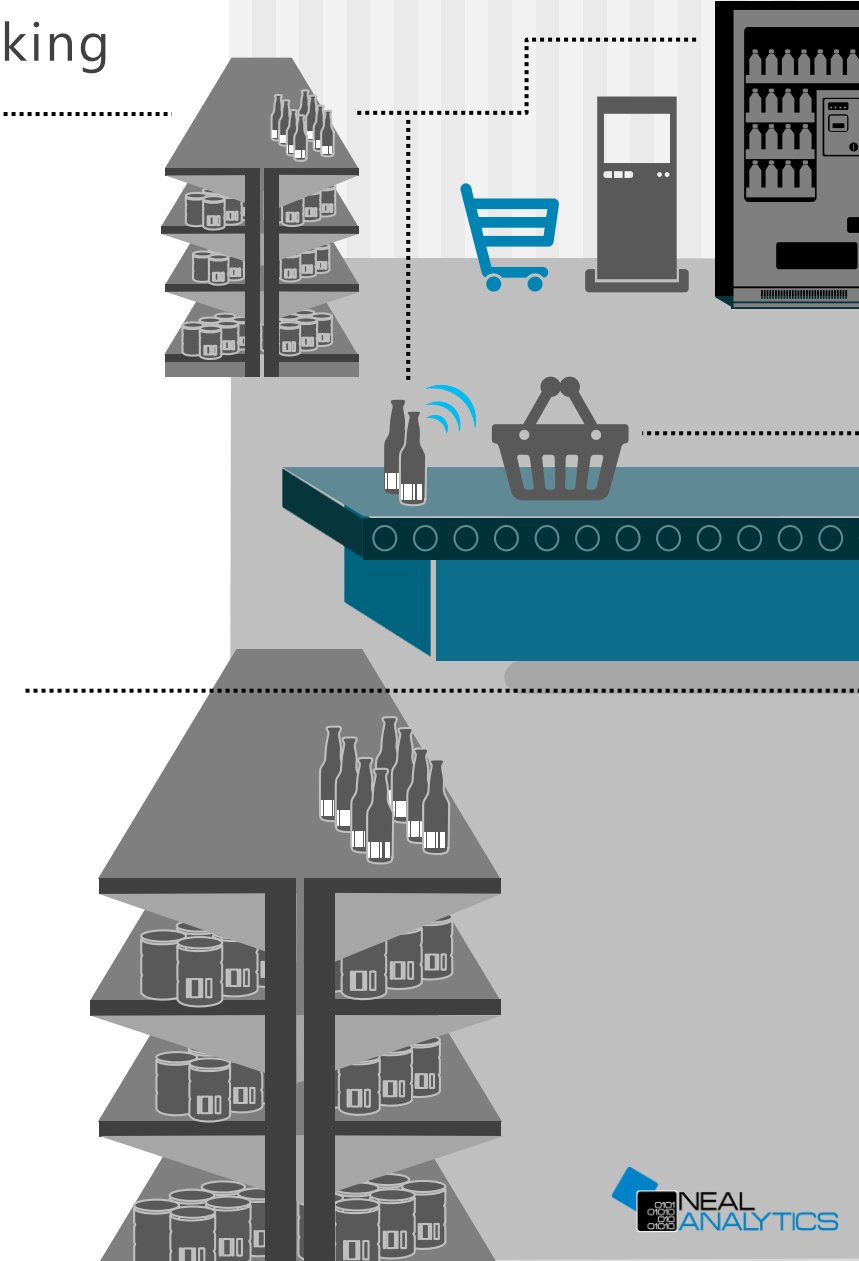
Analytics Teams are Equipped with New Tools for Decision Making

SKU Max - Market Penetration Analysis

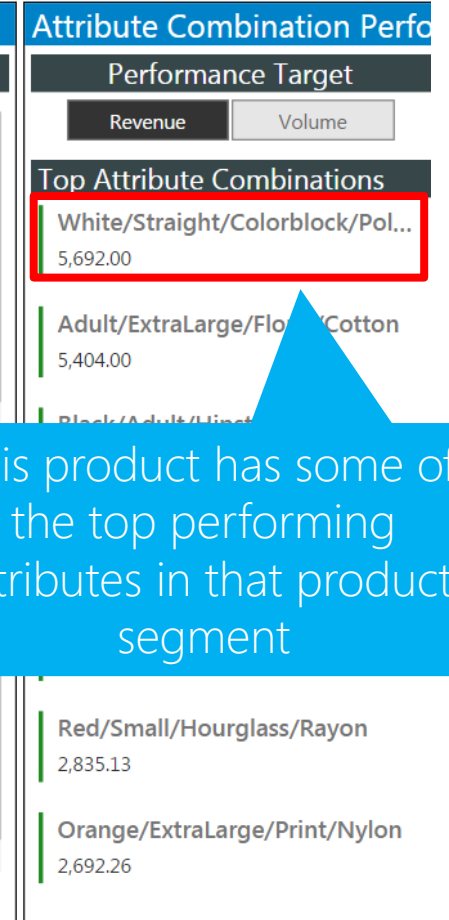


Region Analysis			
Region	Unique Products	Market Pen	Customer Count
All-Inclusive	7	49.62 %	9,512
East	7	90.23 %	3,288
North	7	93.73 %	284
Northeast	7	92.72 %	2,431
Southeast	7	95.17 %	1,182
Southwest	7	93.18 %	861
West	7	75.52 %	6,334

6 Packs are Significantly Outperforming Other Packages in Thousands of Stores



Dive Into Product DNA



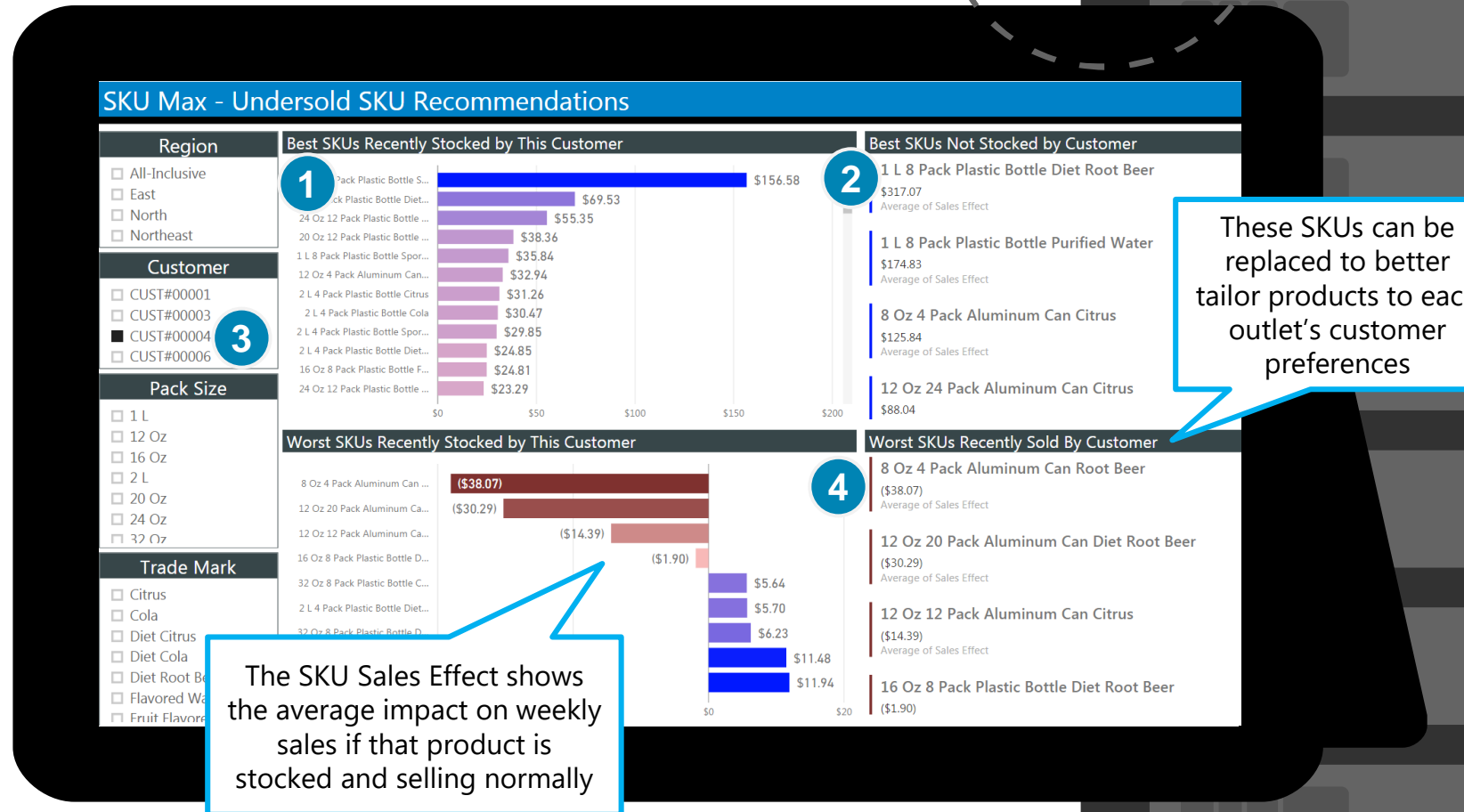
This product has some of the top performing attributes in that product segment

Now that the buyer knows which product attributes are trending, they can work with their suppliers to order products that meet the criteria

Dashboards in the Hands of Sellers

Each Seller is Equipped with a New Tool to Encourage Sales

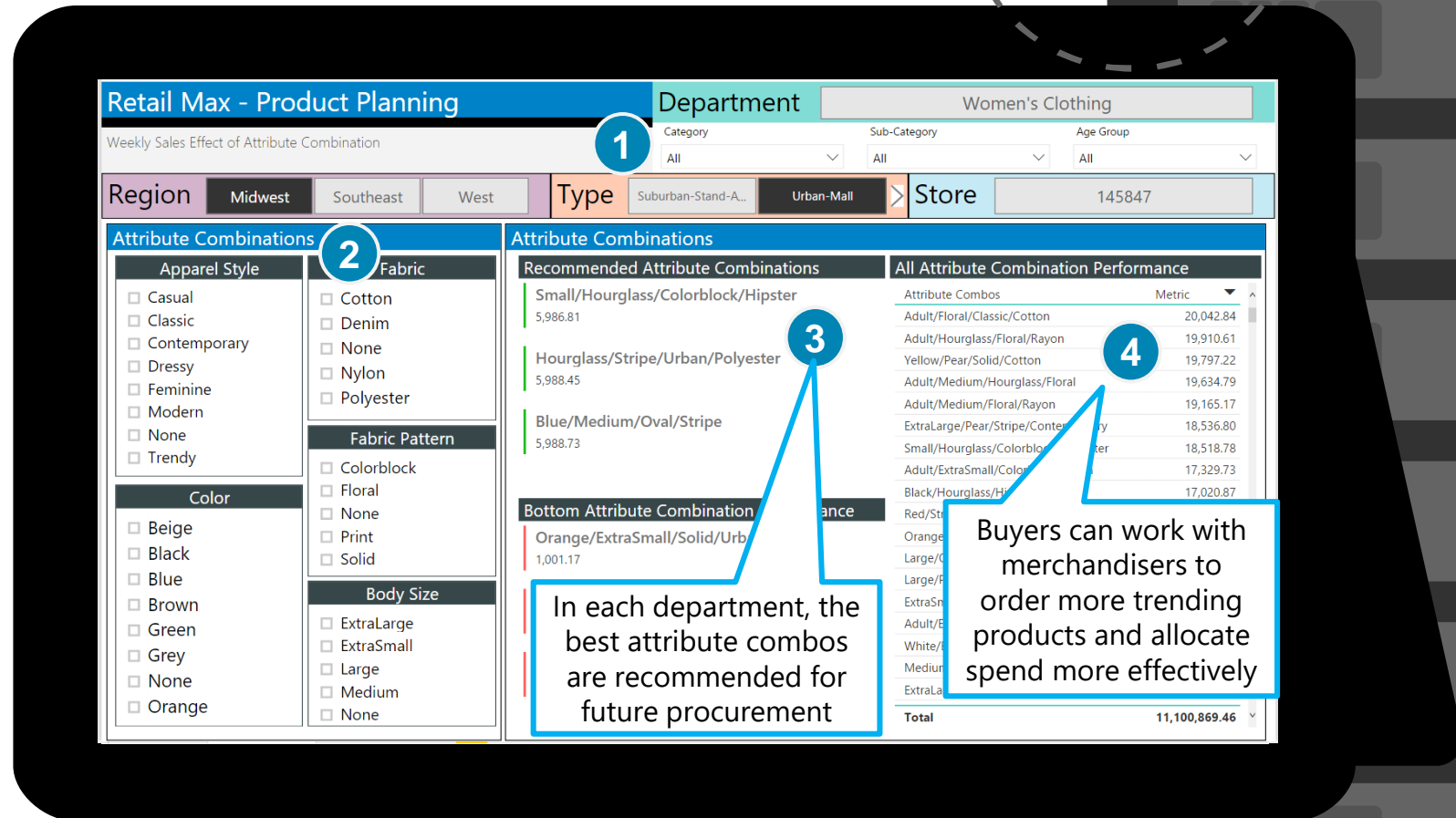
- 1 Quickly identify top performing SKUs**
The dashboard provides an ordered list of the average effect on weekly sales for each SKU across the stores in each sales outlet group.
- 2 Know exactly which good SKUs are missing**
The seller can quickly identify which SKUs are good candidates to replace underperforming products on the shelf.
- 3 The customers for each day are easily selected**
With dashboards refreshed each day, the seller need only select from among the customers they are going to visit that day. (IDs are used here for anonymity)
- 4 Low performer SKUs are ideal removal candidates**
These SKUs may just be a bad fit for customer preferences in that market, and are better stocked elsewhere or less frequently.



Dashboards For Buyers and Merchandisers

Retail Buyers Can Quickly Identify Trending Products to Order

- 1 Quickly Analyze Each Market and Department**
The dashboard equips buyers with the ability to drill into each market or product segment with tailored Machine Learning recommendations.
- 2 Identify Optimal Product Attribute Combos**
SKUs in Retail may come and go, but by analyzing product attribute combinations, we sequence the DNA of successful products so new items with trending DNA can be ordered.
- 3 The Best Products Drive Recommended Buys**
Successful products have common attributes, which can be grouped and modeled against other groups over time, recommending what is trending in a given market or department
- 4 Weekly Sales Effects**
Every attribute combo provides an estimated sales impact if SKUs with those attributes are sold in the store, identifying winners, losers, and indicating recommended purchase volumes

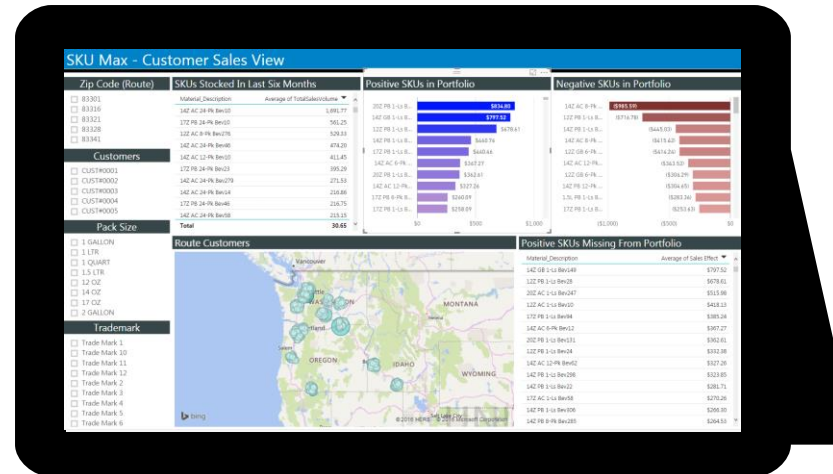


Sellers Can Provide Tailored Customer Experiences



1 Phil, a beverage Sales Associate, wants to improve his sales by ensuring that every product he stocks is a good fit for his customers and maximizes their sales

2 Phil looks at the SKU Optimization dashboard on his tablet, and identifies that this customer is not carrying Cola 1L bottles, which are very popular in this customer segment.



3 Phil sees that 1L energy drink bottles are under performing, so he works with the customer to make the change

Ability to Apply Business Logic

Authorized SKU Lists



How can we ensure SKU recommendations are valid, logical, and likely to improve sales?

High/Low Volume Products



On Shelf Currently or Not

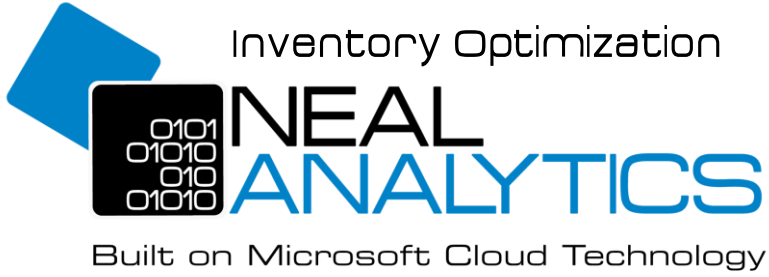


Above/Below Average SKU Effects



Limit to Certain SKU Groups





Try the SKU Max
sandbox today at
[AppSource.com](https://www.AppSource.com)



SKU Max Deployment Options

No Cost Trial

- Send us a sample of your data which contains:
 - 1 year or less weekly sales data in one market or product group you would like to analyze
 - Relevant SKU dimension data
 - Anonymized customer data
- We will provide some initial visuals similar to those seen today using your data
- Our team is available to walk you through the data requirements on a call should you require assistance
- Sample data specifications available on AppSource

Deployment Call

- Neal Analytics data scientists and engineers will participate in a call to gather the necessary configuration information from your business stakeholders and IT department
- Neal Analytics will spin up the solution in a base configuration using the parameters you have provided, either on a Neal managed Azure instance or on your internal subscription
- We will meet with your stakeholders to present the initial results and recommend any customizations (if necessary) to increase business value

Configuration Workshop

- For customers that require significant customization or assistance with the data engineering required to operationalize the solution, we offer a workshop where our expert consultants will scope the effort required and guide your team
- Additional customizations, app development, and new functionality are handled as consulting hours
- Neal experts will provide insights and knowledge transfer to your teams to develop the internal analytics capabilities recommended for getting the most out of the SKU Max solution

Wait, what about the data? Can you manage the data engineering for us?



Neal Hosted Data Engineering

- Neal Analytics can absolutely receive and host your raw data and transform into the format we need for SKU Max
- Neal data transformation extra Azure cost and any one time consulting hours are not included in the license fee, and will be custom quoted depending on the size of the data and complexity of the transformations required
- Ongoing data transformation cost Azure & labor will be added to the monthly subscription cost and agreed upon with the customer
- Neal is responsible for the fully managed solution

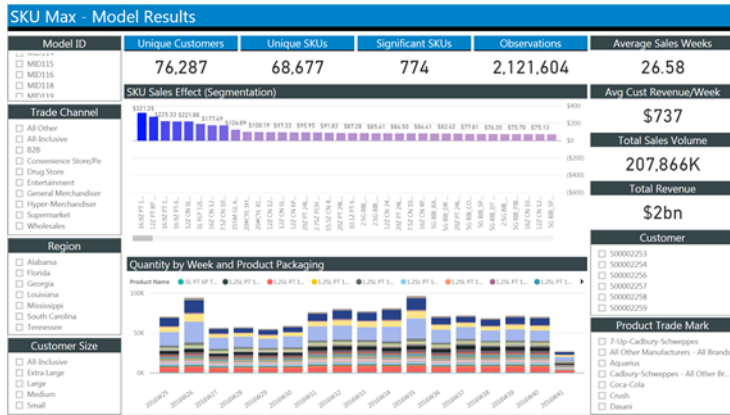
Client Hosted Data Engineering

- It is often easier to internally prepare your data to meet the SKU Max requirements, and can result in significant cost savings, so it is encouraged where possible
- Neal Analytics will connect to the prepared datasets and load the data into Azure, where it will be processed through Machine Learning algorithms and then provides the results back to the end users
- Neal Analytics is not responsible for issues with the service if the data is not up to date in the client's staging tables

SKU Max Pricing Tiers

Gold

Power BI Analysis Dashboards

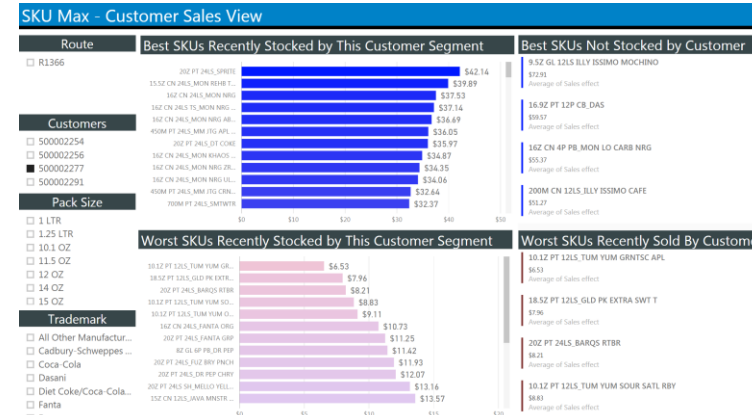


Analysts Equipped with SKU Management Tools

- Analysts can monitor models and make macro-level business decisions using their existing Office 365 Accounts
- Interactive dashboards useful for making SKU portfolio changes in various finely segmented markets

Platinum

Mobile Power BI for Buyers & Sellers

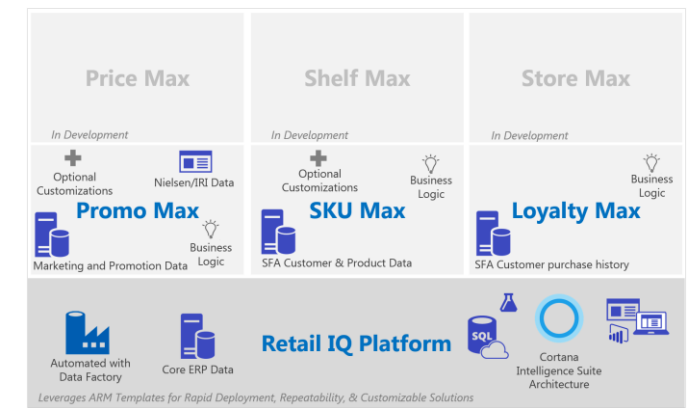


Operations/Field Sellers Equipped with SKU Insights

- Tier 1 Analyst Dashboards enhanced with field monitoring capabilities to ensure solid recommendations are made
- Interactive dashboards for sales/delivery roles available on mobile devices or embedded in websites for easy access
- Power BI Pro licenses not included in the monthly fee

Diamond

Retail IQ Integration



SKU Max Integrated with Additional Retail IQ Modules

- Ops friendly tools that aid businesses in understanding the complete picture of their sales environment
- Deployment of specific solutions and apps for various roles provide tailored experiences for each business unit

Pricing

License Cost: \$10k/month

License Cost: \$15k/month

License Cost: \$20k/month

Retail IQ Analytics Platform

Retail IQ Framework

- SKU Max was built upon a dynamic platform which allows for timely deployment of the core framework and near plug and play addition of analytics scenarios
- This core framework is a foundation for the launch of different permutations of SKU Max and other retail solutions with easy customization and extension to grow business value as capabilities and more data become available
- Additional solutions continue to be developed in partnership with leading retailers around the world

Price Max

In Development



Optional Customizations



Nielsen/IRI Data

Promo Max



Marketing and Promotion Data



Business Logic

Shelf Max

In Development



Optional Customizations



Business Logic

SKU Max



SFA Customer & Product Data

Store Max

In Development



Business Logic

Loyalty Max



SFA Customer purchase history

Retail IQ Platform



Automated with Data Factory



Core ERP Data



Cortana Intelligence Suite Architecture



Leverages ARM Templates for Rapid Deployment, Repeatability, & Customizable Solutions

How do I Learn More?

1. Visit our website: <http://www.nealanalytics.com/sku-max-2/#survey>
2. Fill out our 'Contact Us' Form

Contact Us

Name	Email Address
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Message

14 + 14 =

You'll be contacted shortly by a Neal Analytics specialist to schedule an exploratory call!

Contact



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Frequently Asked Questions

Data Questions

Q: How much data do I need for this solution to work?

A: We look for at least 2 years of sell-in sales data, but beyond that, less data only means less segmentation

Q: I'm a retailer and all my stores are the same, why would I want to segment them? Does this still work?

A: Yes, we may use clusters of stores compare markets to see which products are preferred in that market, but the real answer is that we will tailor the data to you!

Q: I only have a few customers because I don't sell direct to the stores where consumers purchase them, how is this solution valuable for customers like me?

A: Our key goal is to generate enough data for our algorithm to segment your data and still work. That can be done even with as few as 10 customers.

Methodology Questions

Q: How does this solution compare to JDA or other providers?

A: SKU Max is not a complete platform, but addresses a specific, high business value problem in a differentiated manner

Q: Under the hood, what sort of algorithm do you use?

A: We use a multivariate regression model to analyze the presence and absence of various SKUs in each sell-in transaction

Q: What sort of information do you need from my team?

A: We need the overall size of the data, and to know how you would like to segment the data into peer groups for analysis

Q: What is the estimated timeline for implementation?

A: Could range from a few hours to a few weeks depending on customizations requested. Basic configurations are fast!

Customer Story: CONA Optimizes SKU Portfolios by Equipping Sellers with ML

CONA
Coke one
NORTH AMERICA



SKU Optimization

"We see real value in equipping our sellers with product recommendations that not only consider a customer's preferences in a market, but the business logic we must apply for a recommendation to be feasible in our operations model."

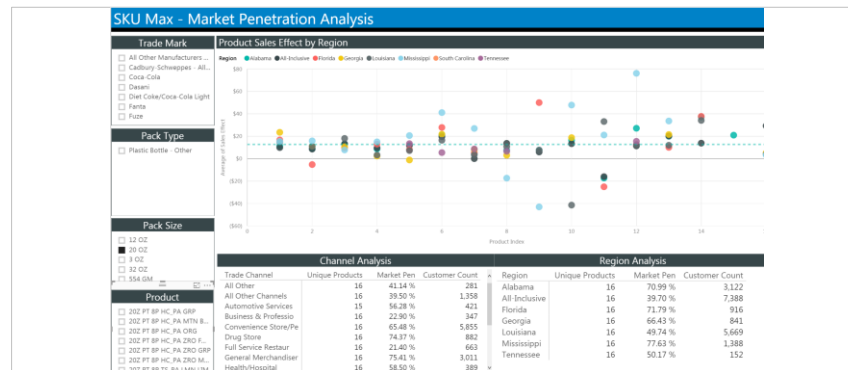
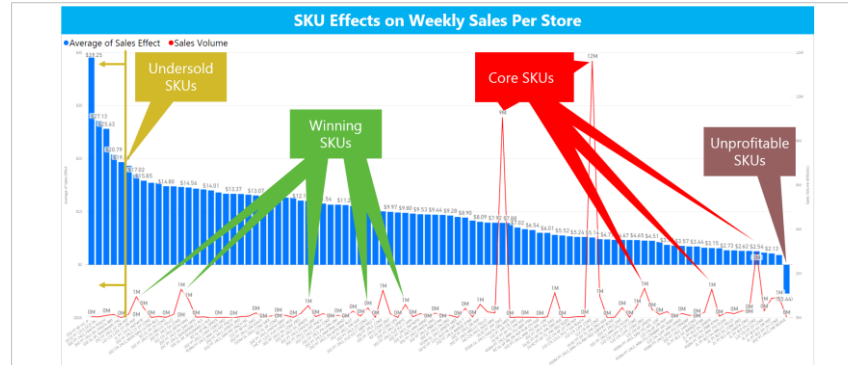
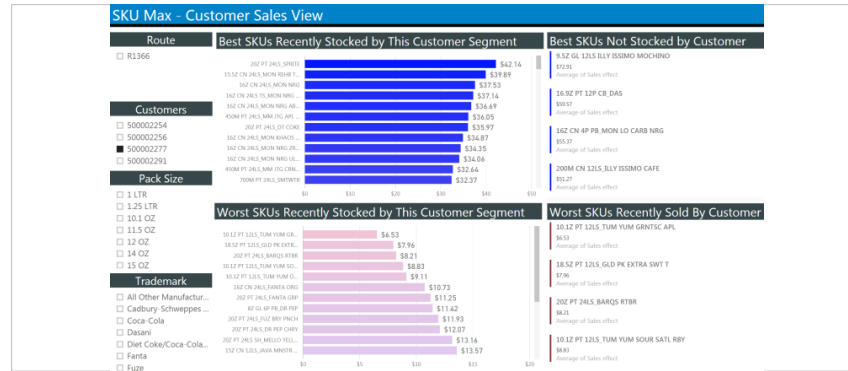
Beeland Nielsen

Senior Director of Commercial Leadership, United Bottling

"Thanks to this pilot, we have been able to understand the advanced analytics capabilities in Azure and make the decision for a cloud platform that will not only meet our current needs, but those of the future."

Saurabh Parikh

Vice President, CONA Services LLC



ML Optimized SKU Portfolios

- Segmented customers into peer groups
- Identified high and low performing SKUs
- Constructed mobile dashboards for sellers
- Provided advanced analytics for BI teams
- Optimizes product portfolios in a detailed, continuous fashion

Real Business Value

- Answers the question "what caused sales variance with respect to our products?"
- Quantifiable business value from field sellers making more informed decisions
- Improved customer service, agile SKU management and deep business insights

No Risk Azure

- Pilot solution deployed via CSP to enable CONA to tap into the power of the Microsoft Cloud without a big up front commitment
- Migrated to CONA's Azure subscription once they adopted Azure as a cloud platform



Case Study: Arca Continental increases profitability by optimizing SKU Strategy



"When we started with this project, we were searching for new and improved ways to serve our clients and consumers while boosting profitability. We needed to better use the data we already had and gain a more comprehensive understanding of sales variations and correlations between multiple variables."

Lizeth Refugio Salas
Revenue Growth Management Chief, Arca Continental

"Over time, this advanced analytics solution with its statistical approach to big data will transform the way we take business decisions through all business processes."

Ruben Dario Torres Martinez
IT Manager, Arca Continental



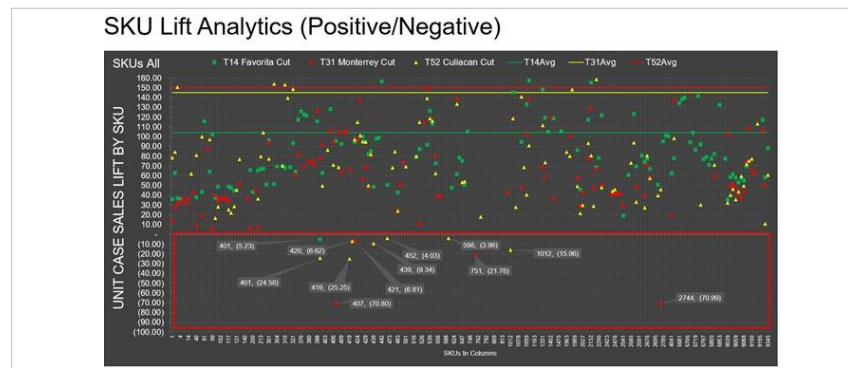
Sales Driver Analysis

- Understand sales impact and influence of 95+ internal and external variables
- Differentiate sales drivers across markets and geographies
- Optimize strategic and operational business decisions



Sales Delta Analysis

- Answers the question "what caused sales variance?"
- Identify and quantify which variables contributed to sales variance
- Determine which business functions need to be optimized



SKU Lift Analysis

- Identify SKU's with negative sales lift (cannibals)
- Optimize SKU distribution
- Increase sales and profitability by dropping SKU's that hurt sales

Segment Sales as Much as the Data Supports

Trade Channel	Observations	Unique Customers	% of Obs	% of Cust
Convenience Store/Pe	398,848	8,942	38.26%	22.91%
General Merchandiser	161,733	3,960	15.51%	10.14%
Supermarket	62,802	1,772	6.02%	3.26%
Quick Service Restau	60,310	3	5.79%	5.21%
Drug Store	44,400		4.27%	2.68%
Business & Professio	36,400		3.49%	10.36%
Full Service Restaur	31,500		3.02%	5.59%
Other Eating & Drink	23,100		2.22%	4.59%
Retail Specialty Ser	20,800		2.00%	4.37%
Health/Hospital	20,000		1.92%	2.35%
Recreation	19,100		1.83%	4.70%
Primary/Secondary Sc	18,843	1,887	1.81%	4.83%
Hyper-Merchandiser	16,622	318	1.59%	0.81%
All Other	15,931	988	1.53%	2.53%
Local & Traditional	15,318	461	1.47%	1.18%
Automotive Services	15,081	1,145	1.45%	2.93%
Amusement	11,704	665	1.12%	1.70%
Lodging	11,438	683	1.10%	1.75%
Liquor/Beer/Wine/Sof	11,327	418	1.09%	1.07%

Lots of Customers & Lots of History = Lots of Data!



Why is Better SKU Optimization Needed?

Business Challenges

Managing SKU portfolios is typically done at a high level, on intervals, allowing for dog SKUs to sit on shelves not performing, and star SKUs to sit on trucks unable to shine.

Retailers often have little insight into what about their products makes them desirable in a particular market. Our understanding of Product DNA allows retailers to make more informed purchasing decisions for each market.

Organizations simply do not have the time or the manpower to model for every market and provide their sellers with up to date information on what products are trending and performing well with their customers.

Key Questions

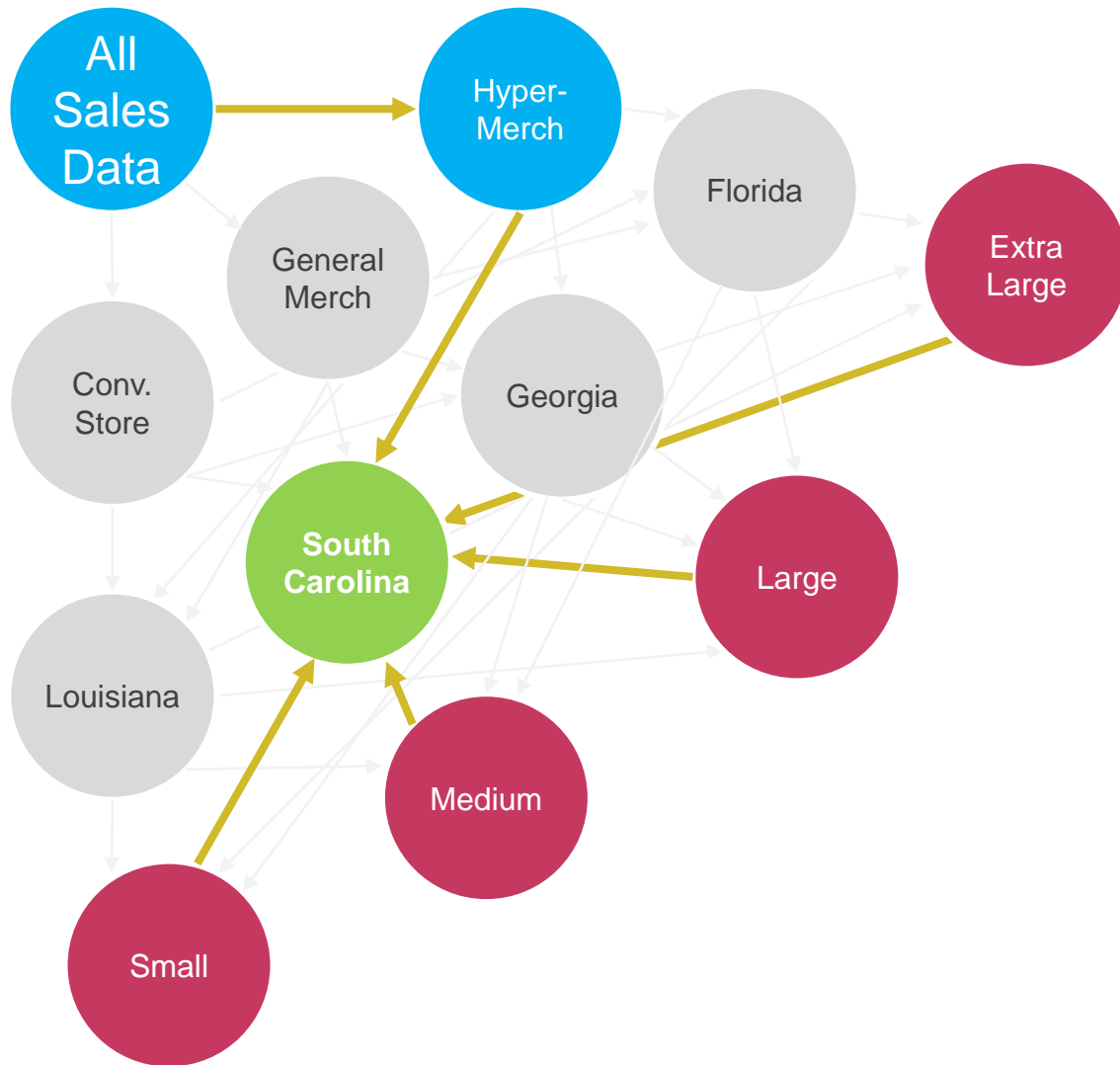
Are there simple SKU decisions that can increase profits?

How can we see if each SKU “pulling its own weight?”

Do slow moving SKUs hurt, do nothing to, or help, total sales?

Is there a better way to measure SKU performance than looking at historical sales by SKU?

Roll Up Logic for Non-Viable Models



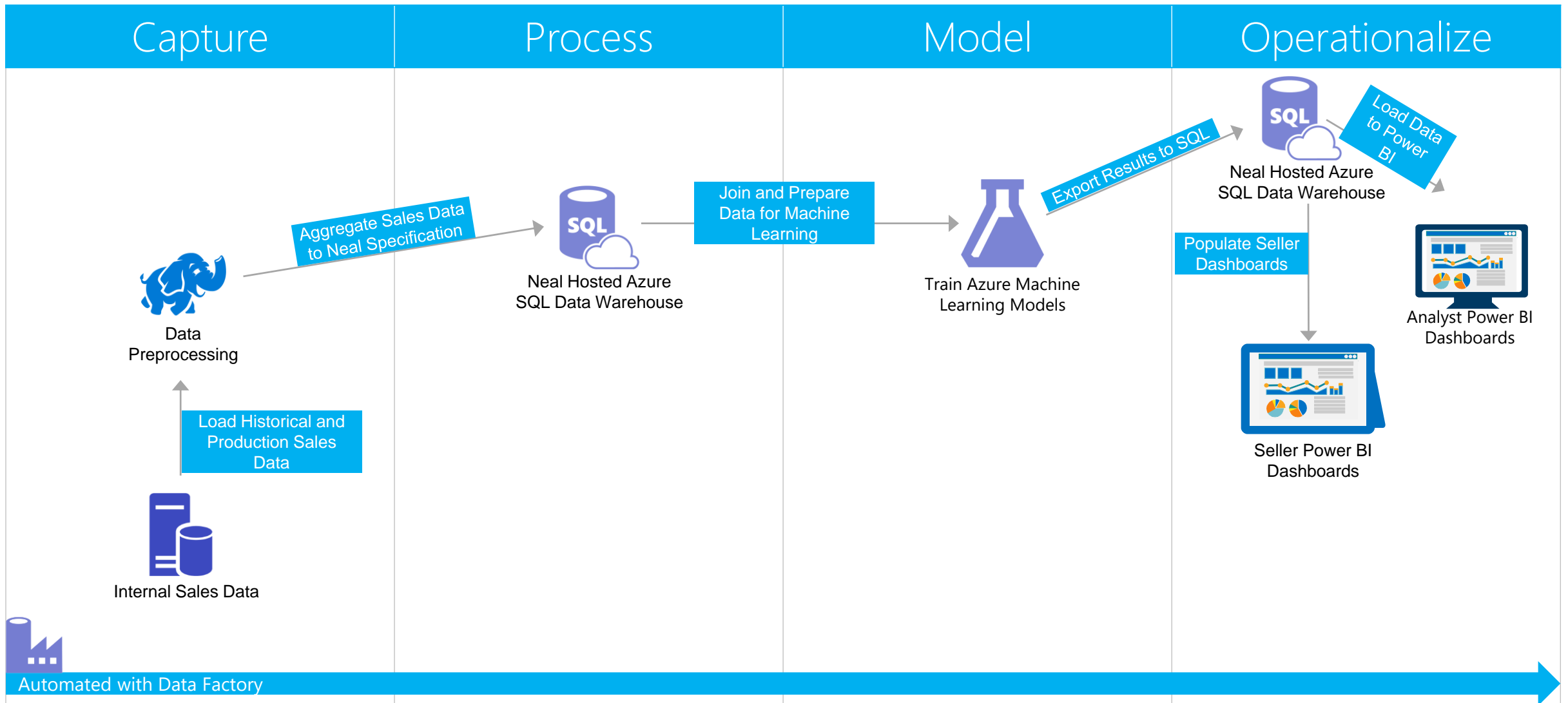
SKU Max - Model Validity							
Filtering Criteria	Minimum Customer: 10	Minimum SKUs: 10	Minimum Observations: 1000				
Region	Standard Models						
<input type="checkbox"/> Alabama <input type="checkbox"/> Florida <input type="checkbox"/> Georgia <input type="checkbox"/> Louisiana <input type="checkbox"/> Mississippi <input checked="" type="checkbox"/> South Carolina <input type="checkbox"/> Tennessee	Model ID	Region	Trade Channel	Customer Size	Unique Customer	Unique SKUs	Observations
Trade Channel	Aggregated Models						
<input type="checkbox"/> All Other <input type="checkbox"/> All-Inclusive <input type="checkbox"/> B2B <input type="checkbox"/> Convenience Store/Pe <input type="checkbox"/> Drug Store <input type="checkbox"/> Entertainment <input type="checkbox"/> General Merchandiser <input checked="" type="checkbox"/> Hyper-Merchandiser <input type="checkbox"/> Supermarket	Model ID	Region	Trade Channel	Customer Size	Unique Customer	Unique SKUs	Observations
Customer Size	MID274	South Carolina	Hyper-Merchandiser	All-Inclusive	10	416	17,238
<input type="checkbox"/> All-Inclusive							



Corrective Actions

1. Identify peer groups without sufficient numbers of Customers, SKUs, or historical sales data
2. Roll Up the model granularity (detail) to a level of segmentation where sufficient data exists to model
3. Evaluate model results to determine if further corrective action is necessary and roll up to the next level if required

Reference Architecture



Source Dataset Specification: "Tall" Sales

Sample

Week	Store	SKU	Volume	Revenue	Channel	Region	Customer Size	How the Tall Dataset Differs
1	1	A	34	\$500	Conv	North	Large	For each week, there is still a record of the sales revenue for each store, but only a single column for SKUs. This is to provide a static schema that doesn't change if a new SKU is added.
1	2	B	14	\$300	Big Box	South	Small	
2	1	B	53	\$500	Conv	North	Large	
2	2	A	20	\$300	Big Box	South	Small	Instead of the volume for each SKU listed in individual columns for that SKU, we consolidate the volume into a very long dataset where columns such as revenue and store ID are repeated for each SKU sales record occurring in that week of sales.
3	1	C	35	\$600	Conv	North	Large	
3	2	D	23	\$300	Big Box	South	Small	
3	3	E	43	\$100	Food	East	Medium	Dimensions are added to the dataset to enable the categorical segmentation of customers into appropriate peer groups. This can be done during pre-processing or once the data is loaded to Azure.
4	1	A	12	\$1,200	Conv	North	Large	
4	1	B	64	\$1,200	Conv	North	Large	
5	2	B	23	\$400	Big Box	South	Small	Volume is used to ask the model the question of "What is the effect on sales if this SKU is in the store and selling as normal?" but can be converted to binary to ask "What is the effect on sales if this SKU is present in the store?" if it is more appropriate.
5	3	A	40	\$100	Food	East	Medium	
5	4	B	23	\$250	Vending	West	Extra Large	

Output Dataset Specification

Sample

Territory	Store	Model ID	SKU 1	SKU 2	...	SKU N
1	1	TRAD1	\$25	\$12		\$62
1	2	CONV1	\$35	-\$5		\$55
2	1	TRAD1	\$25	\$12		\$62
2	2	CONV1	\$35	-\$5		\$55
3	1	TRAD1	\$25	\$12		\$62
3	2	CONV1	\$35	-\$5		\$55
3	3	FOOD1	\$66	\$27		-\$11
4	1	TRAD1	\$25	\$12		\$62
5	1	CONV1	\$35	-\$5		\$55
5	2	CONV1	\$35	-\$5		\$55
5	3	FOOD1	\$66	\$27		-\$11
5	4	TRAD2	\$23	-\$18		\$24

How the model outputs the data

Model ID represents a unique ID for the model used to generate the output set of SKU effects on sales. In this example, it is a combination of sales channel and customer size

The SKU effects map to these model IDs, and could be provided either in one single table or in the typical fact/dimension format.

Each model is segmented by things like territory, channel, and customer size. In this example, these dimensions are included in the output to make interpretation easier.

Some SKU effects can be positive or negative, and will vary depending on the model.