



SKU MAX

Example Data Specification: CPG and Retail

Abstract

*Documentation detailing the general dataset requirements for a SKU Max Solution.
These requirements are flexible and respond to each customer's specific needs.*

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Consumer Packaged Goods Example Specification

1 Introduction

Neal Analytics requires three separate datasets from CPG companies to deploy a SKU Max solution. These datasets include: Sales History Table, Store/Customer Description Table, and SKU Description Table. Requirements for each dataset can be found below; alongside visual examples for guidance.

Important Note: The SKU Max solution was designed to work for a variety of business scenarios; with flexibility surrounding the number of stores/customers and their sales volume. For example, SKU Max will work for companies who have a few high volume customer accounts, companies with many customers at varying levels of volume, companies with a medium number of customers at varying levels of volume, etc. Depending upon a company's specific business environment, a variety of changes are made to the datasets below. The most notable changes include: the level of granularity for time frame within the Sale History table, and the Store/Customer descriptive dimensions. If there is any uncertainty what these changes should be set to, please contact info@nealanalytics.com to begin a conversation about what will provide your company the most value.

2 Sales History Table

Week	Store	SKU	Margin	Volume
2016W01	1	A	\$ 500.00	34
2016W01	2	B	\$ 300.00	14
2016W02	1	B	\$ 500.00	53
2016W02	2	A	\$ 300.00	20
2016W03	1	C	\$ 600.00	35
2016W03	2	D	\$ 300.00	23
2016W03	3	E	\$ 100.00	43
2016W04	1	A	\$ 1,200.00	12
2016W04	1	B	\$ 1,200.00	64
2016W05	2	B	\$ 400.00	23
2016W05	3	A	\$ 100.00	40
2016W05	4	B	\$ 250.00	23

The Sales History Table should include historic sales data for each combination of Store and SKU; using the unique identifier codes for each Store and SKU respectively (see other table descriptions for guidance). Each record within this table, should specify the sales volume of that combination of Store and SKU for a given time period. This time period can be the sales for a given week, day, hour, etc. In the example to the left, the sales volume is for each week within a given year. Neal Analytics is flexible with the time frame a company wishes to use; however, it is typically recommended to use weekly sales when there is enough data.

Whichever time period is utilized, make that the first column within the dataset with a relevant column name (for example: week in the image above). If a company wishes to use week, the following format is recommended: YYYYW##. YYYY is the year, W is a placeholder, and ## is the week number for the year. For example, 2016W01 is the first week in 2016. If a company wishes to use a different level of granularity, it is recommended to use a similar format. For example, using day or month instead of week the company would use 2016D001 or 2016M01 respectively.

The dataset should include an additional column that is either Sales Revenue or Sales Margin (with column names either [Revenue] or [Margin] respectively). This column should be the total Sales Revenue/Margin for that specific combination of Store and time period, not including the specific SKU. For example, looking at the highlighted section in red in the image above, Margin for Store 1 during Week 2016W04 is the same across all records for that combination of Store and Week. It should be noted, the total Sales Revenue/Margin for each week should only include the Revenue/Margin generated by the SKUs that are within the SKU Descriptive Table. To clarify, within that table we specify that only currently sold SKUs are listed; therefore, if a SKU is no longer sold, it's Revenue/Margin will be excluded from past records. Finally, the table should only contain stores which are still in operation.

3 Store/Customer Description Table

StoreID	StoreName	Channel	Region	Latitude	Longitude	ZipCode
1	Quick Stop	Conv	North	42.6581024	-105.2134115	82227
2	One Stop Shop	Big Box	South	34.3810482	-83.2852103	30506
3	Local Diner	Food	East	40.1094840	-111.2039510	84050
4	Vending 14	Vending	West	43.1094821	-94.9135800	50536

The Store/Customer Description table should include a record for every unique Store/Customer a company sells to. The table should include a unique identifier code for each store/customer ([StoreID] column). The table should also have a [StoreName] column, and a column for different types of store descriptive dimensions.

By default, descriptive dimensions should include: Trade Channel ([Channel] column) and Sales Territory/Region ([Region] column). These descriptive dimensions are often used to develop store/customer profiles. Therefore, if a company has other descriptive dimensions they are interested in using for profiling, then these should be included within this table (e.g. demographic, economic, geographic, etc. profiles/information/data).

Additionally, the table should include location information columns if possible. These can be in various formats. For example, Latitude/Longitude, Street Address, City, State, Country, Province, Zip Code, etc.

Neal Analytics can be flexible with what descriptive dimensions and location data is provided; however, the bare minimum includes: the [SKU] identifier code column, the [SKU Name] column, two descriptive columns (preferably Trade Channel and Region).

4 SKU Description Table

SKU	SKU Name	Package Size	Unit Size	Pack Type	Trade Mark	Brand
A	Amazing Drink	12 OZ	24 pck	Aluminum Can	TM1	BR3
B	Better Drink	1 Liter	24 pck	Plastic Bottle	TM1	BR3
C	Canalope	Large	12 pck	Crate	TM2	BR1
D	Delicious Food	Small	12 pck	Crate	TM2	BR2
E	Eggplant	Medium	6 pck	Crate	TM2	BR1

The SKU Description table should include a record for every unique SKU a company carries. To clarify, a SKU is a specific variant of a product; with a unique combination of product features. For example, a company might sell a #2 Pencil as a product. While #2 Pencil is the product, a SKU would be a 10 Pack of Large Purple #2 Pencils. This SKU represents the unique combination of 10 Pack, Purple, and Large as product features for #2 Pencils.

Each Record within the SKU Description table should include a unique SKU that the company currently sells. These 'currently sold' SKUs can include seasonal SKUs, but not discontinued SKUs. The table should include a unique identifier code for each SKU ([SKU] column). The table should also have a [SKU Name] column. Finally, the table should include a column for each type of product feature; these can vary from company to company, and Neal Analytics can be flexible with which columns are/are not included within this table. The bare minimum is the [SKU] identifier code column and [SKU Name] column.

Retail Example Specification

1 Introduction

Neal Analytics requires four separate datasets from Retailers to deploy a SKU Max solution. These datasets include: Sales History Table, Store/Customer Description Table, SKU Table, and SKU Attribute Table. Requirements for each dataset can be found below; alongside visual examples for guidance.

Important Note: The SKU Max solution was designed to work for a variety of business scenarios; with flexibility surrounding the number of stores/customers and their sales volume. For example, SKU Max will work for companies who have a few high volume customer accounts, companies with many customers at varying levels of volume, companies with a medium number of customers at varying levels of volume, etc. Depending upon a company's specific business environment, a variety of changes are made to the datasets below. The most notable changes include: the level of granularity for time frame within the Sale History table, and the Store/Customer descriptive dimensions. If there is any uncertainty what these changes should be set to, please contact info@nealanalytics.com to begin a conversation about what will provide your company the most value.

2 Sales History Table

Week	Store	SKU	Margin	Volume
2016W01	1	A	\$ 500.00	34
2016W01	2	B	\$ 300.00	14
2016W02	1	B	\$ 500.00	53
2016W02	2	A	\$ 300.00	20
2016W03	1	C	\$ 600.00	35
2016W03	2	D	\$ 300.00	23
2016W03	3	E	\$ 100.00	43
2016W04	1	A	\$ 1,200.00	12
2016W04	1	B	\$ 1,200.00	64
2016W05	2	B	\$ 400.00	23
2016W05	3	A	\$ 100.00	40
2016W05	4	B	\$ 250.00	23

The Sales History Table should include historic sales data for each combination of Store and SKU; using the unique identifier codes for each Store and SKU respectively (see other table descriptions for guidance). Each record within this table, should specify the sales volume of that combination of Store and SKU for a given time period. This time period can be the sales for a given week, day, hour, etc. In the example to the left, the sales volume is for each week within a given year. Neal Analytics is flexible with the time frame a company wishes to use; however, it is typically recommended to use weekly sales when there is enough data.

Whichever time period is utilized, make that the first column within the dataset with a relevant column name (for example: week in the image above). If a company wishes to use week, the following format is recommended: YYYYW##. YYYY is the year, W is a placeholder, and ## is the week number for the year. For example, 2016W01 is the first week in 2016. If a company wishes to use a different level of granularity, it is recommended to use a similar format. For example, using day or month instead of week the company would use 2016D001 or 2016M01 respectively.

The dataset should include an additional column that is either Sales Revenue or Sales Margin (with column names either [Revenue] or [Margin] respectively). This column should be the total Sales Revenue/Margin for that specific combination of Store and time period, not including the specific SKU. For example, looking at the highlighted section in red in the image above, Margin for Store 1 during Week 2016W04 is the same across all records for that combination of Store and Week. It should be noted, the total Sales Revenue/Margin for each week should only include the Revenue/Margin generated by the SKUs that are within the SKU Descriptive Table. To clarify, within that table we specify that only currently sold SKUs are listed; therefore, if a SKU is no longer sold, it's Revenue/Margin will be excluded from past records. Finally, the table should only contain stores which are still in operation.

3 Store/Customer Description Table

Store	Store Name	Region	Latitude	Longitude	Zipcode
1	Quick Stop	North	42.91662802	-105.1246746	82227
2	One Stop Shop	South	34.34210167	-83.87086064	30506
3	Local Diner	West	40.78748626	-111.5491448	84050
4	Vending 14	East	43.13546828	-94.68173117	50536

The Store/Customer Description table should include a record for every unique Store/Customer a company sells to. The table should include a unique identifier code for each store/customer ([StoreID] column). The table should also have a [StoreName] column, and a column for different types of store descriptive dimensions.

By default, descriptive dimensions should include: Sales Territory/Region ([Region] column). This descriptive dimension is often used to develop store/customer profiles. If a company has other descriptive dimensions they are interested in using for profiling, then these should be included within this table (e.g. demographic, economic, geographic, etc. profiles/information/data).

Additionally, the table should include location information columns if possible. These can be in various formats. For example, Latitude/Longitude, Street Address, City, State, Country, Province, Zip Code, etc.

Neal Analytics can be flexible with what descriptive dimensions and location data is provided; however, the bare minimum includes: the [SKU] identifier code column, the [SKU Name] column, and the Region descriptive column.

4 SKU Table

SKU	SKU Name	SKU	SKU Name
A	Medium Floral Day Dress	P013	10 Pack Purple Large #2 Pencil
B	Large Wool Snow Jacket		
C	Small Skinny Blue Jeans		
D	Medium Striped Button Up Shirt		
E	Small Green Solid Workout Shorts		

#2 Pencil Example

Additional Examples

The SKU table should include a record for every unique SKU a company carries. To clarify, a SKU is a specific variant of a product; with a unique combination of product features. For example, a company might sell a #2 Pencil as a product. While #2 Pencil is the product, a SKU would be a 10 Pack of Large Purple #2 Pencils. This SKU represents the unique combination of 10 Pack, Purple, and Large as product features for #2 Pencils. Additional examples are provided in the image to the upper left; such as the Medium Floral Day Dress. In this example, it is the unique combination of these attributes that defines this SKU separate from other similar products.

Each Record within the SKU Description table should include a unique SKU that the company currently sells. These 'currently sold' SKUs can include seasonal SKUs, but not discontinued SKUs. The table should include a unique identifier code for each SKU ([SKU] column) and a [SKU Name] column.

5 SKU Attribute Table

SKU	AttributeName	AttributeValue
P013	Pack Size	10 Pack
P013	Color	Purple
P013	Product Size	Large

#2 Pencil Example

SKU	AttributeName	AttributeValue
A	Product Size	Medium
A	Design	Floral
A	Category	Dress
A	Occation	Day
B	Product Size	Large
B	Material	Wool
B	Category	Jacket
C	Product Size	Small
C	Style	Skinny
C	Color	Blue
C	Category	Pants

Additional Examples

The SKU Attribute Table should include a record for every unique SKU and SKU Attribute combination. To clarify, a SKU Attribute is a product features. For example, returning to the #2 Pencil example from the SKU Table description. The 10 Pack of Large Purple #2 Pencils will have three different attributes: Pack Size, Color, and Product Size. The values of each of these attributes are 10 Pack, Purple, and Large respectively. Therefore, within the SKU Attribute Table there would be three records for this product. Each row would use the unique identifier code for the SKU, with the Attribute Type in the AttributeName column and the Attribute Value in the AttributeValue column. See example to the upper left. Additional examples are provided to the left.