Accelerate Customer Insights Package

Version 1.9.0

August 2024

Accelerate Customer Insights Package

Overview (Customer Insights)

The Customer Insights Accelerator is one of many pre-built solutions from Pricefx that provides a customer with a quicker path to the analysis of their pricing data.

Pricefx Key Accelerators

You can also watch a video introducing Customer Insights and its usage:

In this section:

Business Overview (Customer Insights)

Premise

You are involved with the review of customer and product analytics, and trend analysis as part of a team from either Pricing, Financial, Sales, or IT support within your organization.

Desired Outcome

You need to prevent margin leakages through a set of actionable analytics for sales and pricing enabling identification of customers at risk (with low health scores) and reasons behind. It includes advanced analysis of the performance of all customers, individual customers/customer groups as well product performance for a customer.

Context and Background

After loading the product, customer, and transactional history into Pricefx and creating a Datamart, you are ready to start analyzing sales and pricing information for your customers and products. You need to examine each of them to identify which ones are performing poorly and understand the reasons for this poor performance.

Problem

You recognize that not all customers or products are providing healthy contributions to your gross margin and you need to apply an analytics tool that will correctly identify those that are performing poorly and clarify the root cause.

Solution Capabilities

Once this accelerator has been implemented and linked to your Datamart, then these analytical capabilities will be available:

- Ability to health score for customers and products
- Provide insights on revenue and margin trends
- Identify the top and bottom performing customers or products
- Highlight pricing and sales opportunities

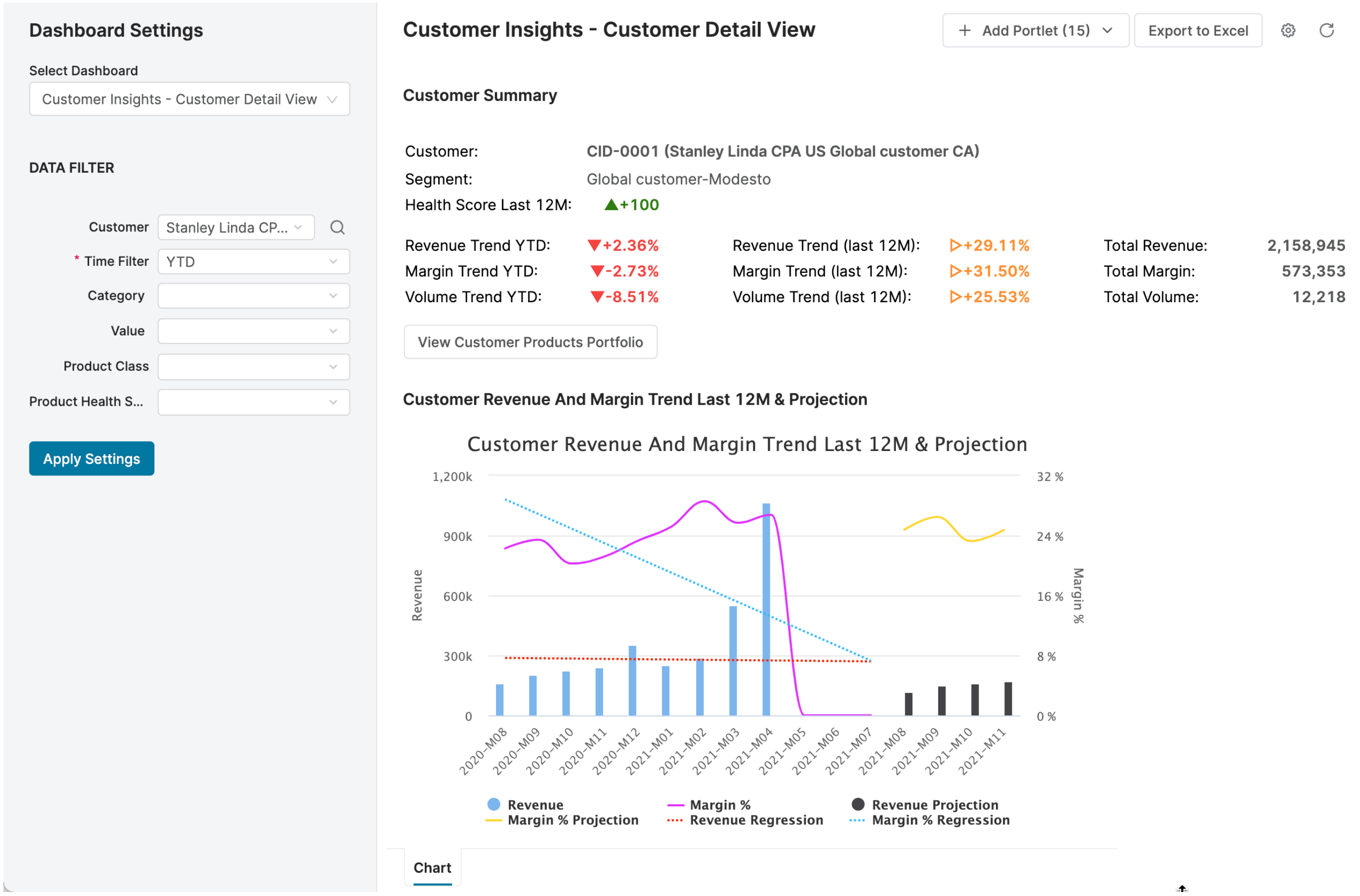
Accelerator Solution (Customer Insights)

Accelerate Customer Insights Package allows management teams to prevent margin leakages through a set of actionable analytics for sales and pricing enabling identification of customers at risk (with low health score) and reasons behind.

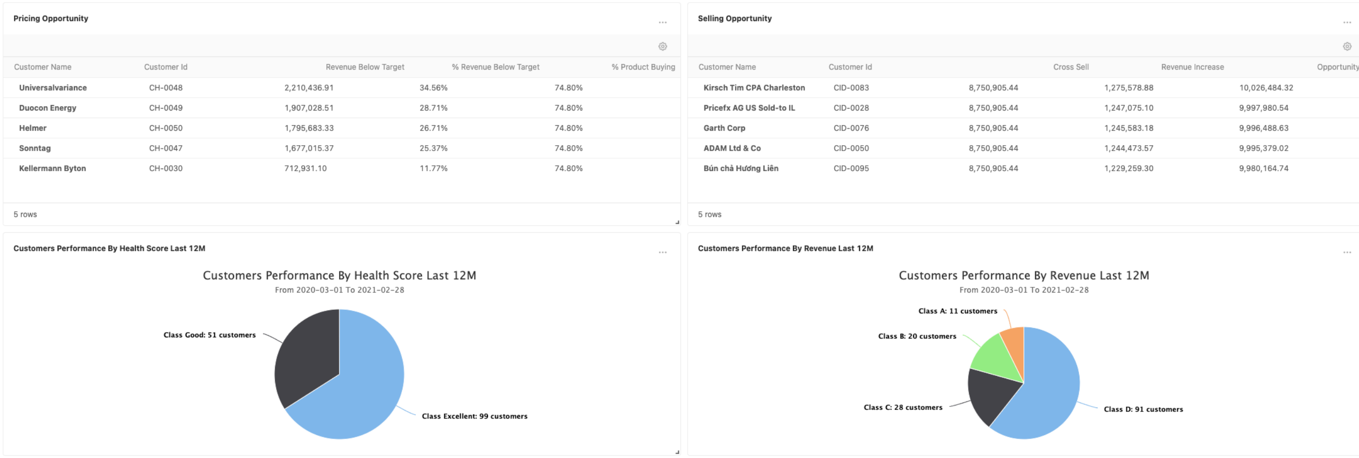
It includes advanced analysis of performance of all customers, individual customers / customer groups as well product performance for a customer.

KPIs provided by the analysis:

- Customer and Product health scores
- Revenue, Margin and Volume trends
- Pricing and Sales opportunities


Dashboard Settings
Select Dashboard
Customer Insights - Customer Detail View
DATA FILTER
Customer
Stanley Linda CP...
* Time Filter
YTD
Category
Value
Product Class
Product Health S...
Apply Settings
Customer Insights - Customer Detail View
Add Portlet (15)
Export to Excel
Customer Summary
Customer:
CID-0001 (Stanley Linda CPA US Global customer CA)
Segment:
Global customer-Modesto
Health Score Last 12M:
+100
Revenue Trend YTD:
+2.36%
Margin Trend YTD:
-2.73%
Volume Trend YTD:
-8.51%
Revenue Trend (last 12M):
+29.11%
Margin Trend (last 12M):
+31.50%
Volume Trend (last 12M):
+25.53%
Total Revenue:
2,158,945
Total Margin:
573,353
Total Volume:
12,218
View Customer Products Portfolio
Customer Revenue And Margin Trend Last 12M & Projection
Customer Revenue And Margin Trend Last 12M & Projection
1,200k
900k
600k
300k
0
Revenue
32 %
24 %
16 %
8 %
0 %
Margin %
2020-M08
2020-M09
2020-M10
2020-M11
2020-M12
2021-M01
2021-M02
2021-M03
2021-M04
2021-M05
2021-M06
2021-M07
2021-M08
2021-M09
2021-M10
2021-M11
Revenue
Margin %
Revenue Projection
Margin % Projection
Revenue Regression
Margin % Regression
Chart


Revenue and Margin
Waterfall



Value Measurement (Customer Insights)

This accelerator is designed to provide an overview of the trading performance of different customer groups through a series of dashboards. These are the measurements they provide:

- **Global View** – Provides customer performance via health score and revenue, pricing and selling opportunity, and overall customer summary.
- **Detail View** – Provides a detailed customer view on revenue and margin, waterfall chart, high/low volume products, and revenue and margin trends.
- **Customer Products Portfolio** – Provides pricing opportunities by product type or attribute, identifies the top and bottom products.

Each of these different dashboards integrates our KPIs and allows you to measure them across one or more dimensions:

- Health Score
- Date (Yr, Qtr, and Month)
- Customer ID
- Product ID
- Product Class
- Product Group
- Product attribute

KPI Metrics (Customer Insights)

KPI stands for key performance indicator, a quantifiable measure of performance over time for a specific objective. KPIs provide targets for teams to shoot for, milestones to gauge progress, and insights that help people across the organization make better decisions.

KPI vs. Metrics

While key performance indicators and metrics are related, they are not the same. Here is a quick explanation:

- Our definition of KPIs is the **key targets** you should be tracking **to make the biggest impact** on your strategic business outcomes. These KPIs will support your strategy and help your teams focus on what is important. For example, a key performance indicator could be targeted new consumers by month.

- Metrics, on the other hand, will measure the success of **everyday business activities** that **support your identified KPIs**. While they may have an impact on your outcomes, they are not the most critical measurements. Examples could include monthly site visits or number of modules installed.

Customer Insights KPI

As the name implies, the goal here is to examine customers and that is performed on three different levels: global view, detailed customer view, and customer/product portfolio. The key KPIs being analyzed are:

- Revenue
- Margin
- Volume
- Health Score

Capabilities Summary (Customer Insights)

Out of the Box

- **Global View** dashboard, with charts and table reports:
  - Customers Performance by Health Score
  - Customers Performance by Revenue
  - Customer Health Summary
  - Trends
  - Pricing Opportunity
  - Selling Opportunity
  - Customer Summary
  - Inactive Customers
- **Customer Detail View** dashboard, with charts and table reports:
  - Specialty and Commodity Products
  - High Volume and Low Volume Products
  - Revenue and Margin chart
  - Waterfall chart
  - Revenue Breakdown chart
  - Number of Transactions in Last 12M & Projection
  - Customer Revenue and Margin Trend in Last 12M & Projection
  - Customer Summary
- **Customer Products Portfolio** dashboard, with charts and table reports:
  - Pricing Opportunity by Product Type
  - Pricing Opportunity by Product Attribute
  - Revenue and Margin Contribution
  - Pricing Opportunity by Top Products
  - Pricing Opportunity by Worst Products
  - Product Health Summary
  - Average Invoice Price
  - Trends
  - Pricing Opportunity
  - Selling Opportunity
  - Customer Summary

Configurable

- **Customer Segmentation definition** – You can define grouping of customers by common characteristics /dimensions. Then selected KPIs of individual customers are calculated according to the values aggregated on the Customer Segment level.
- **Source of data** – Defines from which source (Datamart / Data Source) your transactional data comes from and which fields should be used for calculations.
- **Parameters**, which drive:
  - Calculations of KPIs – You can set class values and thresholds for various product and customer classifications.
  - Displaying of certain things – You can change lists of options for filters, and default presets for dashboard filters.
- **Waterfall chart configuration** (it uses the configuration defined for the Sales Insights accelerator installed on the same partition)

Entitlement

Note that the data displayed in the dashboards cannot be restricted based on user groups of the logged in user.

Business User Reference (Customer Insights)

Customer Insights Dashboards consist of three separate dashboards which provide overview of trading performance of a customer group. They also support analysis of an individual customer's performance.

- Global View Dashboard (Customer Insights)
- Customer Detail View Dashboard (Customer Insights)
- Customer Products Portfolio Dashboard (Customer Insights)
- Common Aspects of Dashboards (Customer Insights)

Global View Dashboard (Customer Insights)

Global View dashboard provides customer performance via health score and revenue, pricing and selling opportunity, and overall customer summary.

Portlets

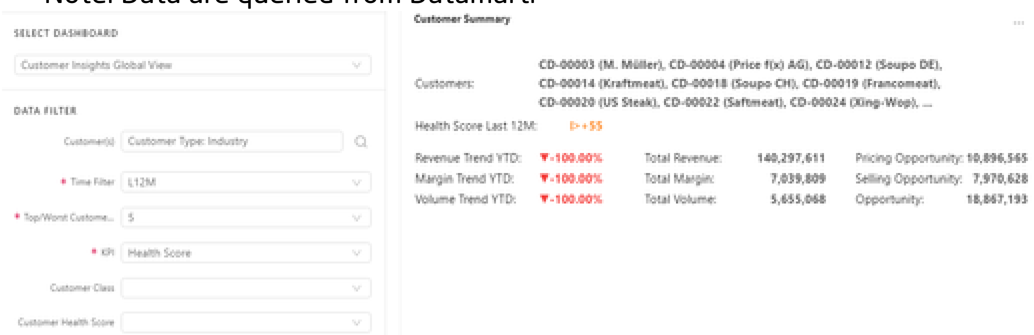
All of the tables/charts are based on Data Source *Customer Insights Aggregated Data* if not stated otherwise.

- Customer Summary
- Customers Performance by Health Score Last 12M
- Customers Performance by Revenue Last 12M
- Customer Health Summary
- Trends
- Pricing Opportunity
- Selling Opportunity
- Inactive Customers
- Filter Rules

Customer Summary

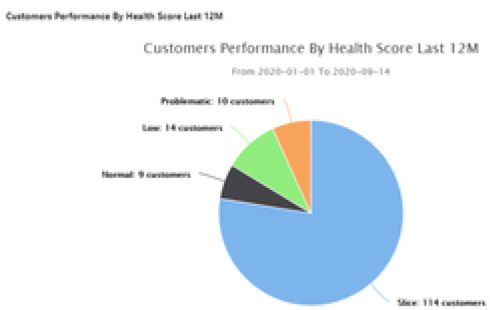
Displays some typical figures regarding a chosen customer or a group of customers.

- Customer displays a list of [Customer ID,(Customer Name)] following a filter group. When no customer is selected, it is left empty.
- Health Score Last 12M is re-calculated by the Trend L12M of the group.
- Pricing Opportunity = ∑ Revenue below target
- Selling Opportunity = ∑ Up Sell + ∑ Cross Sell
- L12M trends are calculated on the monthly basis.
- Note: Data are queried from Datamart.



Customers Performance by Health Score Last 12M

Shows relative sizes of customer classification based on Heath Score in the last 12 months.

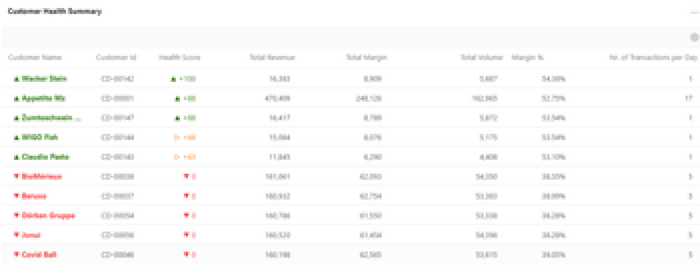


Customers Performance by Revenue Last 12M

Shows relative sizes of customer classification based on Revenue in the last 12 months.

Customer Health Summary

Shows Customer's Health calculated based on the difference between two periods. For example, Current YTD and Previous YTD.
It shows correlation between Health Score and revenue, gross margin, volume.



Customer Health Summary

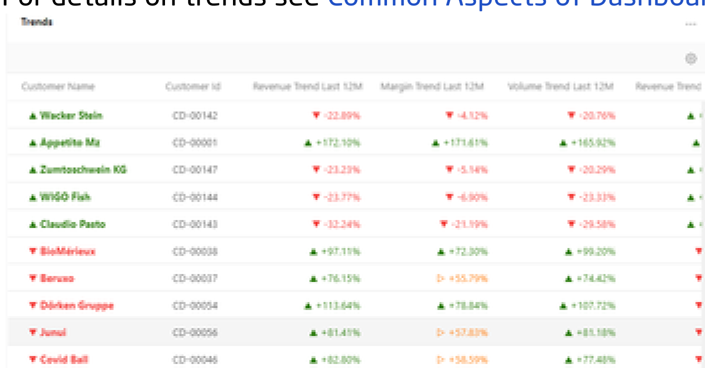
Customer Name	Customer Id	Health Score	Total Revenue	Total Margin	Total Volume	Margin %	Nr. of Transactions per Day
Wacker Stein	CD-00142	+100	16,383	8,909	5,687	54.38%	1
Appetite Mz	CD-00001	+88	470,409	248,126	162,965	52.75%	17
Zumtoschwein ...	CD-00147	+88	16,417	8,788	5,872	53.54%	1
WIGO Fish	CD-00144	+68	15,064	8,076	5,175	53.54%	1
Claudio Pasto	CD-00143	+63	11,843	6,290	4,408	53.10%	1
BioMérieux	CD-00038	0	161,061	62,093	54,350	38.55%	3
Beruxo	CD-00037	0	160,832	62,754	53,383	38.99%	3
Dörken Gruppe	CD-00054	0	160,786	61,550	53,338	38.28%	3
Junui	CD-00056	0	160,520	61,454	54,396	38.28%	3
Covid Ball	CD-00046	0	160,198	62,565	53,615	39.05%	3

Note:

- Green/red color in the Customer column does not correspond to the Health score. See how it is defined.
- If the revenue data are missing, then Margin % is null and this list of top customers is ordered by Customer ID. (But the customers are still listed because the application cannot resolve missing data on its own.)

Trends

For details on trends see Common Aspects of Dashboards (Customer Insights).

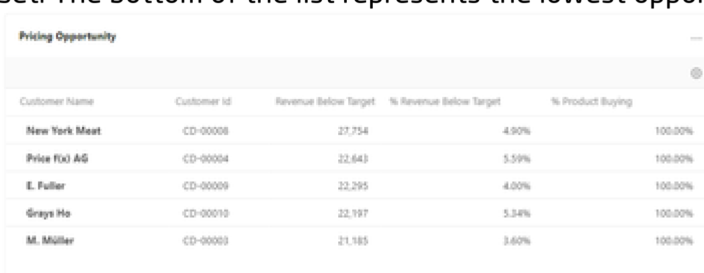


Trends

Customer Name	Customer Id	Revenue Trend Last 12M	Margin Trend Last 12M	Volume Trend Last 12M	Revenue Trend
Wacker Stein	CD-00142	-22.89%	-4.12%	-20.76%	
Appetite Mz	CD-00001	+172.10%	+171.61%	+165.92%	
Zumtoschwein KG	CD-00147	-23.23%	-5.14%	-20.29%	
WIGO Fish	CD-00144	-23.77%	-6.90%	-23.33%	
Claudio Pasto	CD-00143	-32.24%	-21.19%	-29.58%	
BioMérieux	CD-00038	+97.11%	+72.30%	+99.20%	
Beruxo	CD-00037	+76.15%	+55.79%	+74.42%	
Dörken Gruppe	CD-00054	+113.64%	+78.84%	+107.72%	
Junui	CD-00056	+81.41%	+57.83%	+81.18%	
Covid Ball	CD-00046	+82.80%	+58.59%	+77.48%	

Pricing Opportunity

Shows a list of customers who can be targeted to sell more products and more sales volume. The top of the list represents the highest opportunity, these customers are under the average point in the customers set. The bottom of the list represents the lowest opportunity. (hidden)



Pricing Opportunity

Customer Name	Customer Id	Revenue Below Target	% Revenue Below Target	% Product Buying
New York Meat	CD-00008	27,754	4.90%	100.00%
Price f(x) AG	CD-00004	22,643	5.59%	100.00%
E. Fuller	CD-00009	22,295	4.00%	100.00%
Grays Ho	CD-00010	22,197	5.34%	100.00%
M. Müller	CD-00003	21,185	3.60%	100.00%

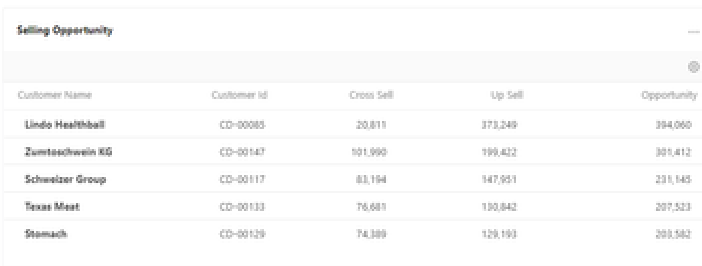
- **Revenue below target** (Evaluate purchased products)
  - If the value > 0, customers have reached the revenue *under* the average point among the customers set, it indicates the value that customer should obtain to reach the average base.
  - If the value = 0, customers have reached the revenue *above* the average point among the customers set, they are good customers.
- **% Product Buying** – Shows how many products (in %) the customer purchased in the given period.

- If the value = 100%, the customer purchased full products set presented in the given period. It correlates with Cross Sell Opportunity = 0.
- If the value < 100%, the customer did not purchase the full products set presented in the given period. It means this customer must have Cross Sell Opportunity > 0.

Selling Opportunity

Shows the total value which can be gained for products that the customer already bought and not bought in the given period.

- **Cross Sell** (Evaluate non-purchased products)
  - The value that the customer should spend by purchasing a product which they did not buy in the past, but other customers bought it.
  - If the value = 0, the customer bought full products set presented in the given period.
- **Up Sell** (Evaluate purchased products)
  - The value that the customer should spend more by purchasing a product which they already bought in the past.
  - If the value = 0, the customer purchased products that all are above average point in the customers set.
- **Opportunity** – This is the total additional value that can be obtained for the customer, evaluate for both purchased and non purchased products.


Selling Opportunity

Customer Name	Customer Id	Cross Sell	Up Sell	Opportunity
Lindo Healthball	CD-00085	20,811	373,249	394,060
Zumtoschwein KG	CD-00147	101,990	199,422	301,412
Schweizer Group	CD-00117	83,194	147,951	231,145
Texas Meat	CD-00133	76,681	130,842	207,523
Stomach	CD-00129	74,389	129,193	203,582

Inactive Customers

This portlet shows a list of “inactive” customers so that you can identify customers which are marked as active and for which there are no transactions in the chosen **time period.**
Config Inactive-Customer-classification

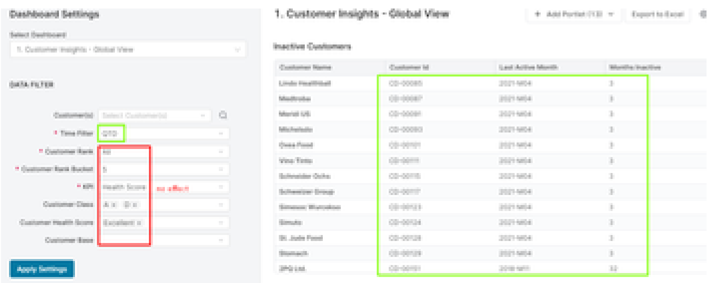

Inactive Customers

Customer Name	Customer Id	Last Active Month	Months Inactive
Progusto	CD-00148	No data	No data
APPO AG	CG-0001	No data	No data
Zumtoschwein KG	CD-00147	2020-M03	21
WIGO Fish	CD-00144	2020-M06	18
Würter Wurst	CD-00145	2020-M06	18
MX Meat Inc.	CD-00146	2020-M06	18
Claudio Pasto	CD-00143	2020-M06	18

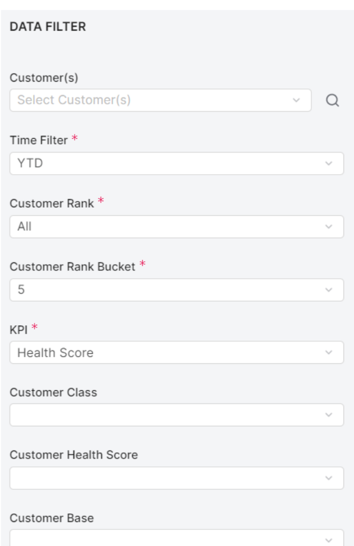
17 rows

- Applied filters: Customer(s), Time filter
- Not applied filters: Customer Rank, Customer Rank Bucket, KPI, Customer Class, Customer Health Score
- Months Inactive = Current Month - Last Active Month

Conditions	Results
If PP define + No filter customer	Get list customers PP defined that have no transaction in period
If PP define + Filter customer	Get list customers PP defined that have no transaction in period
If PP not define + No filter customer	Get list all customers in master have no transaction in period
If PP not define + Filter customer	Get list all customers in master have no transaction in period



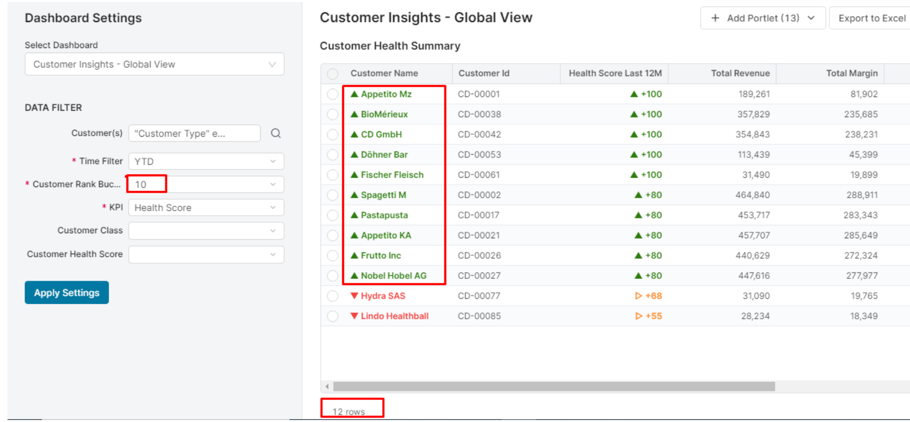
User Inputs



To set up the dashboard, use these options:

- **Customer(s)**
- **Time Filter** – Possible values: MTD, QTD, YTD, L12M, L6M, L3M
  - For time filters with Last Period (L3M, L6M, L12M, ...):
    - [Start date] = First month beginning date
    - [End date] = Previous month end date
      E.g.: Today is 2021-08-06 => L3M: From 2021-05-01 to 2021-07-31
  - For time filters with up To Date (YTD, QTD, MTD, ...)
    - [Start date] = Period Beginning Date
    - [End date] = Current date
      E.g.: Today is 2021-08-06 => QTD: From 2021-07-01 to 2021-08-06
- **Customer Rank** – Possible values: All, Top, Worst
- **Customer Rank Bucket** – Possible values: 5,10, 50, 100

  Counted items shown in the top or bottom of the list are based on the Rank Bucket input.
  If the whole list has 12 customers and Customer Rank Bucket =10, then the top part of the list shows 10 customers and the bottom part shows 2 customers.



Customers column typically shows the top/worst aggregation of data which is driven by inputs on the left-hand side of the dashboard. Columns with Trends usually show increase/constant/decrease metrics based on the Data Load calculation results. There is no direct relation between these two types of metrics and columns.

- **KPI** - Possible values: Revenue, Margin %, Volume, Health Score
- **Customer Class** - Based on cumulative contribution to the total revenue in the last 12 months, the customer is assigned into a category (the thresholds are configurable).
  - A <= 20%
  - B <= 50%
  - C <= 95%
  - D = rest
- **Customer Health Score** - Possible values: Excellent, Normal, Low, Problematic (multiselect is enabled). For details see Common Aspects of Dashboards (Customer Insights).
- **Customer Base** - Based on cumulative revenue contribution and the threshold defined, Customers are classified as either Core or Long Tailed. For detailed formula explanation see Glossary (Customer Insights).
  - Core <=80%
  - Long Tailed > 80%

Filter Rules

Does not apply

Portlets		User Inputs						
		Customer(s)	**Time Filter**	**Customer Rank + Customer Rank Bucket**	**KPI**	**Customer Class**	**Customer Health Score**	**Customer Base**
Summary	Customer Summary	X	X			X	X	X
Pie Chart	Customers Performance by Health Score Last 12M	X	X			X	X	X

	Customers Performance by Revenue Last 12M	X	X			X	X	X
Table	Customer Health Summary	X	X	X	X	X	X	X
	Trends	X	X	X (*)	X	X	X	X
	Pricing Opportunity	X	X	X (Ranked by Revenue Below Target descending)		X	X	X
	Selling Opportunity	X	X	X (Ranked by Opportunity descending)		X	X	X
	Inactive Customers							

(*): Only sorts out Customers/Products that have traded in the period, does not affect calculation results.

Customer Detail View Dashboard (Customer Insights)

Customer Detail View dashboard provides a detailed customer view on revenue and margin, waterfall chart, high/low volume products, and revenue and margin trends.

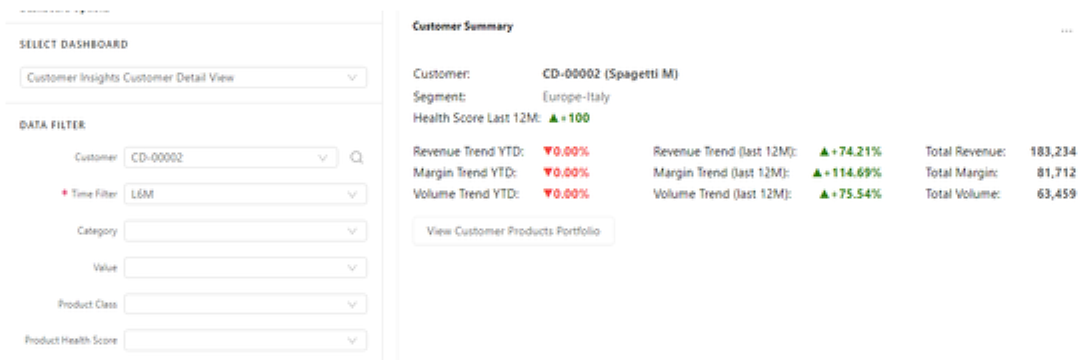
Portlets

- Customer Summary
- Specialty and Commodity Products
- High Volume and Low Volume Products
- Revenue and Margin Chart
- Waterfall Chart
- Revenue Breakdown Chart
- Number of Transactions in Last 12M & Projection
- Customer Revenue and Margin Trend in Last 12M & Projection
- Filter Rules
- Commodity vs. Specialty Product

Customer Summary

Displays some typical figures regarding the chosen customer.

- All values are aggregated on the Customer(s) and Category levels.
- If a Category value is not selected, it will be hidden in the portlet.
- On click “View Customer Products Portfolio” to open new tab “Customer Products Portfolio” dashboard.
- L12M trends are calculated on monthly basis.
- This chart is based on Datamart.

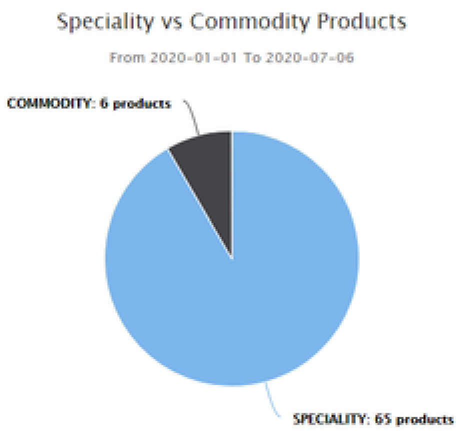


Specialty and Commodity Products

Shows relative sizes of product classification based on the margin %.

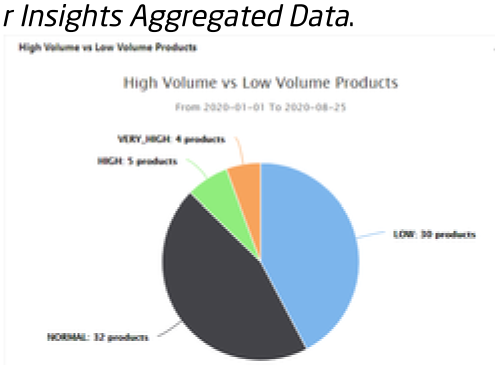
- **Specialty products** – Higher than the defined margin %
- **Commodity products** – Lower than the defined margin %

The chart is based on Data Source *Customer Insights Aggregated Data*.



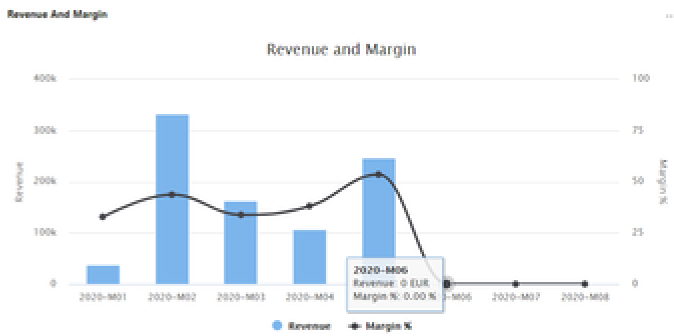
High Volume and Low Volume Products

Shows relative sizes of product classification based on volume. The chart is based on Data Source *Custome r Insights Aggregated Data*.



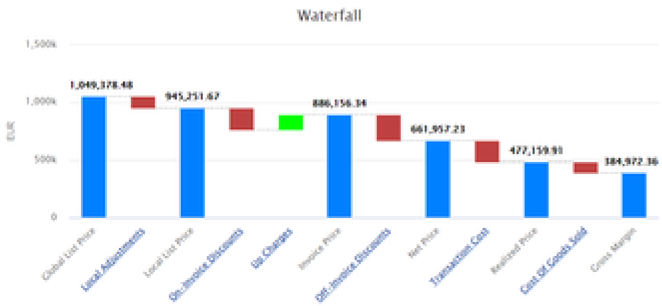
Revenue and Margin Chart

Shows Revenue and Margin values over several months in the given period. The chart is based on Data Source *Customer Insights Aggregated Data*.



Waterfall Chart

Shows a running total profit as values are added or subtracted. This chart is based on Datamart. For more details see Waterfall Dashboard.

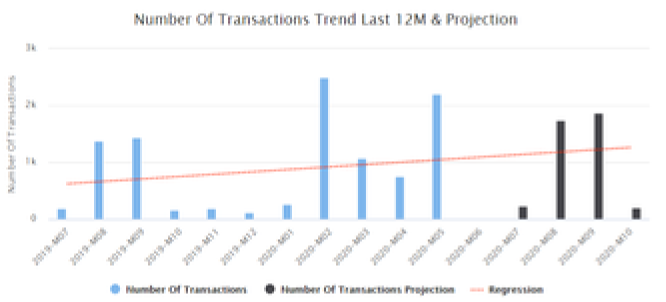


Revenue Breakdown Chart

Shows what the difference in revenue between two periods can be attributed to. It allows you to compare two years or quarters and optionally filter for only certain products and/or customers. The chart is based on Data Source *Customer Insights Aggregated Data*. For more details see Revenue Breakdown Dashboard - Fields Definition.

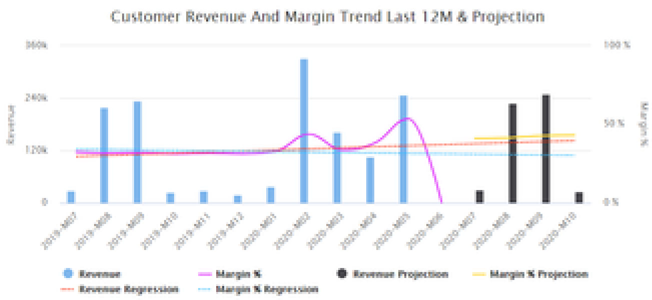
Number of Transactions in Last 12M & Projection

Bar & line chart shows the number of transactions for the last 12 months and estimation for the next 3 months. The current month is considered as a future month (as it has not ended yet). This chart is based on Datamart.

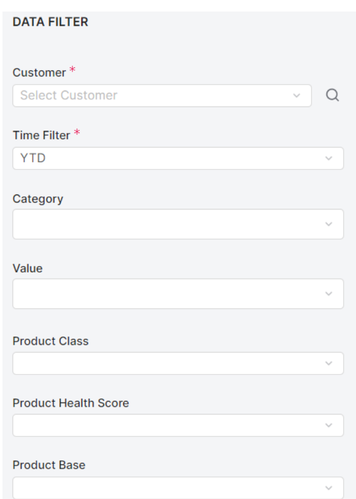


Customer Revenue and Margin Trend in Last 12M & Projection

Bar & line chart shows Revenue and Margin for the last 12 months and estimation for the next 3 months. The current month is considered as a future month (as it has not ended yet). This chart is based on Datamart.



User Inputs



To set up the dashboard, use these options:

- **Customer**
- **Time Filter** – Possible values: MTD, QTD, YTD, L12M, L6M, L3M
  - For time filters with Last Period (L3M, L6M, L12M, ...):
    - [Start date] = First month beginning date
    - [End date] = Previous month end date
      E.g.: Today is 2021-08-06 => L3M: From 2021-05-01 to 2021-07-31
  - For time filters with up To Date (YTD, QTD, MTD, ...)
    - [Start date] = Period Beginning Date
    - [End date] = Current date
      E.g.: Today is 2021-08-06 => QTD: From 2021-07-01 to 2021-08-06
- **Category** (+ **Value**) – E.g.: Product ID, Product Group
- **Product Class** – Based on cumulative contribution to the total volume in the last 12 months, the product is assigned into a category (the thresholds are configurable).
  - Very High Volume <= 10%
  - High Volume <= 20%
  - Normal Volume <= 75%
  - Low Volume = rest
- **Product Health Score** – Possible values: Excellent, Normal, Low, Problematic (multiselect enabled). For details see Common Aspects of Dashboards (Customer Insights).

- **Product Base** - Based on cumulative revenue contribution and the threshold defined, Products are classified as either Core or Long Tailed. For detailed formula explanation see Glossary (Customer Insights).
  - Core <=80%
  - Long Tailed > 80%

Filter Rules

Does not apply

	Portlets	User Inputs					
		Customer	Time Filter	Category + Value	Product Class	Product Health Score	Product Base
Summary	Customer Summary	X	X	X	X	X	X
Pie Chart	Specialty and Commodity Products	X	X	X	X	X	X
	High Volume and Low Volume Products	X	X	X	X	X	X
Bar Chart	Revenue and Margin chart	X	X	X	X	X	X
	Waterfall chart	X	X	X	X	X	X
	Revenue Breakdown chart	X	X	X	X	X	X
	Number of Transactions in Last 12M & Projection	X		X	X	X	X
	Customer Revenue and Margin Trend in Last 12M & Projection	X		X	X	X	X

Classification

Commodity vs. Specialty Product

Based on average margin achieved by the product during the last 12 months (the thresholds are configurable). For detailed formula explanation see Glossary (Customer Insights).

- Commodity <=40%
- Specialty > 40%

Customer Products Portfolio Dashboard (Customer Insights)

Customer Products Portfolio dashboard provides pricing opportunities by product type or attribute, identifies the top and bottom products.

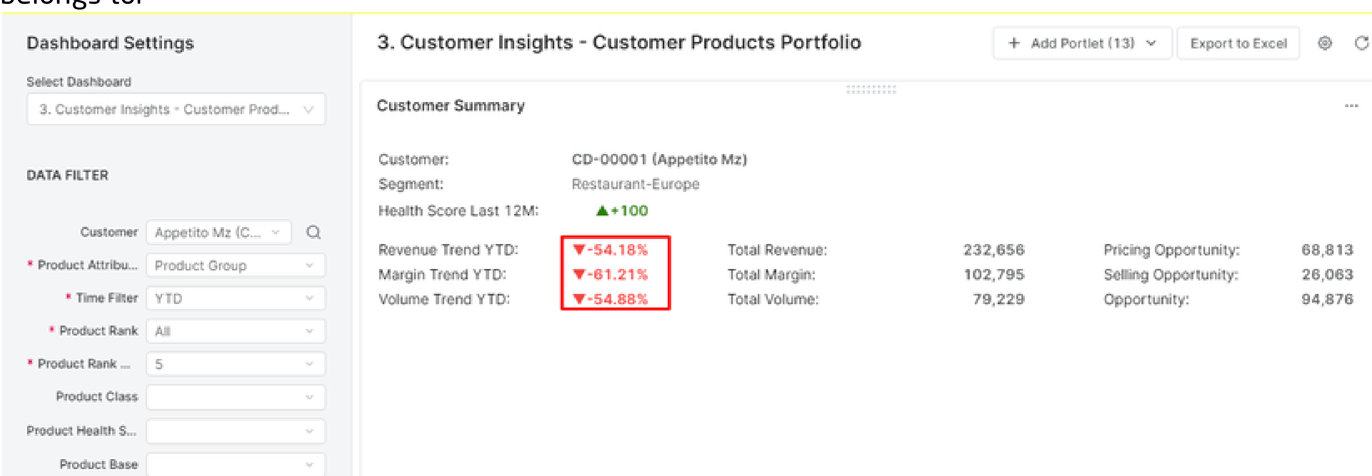
Portlets

All of the tables/charts are based on Data Source *Customer Insights Aggregated Data*.

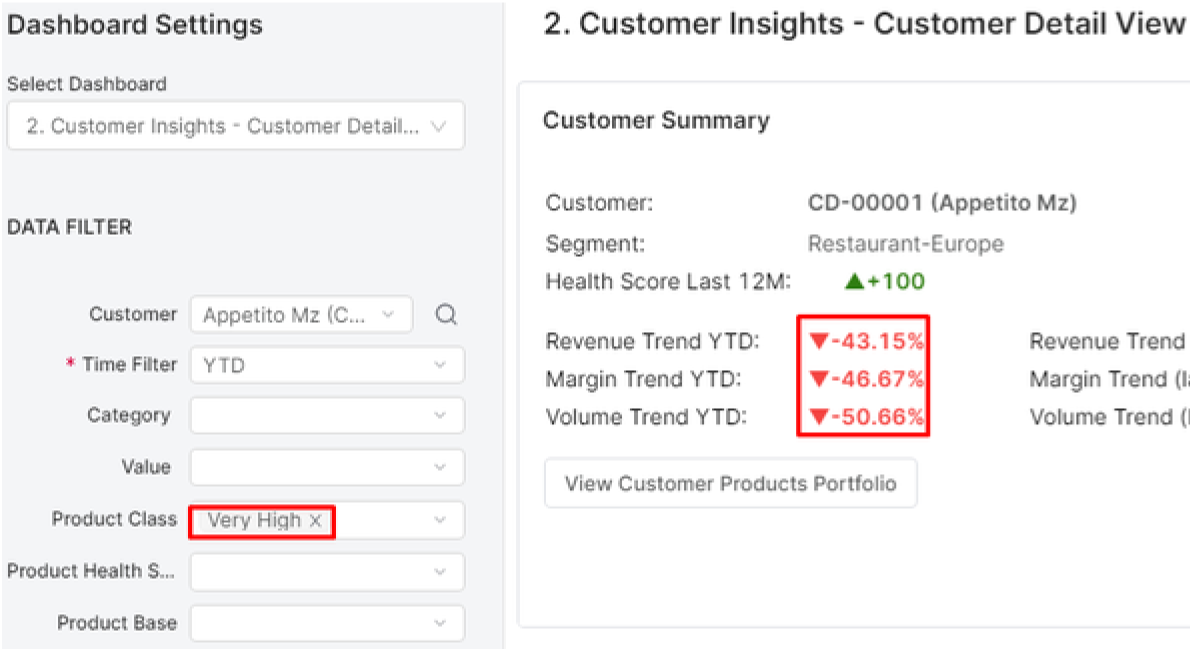
- Customer Summary
- Product Health Summary
- Trends
- Pricing Opportunity by Product Rank
- Pricing Opportunity by Product Type
- Pricing Opportunity by Product Attribute
- Selling Opportunity
- Pricing Opportunity
- Revenue and Margin Contribution
- Average Invoice Price
- Filter Rules

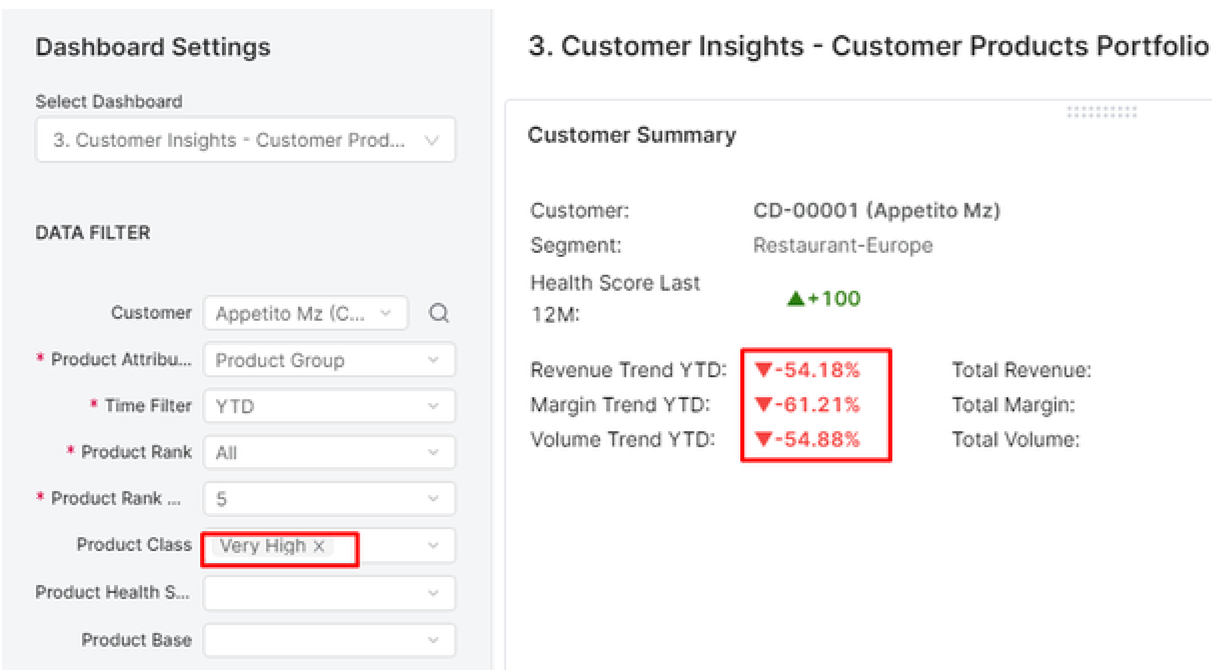
Customer Summary

Displays some typical figures regarding the chosen customer, showing segment that the customer belongs to.



- L12M trends are calculated on monthly basis.
- **Note** in this portlet:
  - Data queried from **DS [Customer Insights Aggregated Data]**: Trend YTD value here is the "customer YTD [revenue/margin/quantity] trend " calculated in DS [Customer Insights Aggregated Data].
  - In Customer Detail View dashboard, data queried from **Datamart**: Trend YTD value will be recalculated dynamically if the product filter is selected.
- Meanwhile in Customer Products Portfolio dashboard: The trend YTD value will not change regardless of any product filter due to the complex calculation in this dashboard. This might be improved in the future, like in the Customer Detail View dashboard.





Product Health Summary

Shows revenue and margin for top/worst products.

Product Health Summary

Product Name	Product Id	Total Revenue	Total Margin	Total Volume	Margin %	Health Score
▲ NyChem 90	NC-0090	2,880	934	982	32.42%	▲ +100
▲ NyChem 100	NC-0100	2,690	853	905	31.70%	▲ +100
▲ Mustard hot	MB-0047	10,691	4,998	3,631	46.75%	▷ +50
▲ Sausage BS	MB-0028	15,657	6,920	5,206	44.20%	▷ +50
▲ Meatball BS...	MB-0048	9,660	4,243	3,330	43.93%	▷ +50
▼ Sparkling ...	BV-0007	12,238	5,792	4,277	47.33%	▼ 0
▼ Tomato mild	MB-0042	9,905	4,470	3,272	45.13%	▼ 0
▼ Multivitami...	BV-0010	10,397	4,872	3,560	46.86%	▼ 0
▼ MaiTai	BV-0004	12,380	5,782	4,470	46.70%	▼ 0
▼ Orange Juice	BV-0008	11,880	5,685	4,018	47.85%	▼ 0

⚠ Green/red color in the Product column does not correspond to the Health score. See how it is defined.

Trends

Show trend values for top/worst products (ranked by Health Score). For details see Common Aspects of Dashboards (Customer Insights).

Trends

Product Name	Product Id	Revenue Trend...	Margin Trend Last 12M	Volume Trend Last 12M	Revenue Trend YTD	Margin Trend YTD	Volume Trend YTD
▲ NyChe...	NC-0090	▲ +143.20%	▲ +123.12%	▲ +166.30%	▲ +206.67%	▲ +244.05%	▲ +193.13%
▲ NyChe...	NC-0100	▼ -12.49%	▼ -13.12%	▼ -12.45%	▲ +250.72%	▲ +294.62%	▲ +295.20%
▲ Mustar...	MB-0047	▲ +333.67%	▲ +504.89%	▲ +360.53%	▲ +167.49%	▲ +291.13%	▲ +139.67%
▲ Sausage...	MB-0028	▷ +48.85%	▲ +73.69%	▷ +54.04%	▲ +122.82%	▲ +203.32%	▲ +124.30%
▲ Meatbal...	MB-0048	▲ +127.86%	▲ +234.04%	▲ +93.28%	▲ +166.09%	▲ +243.36%	▲ +184.86%
▼ Sparklin...	BV-0007	▼ -6.16%	▼ +16.32%	▼ +.82%	▼ -36.39%	▼ -22.36%	▼ -32.22%
▼ Tomato ...	MB-0042	▲ +140.16%	▲ +237.45%	▲ +151.49%	▲ +138.16%	▲ +219.63%	▲ +117.41%
▼ Multivit...	BV-0010	▲ +316.13%	▲ +534.13%	▲ +259.88%	▼ -46.74%	▼ -33.91%	▼ -45.10%
▼ MaiTai	BV-0004	▼ +5.26%	▼ +21.75%	▼ +5.27%	▼ -41.19%	▼ -27.95%	▼ -35.97%
▼ Orange ...	BV-0008	▲ +104.46%	▲ +124.51%	▲ +77.62%	▼ -41.93%	▼ -27.44%	▼ -43.30%

Pricing Opportunity by Product Rank

Shows products (bars) by revenue below target descending and cumulative revenue below target (line). They are grouped by product ID.

This chart displays either Top or Worst Products – as selected in the Product Rank field.

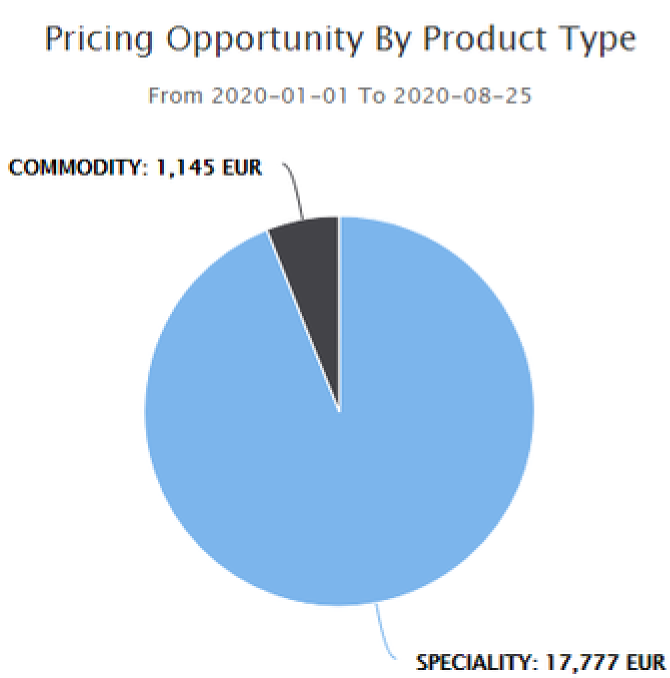
Pricing Opportunity By Product Rank Chart

Pricing Opportunity by Product Type

Shows relative sizes of product classification based on the margin %.

- **Specialty Products** – Higher than the defined margin %
- **Commodity Products** – Lower than the defined margin %

Pricing Opportunity By Product Type Chart

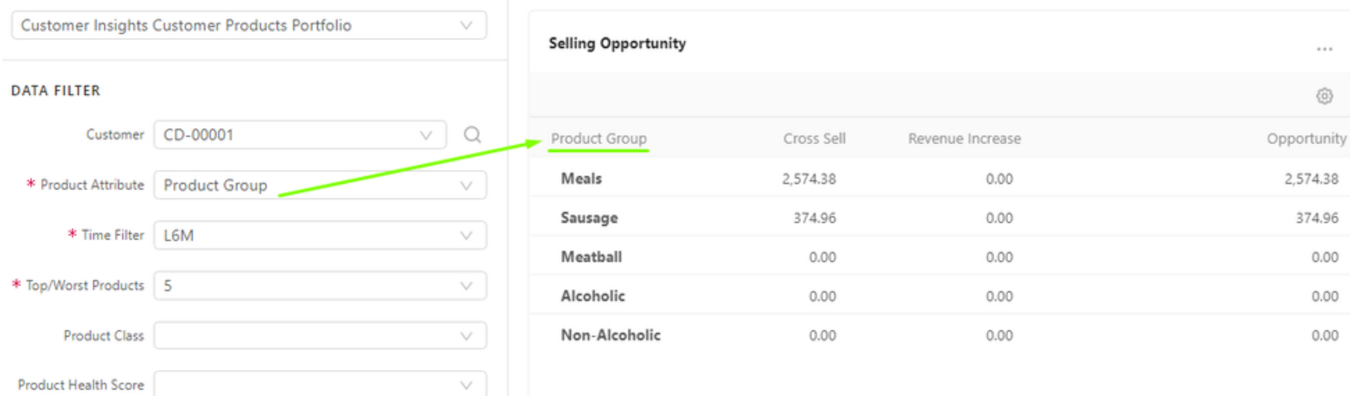


Pricing Opportunity by Product Attribute

Sums revenue below target by the input value in the product attribute filter. The chart label reflects the input value in the product attribute filter.

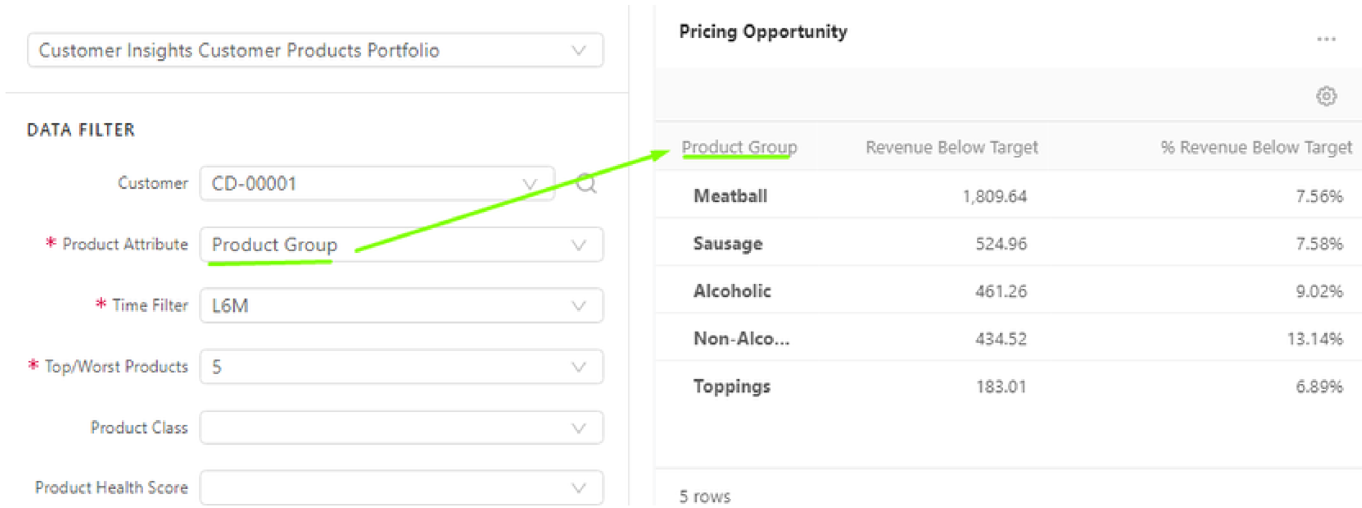
Selling Opportunity

Shows the total value which can be gained for products that the customer already bought and not bought in the given period. They are grouped by the input value in the product attribute filter.



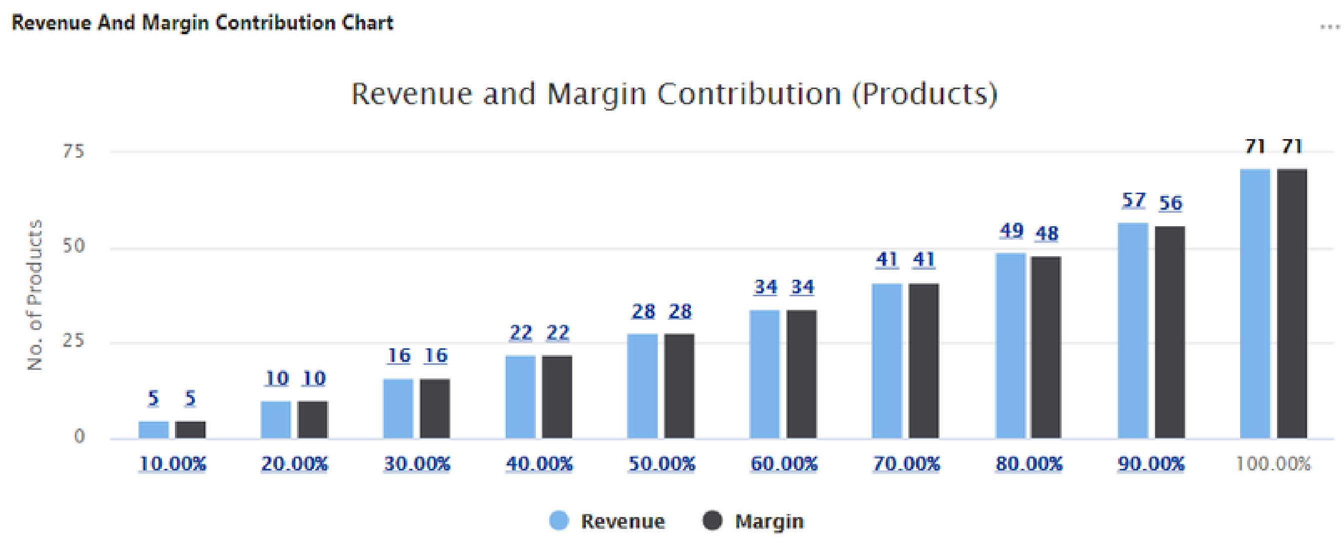
Pricing Opportunity

Shows revenue below target value and % revenue below target. They are grouped by the input value in the product attribute filter.



Revenue and Margin Contribution

Shows revenue and margin split into ten buckets to visualize the number of products needed to cover each bucket (cumulative contribution).



Average Invoice Price

Shows average unit price per product ID and customer classification by revenue.

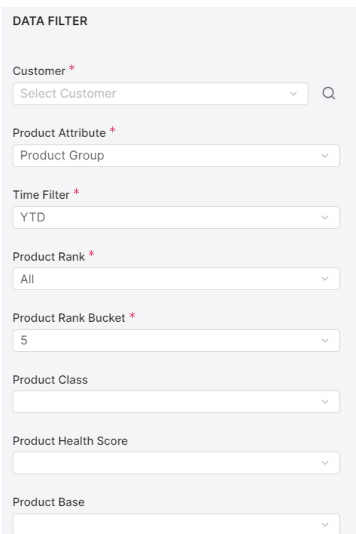
- **Customer Revenue Class A/B/C/D** – Average invoice price per product and customer classification.
- **Overall** – Average invoice price per product and all customers
- **Customer** – Average invoice price per product and customer.

Average invoice price calculated based on data in the last 12 months. Time filter has no effect in this table.

Average Invoice Price Table

Product Name	Product Id	Customer Revenue Class A	Customer Revenue Class B	Customer Revenue Class C	Customer Revenue Class D	Overall	Customer
▲ Bundle	MB-0060	3.07	3.08	3.07		3.10	3.11
▲ Config...	MB-0052	3.03	2.99	3.08		3.08	2.89
▲ Meal S	Meal-CO...	3.07	3.02	3.04		3.07	3.03
▲ Meatb...	MB-0022	2.99	3.02	3.06	3.12	3.06	3.10
▲ Meal M	Meal-CO...	3.06	3.05	3.05		3.06	2.89
▼ Still W...	BV-0006	2.98	2.91	2.94	2.93	2.94	2.99
▼ Multivi...	BV-0010	2.98	2.89	2.99	2.84	2.93	2.87
▼ Sparkli...	BV-0007	2.97	3.00	2.94	2.88	2.93	2.91
▼ Mojito	BV-0005	2.91	2.90	2.94	2.94	2.93	3.08
▼ Meatb...	MB-0001	2.83	2.94	2.93	2.89	2.92	2.74

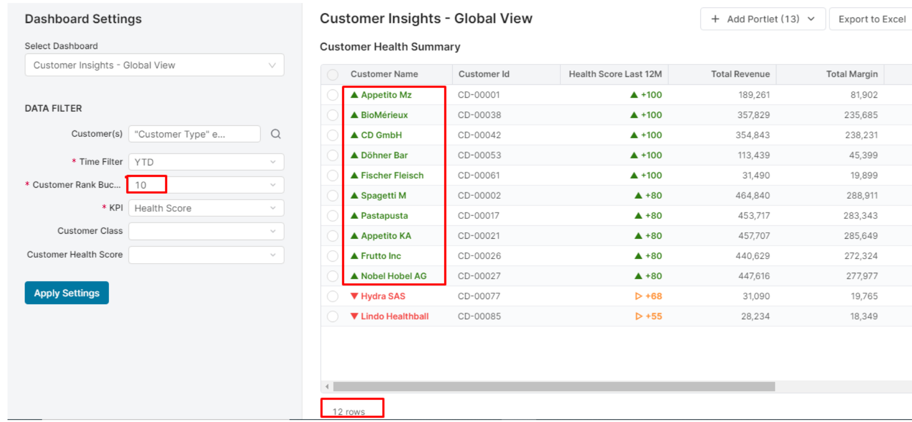
User Inputs



To set up the dashboard, use these options:

- **Customer**
- **Product Attribute** – Relevant product related dimensions, by default it is Product Group. Values available here are fields from the Product Master table which are selected as "Dimension" in Product Data Source.
- **Time Filter** – Possible values: MTD, QTD, YTD, L12M, L6M, L3M
  - For time filters with Last Period (L3M, L6M, L12M, ...):
    - [Start date] = First month beginning date
    - [End date] = Previous month end date
      E.g.: Today is 2021-08-06 => L3M: From 2021-05-01 to 2021-07-31
  - For time filters with up To Date (YTD, QTD, MTD, ...)
    - [Start date] = Period Beginning Date
    - [End date] = Current date
      E.g.: Today is 2021-08-06 => QTD: From 2021-07-01 to 2021-08-06
- **Product Rank** – Possible values: All, Top, Worst
- **Product Rank Bucket** – Possible values: 5, 10, 50, 100

  Counted items shown in the top or bottom of the list are based on the Rank Bucket input.
  If the whole list has 12 products and Product Rank Bucket =10, then the top part of the list shows 10 products and the bottom part shows 2 products.



Product column typically shows the top/worst aggregation of data which is driven by inputs on the left-hand side of the dashboard. Columns with Trends usually show increase/constant/decrease metrics based on the Data Load calculation results. There is no direct relation between these two types of metrics and columns.

- **Product Class** - Based on cumulative contribution to the total volume in the last 12 months, the product is assigned into a category (the thresholds are configurable).
  - Very High Volume <= 10%
  - High Volume <= 20%
  - Normal Volume <= 75%
  - Low Volume = rest
- **Product Health Score** - Possible values: Excellent, Normal, Low, Problematic (multiselect enabled). For details see Common Aspects of Dashboards (Customer Insights).
- **Product Base** - Based on cumulative revenue contribution and the threshold defined, Customers and Products are classified as either Core or Long Tailed. For detailed formula explanation see Glossary (Customer Insights).
  - Core <=80%
  - Long Tailed > 80%

Filter Rules

Does not apply

Portlets		User Inputs						
		Customer	Time Filter	Product Attribute	Customer Rank + Customer Rank Bucket	Product Class	Product Health Score	Product Base
Summary	Customer Summary	X	X			X	X	X
Pie Chart	Pricing Opportunity by Product Type	X	X			X	X	X
Bar Chart	Pricing Opportunity	X	X	X		X	X	X

	by Product Attribute							
	Revenue and Margin Contribution	X	X			X	X	X
	Pricing Opportunity by Top Products	X			X	X	X	X
	Pricing Opportunity by Worst Products	X	X		X	X	X	X
Table	Product Health Summary	X	X		X (by Health Score)	X	X	X
	Average Invoice Price	X	X (*)		X (by Overall)	X	X	X
	Trends	X	X (*)		X (by Health Score)	X	X	X
	Pricing Opportunity	X	X	X	X	X	X	X
	Selling Opportunity	X	X	X	X	X	X	X

(*): Only sorts out Customers/Products that have traded in the period, does not affect calculation results.

Common Aspects of Dashboards (Customer Insights)

- Customer Health Score, Product Health Score
  - Health Score Classes
- Customer Segmentation
- Trends Calculation
- Create Quote from a Dashboard

Customer Health Score, Product Health Score

Customers or products are assigned into different classes based on Health Score calculated as a summary of Revenue Health Score and Margin Health Score (with weights set for particular inputs).

The Revenue Health Score and Margin Health Score are set according to the Revenue and Margin monthly change (trend) in the last 12 months (the maximum value is 100, the minimum value is 0) and to this classification:

Revenue or Margin Trend Last 12M	Revenue or Margin Health Score
>25%	100
15% - 25%	75
5% - 15%	60

-5% - 5%	50
-5% - -15%	40
-15% - -25%	25
< -25%	0

Health Score = Revenue Score * Revenue Weight + Margin Score * Margin Weight

The weight value is configurable and can be set between 0 and 1 for each (the default value is 0.5 for each); the summary of these two has to be equal to 1 (e.g. Revenue Weight = 0,5, Margin Weight = 0,5 => 0,5 + 0,5 = 1).

If a customer or product is decreasing in revenue and margin, the Heath Score value goes down.

Health Score Classes

- Excellent > 75
- Normal > 50
- Low > 25
- Problematic = rest

Customer Segmentation

To group customers by common characteristics, the Customer Segment is defined in configuration (Price Parameters) – a list of fields the segment consists of, e.g. customer size, region, country etc.

According to values aggregated on the Customer Segment level, certain KPIs for particular customers are calculated, e.g. cross sell.

Trends Calculation

In many portlets there are Last 12M trends of particular KPIs (for example Revenue Trend Last 12M) presented either as such or as a part of a formula to calculate other KPIs.

The trends calculation granularity (time units between which the KPI change is considered) differs per various dashboards:

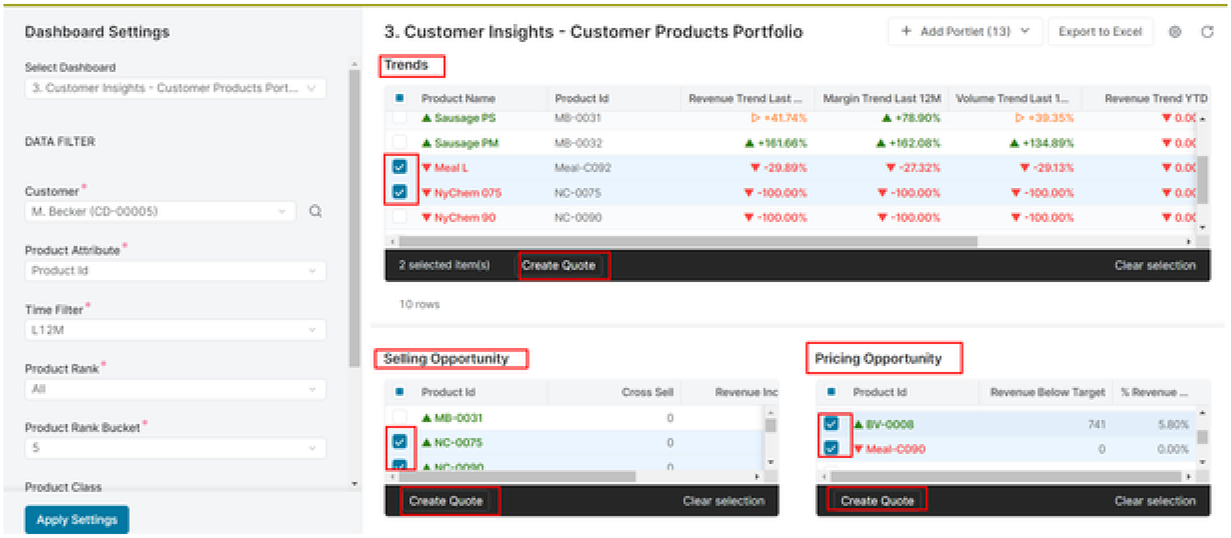
- Global View: monthly
- Detail View: monthly
- Product Portfolio: monthly

In the Customer Summary portlets these are calculated always on the monthly level.

The formulas as such are described in Glossary (Customer Insights).

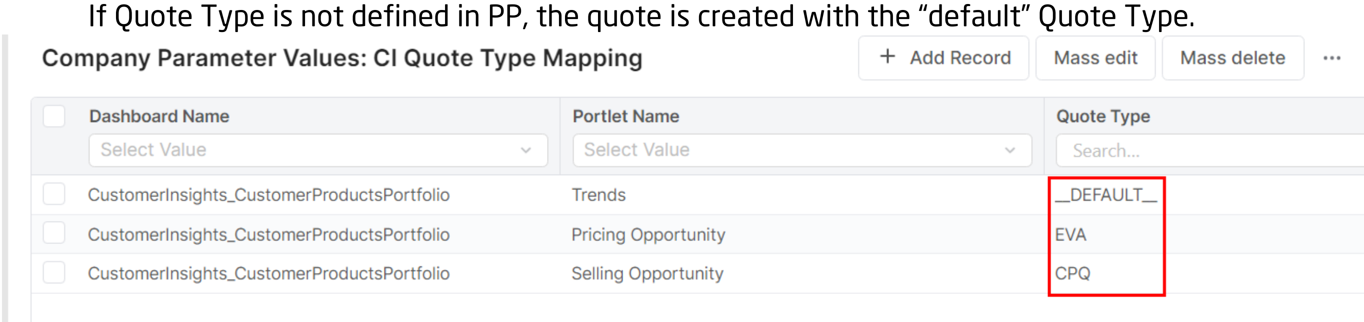
Create Quote from a Dashboard

You can create a quote from the Customer Insights - Customer Products Portfolio dashboard, specifically from these portlets: Trends, Pricing Opportunity, and Selling Opportunity.



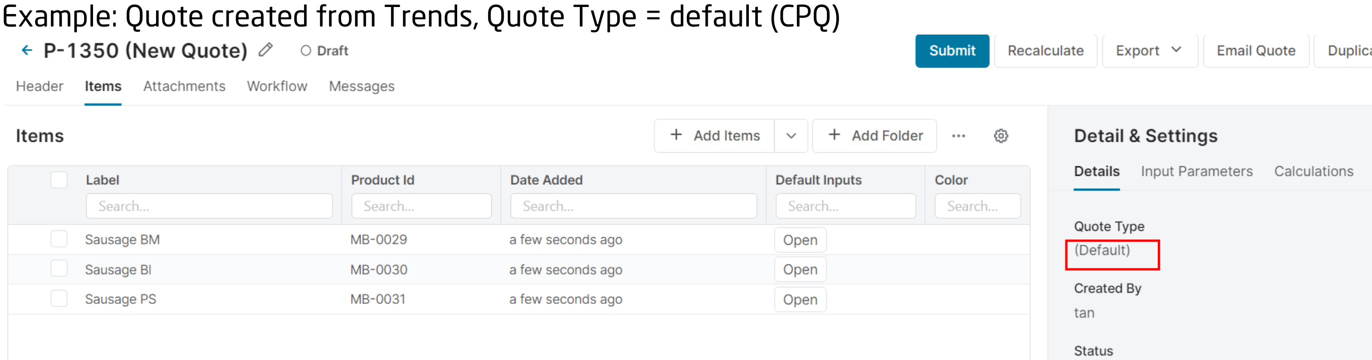
Steps:

1. As inputs, select:
   a. Customer and Time Filter which transactions exist.
   b. Product Attribute = "Product Id"
2. Select a row in the result matrix.
3. Click the "Create Quote" button.
4. A new quote is created and opened and it includes the parameters passed from the dashboard.
   Quote Type is defined in the PP table "CI_QuoteType_Mapping".
   If Quote Type is not defined in PP, the quote is created with the "default" Quote Type.

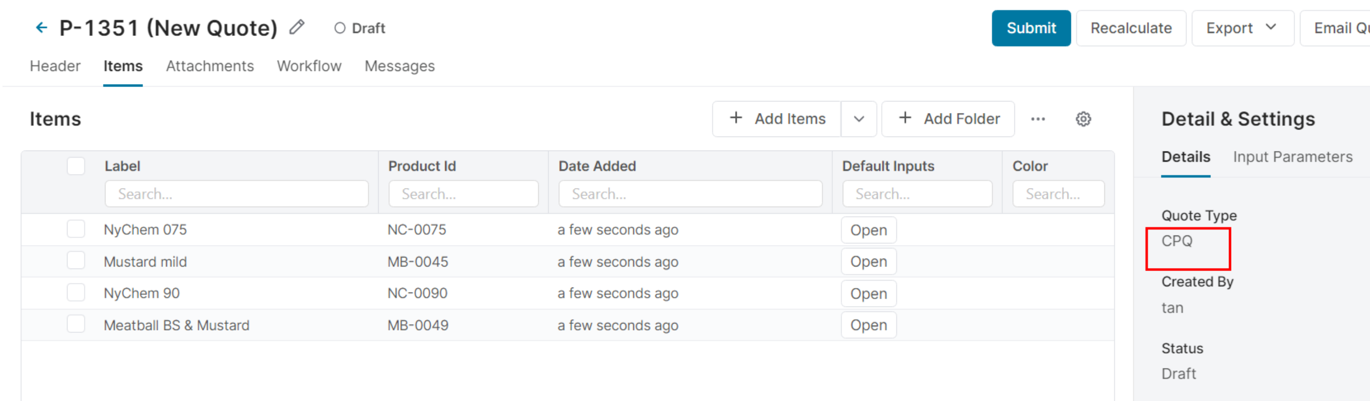

Company Parameter Values: CI Quote Type Mapping

Dashboard Name	Portlet Name	Quote Type
CustomerInsights_CustomerProductsPortfolio	Trends	__DEFAULT__
CustomerInsights_CustomerProductsPortfolio	Pricing Opportunity	EVA
CustomerInsights_CustomerProductsPortfolio	Selling Opportunity	CPQ

Example: Quote created from Trends, Quote Type = default (CPQ)



Example: Quote created from Selling Opportunity, Quote Type = CPQ



Admin User Reference (Customer Insights)

- Mandatory Data (Customer Insights)
- User Roles (Customer Insights)
- Deployment (Customer Insights)
- Architecture Components (Customer Insights)

Mandatory Data (Customer Insights)

Type	Data	Fields	Use Case
Master Data	Customer	Custom attributes (optional)	• Active/Inactive Customers identification E.g. if CM.Attribute15 = "10" then the particular customer is considered active. • Customer segmentation (any other data source can be used as well) For example, the segment can be defined by: • Country + Region • Customer Type + Customer Group • ...
	Product	All the dimensions in the relevant Product Data Source (optional)	Customer Products Portfolio: Pricing and Selling Opportunities by Product Attribute: • Product Attribute defined by a user input, the filter items are loaded from the Data Source definition. • Used in Pricing Opportunities and Selling Opportunities portlets as a dimension (aggregation level).
Transaction Data	Sales Data (Transactions)	• Unique ID • Customer ID • Customer Name • Product ID • Product Name • Pricing Date • Invoice Price • (Gross) Margin • Quantity	Core

User Roles (Customer Insights)

To use Customer Insights Package, you need to be assigned the following Pricefx user roles:

- Run Analytics Queries
- Manage Data Analyzer
- Manage Analytics Calculation Logics
- View Company Parameters

Deployment (Customer Insights)

Customer Insights Package is an extension of Sales Insights Package – it re-uses some Sales Insights components.

For the correct functionality, both Sales Insights Package1.6 and Customer Insights Package 1.6 (or later versions) have to be present at the partition.

In this section:

- A. Delete Previously Created Objects
- B. Run Deployment from PlatformManager
- C. Update Price Parameters and Advanced Configuration Options
- D. Verify Number of Threads at Partition
- E. Configure Batching
- F. Deploy & Run Calculation Flows (Manual Step)

As the current version of PlatformManager does not support all of the steps needed to deploy the Customer Insights Package, the step Deploy & Run Calculation Flows (Manual Step) needs to be performed manually.

A. Delete Previously Created Objects

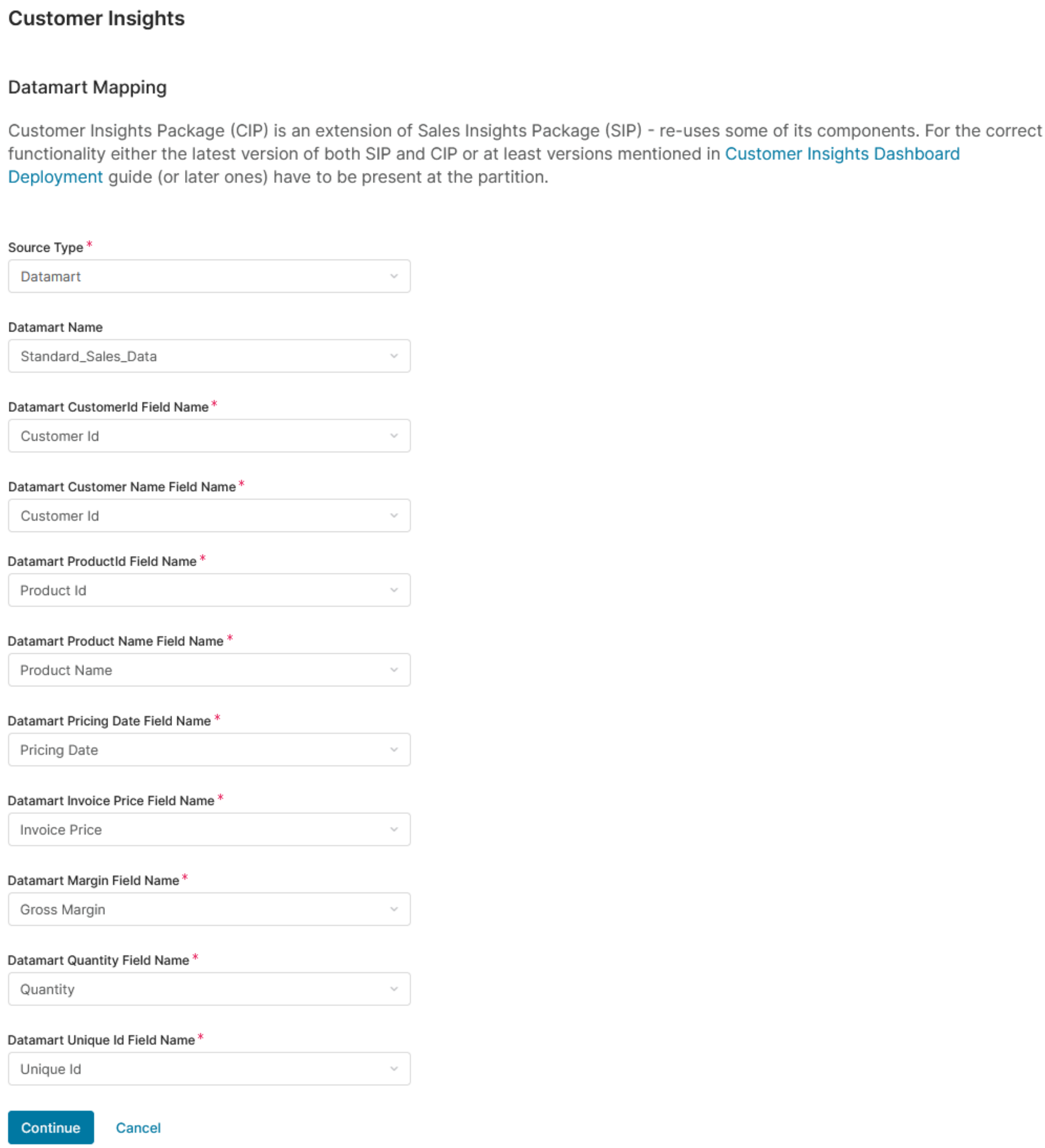
If you are going to run deployment to a partition where Customer Insights Package had been installed before, it is recommended to delete the previously created objects, namely:

- Simulation (located in Analytics module > Simulation: CustomerInsights)
- Company Parameters (main menu Company Parameters > CustomerInsights: all)

This step can be skipped if it is obvious that no changes were made to these objects (Company Parameters structure) since the previous version (see Customer Insights Release Notes).

B. Run Deployment from PlatformManager

1. Get access to PlatformManager and target partition, as described in common installation prerequisites.
2. Access PlatformManager at https://platform.pricefx.com/ and log in.
3. Go to **Marketplace** and find the *Customer Insights* package.
4. Click the accelerator package tile, select the partition where you want to deploy the package and confirm the deployment dialog to start.
   For detailed description of all deployment options, see PlatformManager documentation.
5. Set up Datamart mapping.



Select the Datamart name and field names (from the Datamart) for mapping and click **Continue**.

6. Wait for the system to finish the import.
7. The deployment is complete.

C. Update Price Parameters and Advanced Configuration Options

The *PFXTemplate_CustomerInsights_Customer_Segment* Company Parameter needs to be consistent with the partition data for the fields set as Active. This CP defines the fields used for a customer segmentation.

If the partition has some special setting (different from the Accelerator default setting), check and update the settings in other Company Parameters.

For more details see Company Parameters (Customer Insights).

D. Verify Number of Threads at Partition

Starting with Customer Insights Package version 1.6, it is recommended to have 8 threads per partition where Customer Insights is deployed. If the number is lower, Data Load calculations may fail.

By default, the value is lower, so you need to check with Pricefx Support. Threads are set by them as a server config parameter `numberOfThreadsPerPartition` for both `paQuery` and `paDataLoad`.

E. Configure Batching

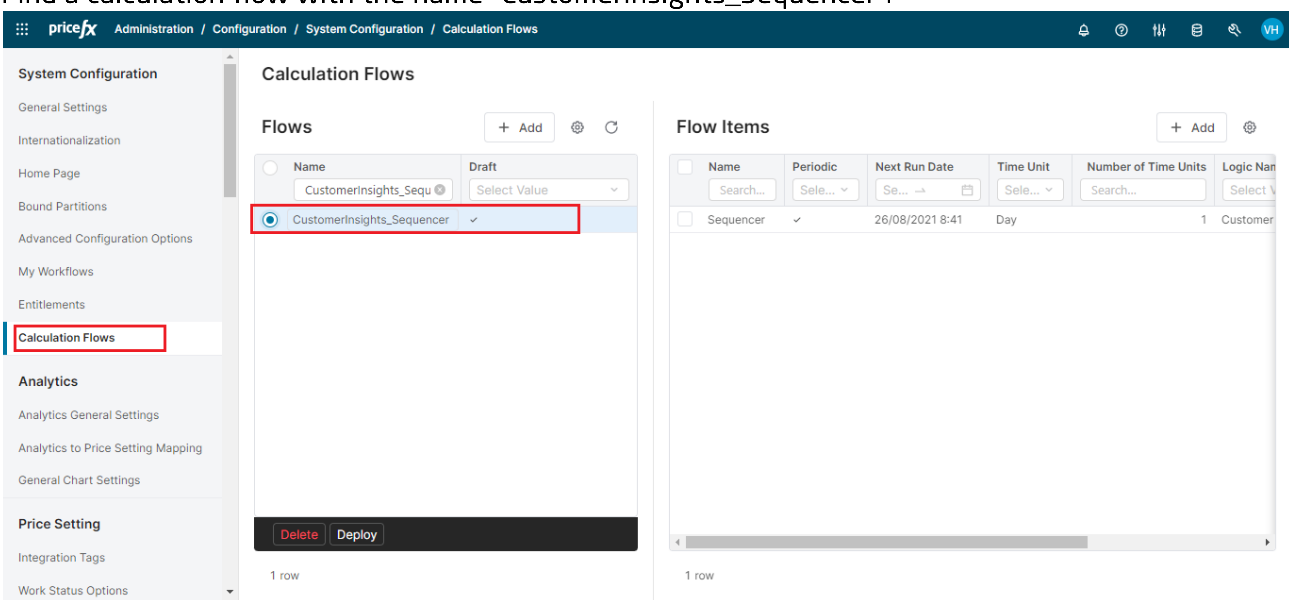
Batching for the aggregated Data Load must be configured **before** the calculation is triggered (next step). For more details, refer to https://pricefx.atlassian.net/wiki/spaces/ACC/pages/5386929458/Data+Flow+Customer+Insights#Configurable-Batching-for-Aggregation-Data-Load.

F. Deploy & Run Calculation Flows (Manual Step)

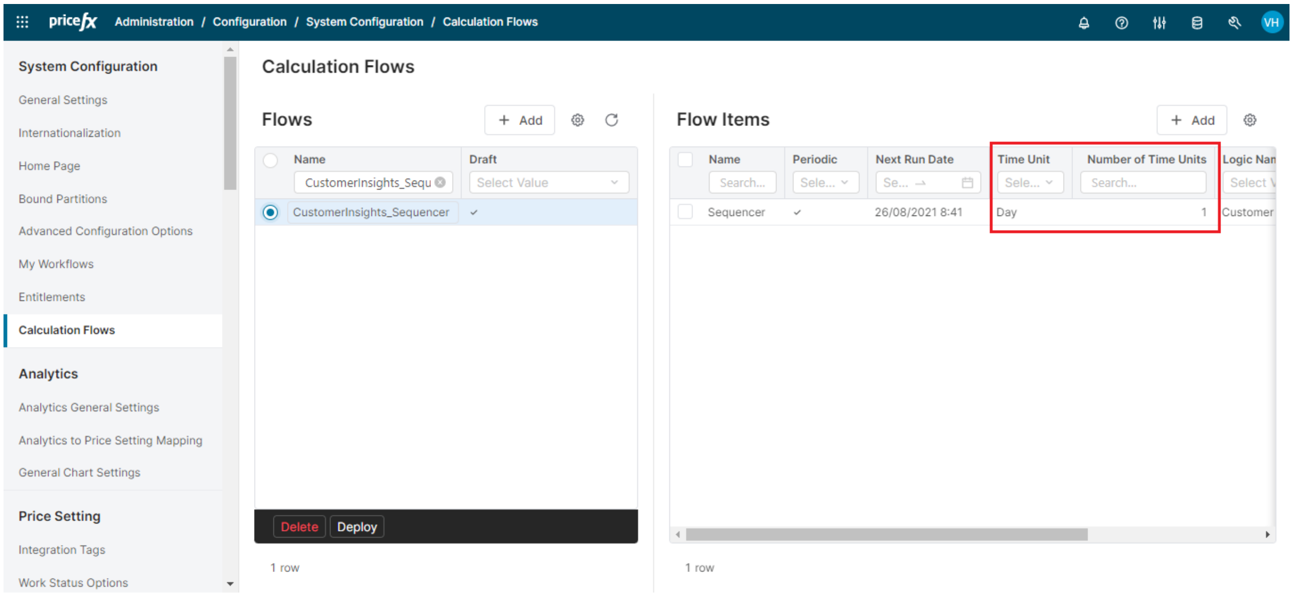
To keep the aggregated data (CI_AggregatedData Data Source) synchronized with customer classification data (CI_CustomerClassification Data Source), a scheduled job needs to be set to run the Data Load CI_CustomerClassification first and then run CI_AggregatedData Data Load (Distributed Calculation).

This can be done in Calculation Flows by taking these steps:

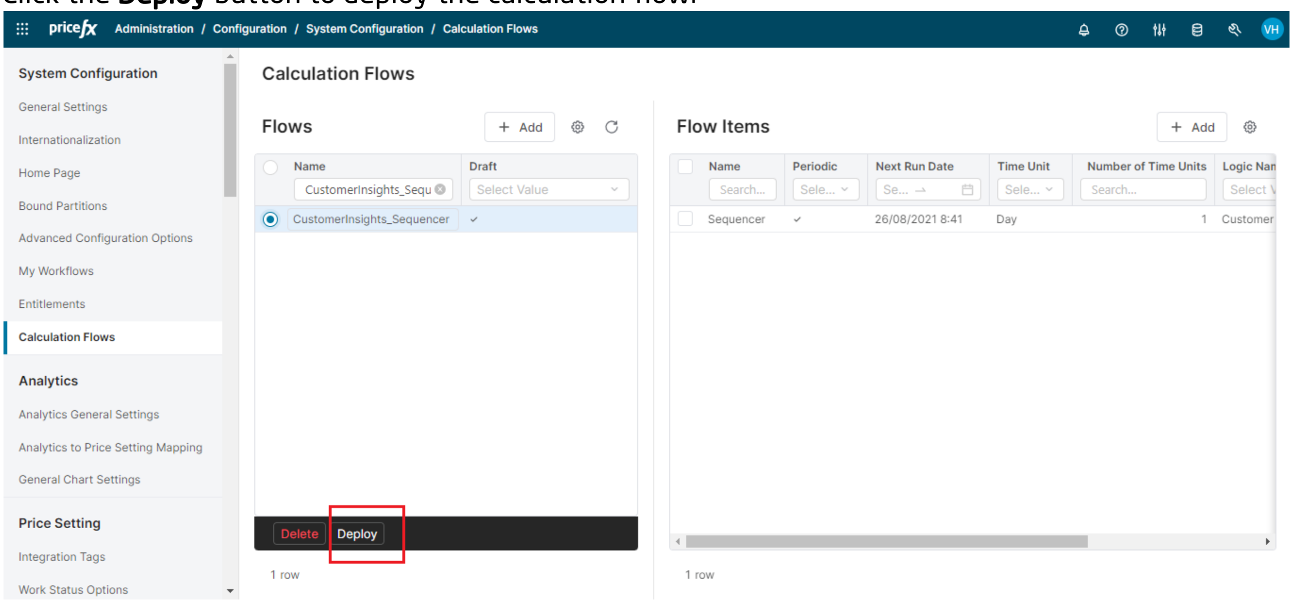
1. Go to **Administration** > **Configuration** > **Calculation Flows**.
2. Find a calculation flow with the name “CustomerInsights_Sequencer”.



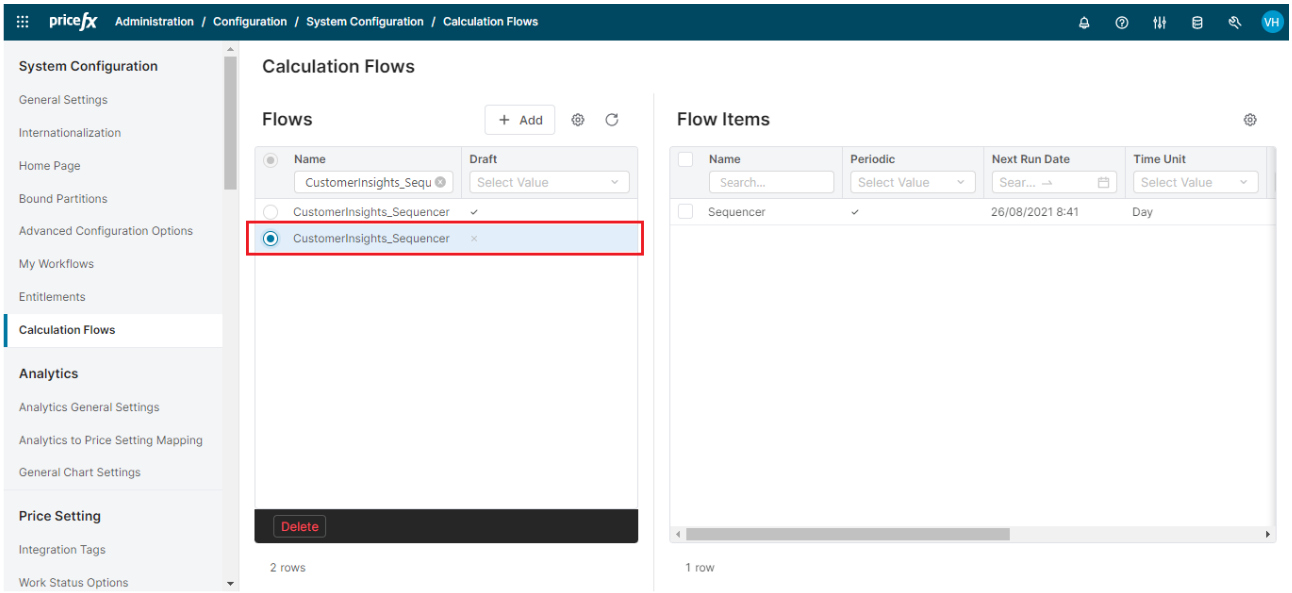
3. Select the “CustomerInsights_Sequencer” and update **Time Unit** and **Number of Time Units**.
   You define here how often the data will be refreshed and when. This setting has a big impact on the dashboard results and their validity.



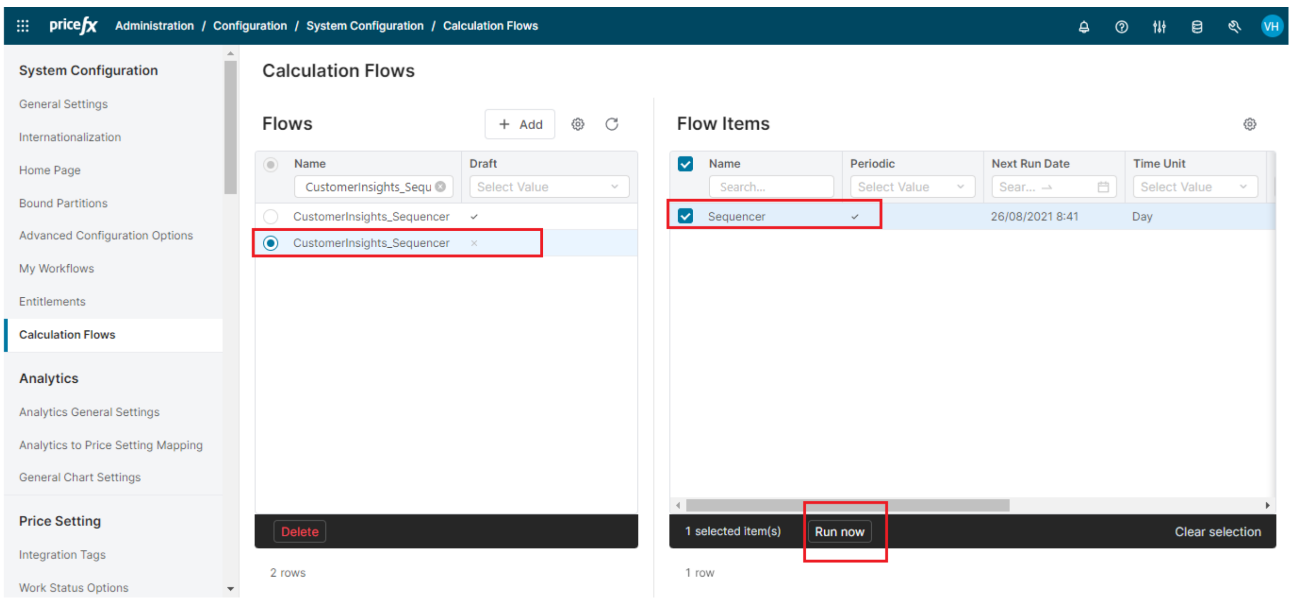
4. Click the **Deploy** button to deploy the calculation flow.



5. When finished, the system will show more lines for the flows.



6. If you want to run the calculation flow immediately, select the row in the right window and then click **Run now**.



Architecture Components (Customer Insights)

Extension

Customer Insights Package is an extension of Sales Insights Package:

- The configuration settings of waterfall chart is re-used from Sales Insights.

Advanced Configuration Option

- customer-insights-accelerator – For details see Advanced Configuration Options (Customer Insights).

Logics

Library	Generic Logic

- CustomerInsights

PA Data Load

- CustomerInsights_Aggregation_Sim

- CustomerInsights_CustomerDetails
- CustomerInsights_CustomerProductsPortfolio
- CustomerInsights_DimensionFilter_Configurator
- CustomerInsights_GlobalView

Dashboards

- CustomerInsights_CustomerDetailView
- CustomerInsights_CustomerProductsPortfolio
- CustomerInsights_GlobalView

Customer Parameters

- PFXTemplate_CustomerInsights_Configuration - incl. sample data
- PFXTemplate_CustomerInsights_Customer_Segment - incl. sample data

For details see Company Parameters (Customer Insights).

Analytics Simulation Datamart

- CustomerInsights

Data Sources

- CI_AggregatedData – Stores the pre-calculated data.
- CI_CustomerClassification – Stores information on customer segments and active/inactive attribute for Customers.

Data Loads

- CI_AggregatedData – Runs a logic to fill data into Data Source CI_AggregatedData. This is Data Load of the type Calculation+.
- CI_CustomerClassification – Runs a logic to fill data into Data Source CI_CustomerClassification. This is Data Load of the type Calculation.

Calculation Flow

- CustomerInsights_Sequencer – Keeps the data (Data Sources, Datamart) synchronized by filling the DS CI_CustomerClassification before the DS CI_AggregatedData is filled.

Preferences

Used for the dashboards - with layouts of the portlets.

Dependencies

This accelerator depends on the following accelerators which will be deployed during the installation too.

- Shared Library
- Dashboards Library

Technical User Reference (Customer Insights)

Company Parameters (Customer Insights)

Customer Insights Package works based on configuration data which users can adjust to match their business case. These configuration data are stored in Company Parameter tables. In addition, the package uses Company Parameters tables to define currency symbols and Quote Types.

PFXTemplate_CustomerInsights_Configuration CP

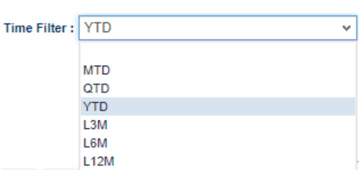
Most parameters used in Customer Insights are saved in this table, including these main columns:

- **Category** – Category of the configuration.
- **Key Name** – Key name of the configuration.
- **Value** – Defines the value corresponding to the key-set.
- **Is Default** – If set to Yes, the dashboard will use the value of this item as a default value.
- **Order** – Sets the order of items in the same Category.
- **Key Label** – Defines a label shown on the chart/input.
- **Note** – Specifies which logic type is used.

Category	Key Name	Value	IsDefault	Order	Key Label	Note
MASTER_DATA	TIME_FILTER	MTD		1		Dashboard logic
MASTER_DATA	TIME_FILTER	QTD		2		Dashboard logic
MASTER_DATA	TIME_FILTER	YTD	YES	3		Dashboard logic
MASTER_DATA	TOP_WORST_CUSTOMERS	10		2		Dashboard logic
MASTER_DATA	TOP_WORST_CUSTOMERS	50		4		Dashboard logic
MASTER_DATA	TOP_WORST_CUSTOMERS	100		5		Dashboard logic
MASTER_DATA	TOP_WORST_PRODUCTS	10		2		Dashboard logic
MASTER_DATA	TOP_WORST_PRODUCTS	50		4		Dashboard logic
MASTER_DATA	TOP_WORST_PRODUCTS	100		5		Dashboard logic
CUSTOMER_CLASSIFICATION_HEALTH	EXCELLENT	75		1	Excellent	Simulation logic
CUSTOMER_CLASSIFICATION_HEALTH	GOOD	50		2	Good	Simulation logic
CUSTOMER_CLASSIFICATION_HEALTH	NORMAL	25		3	Normal	Simulation logic
CUSTOMER_CLASSIFICATION_HEALTH	PROBLEMATIC	0		4	Problematic	Simulation logic

Dashboard Configuration

Time Filter Selector Input

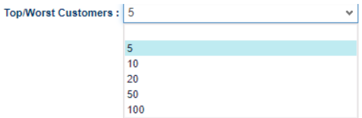


Data for this selector are defined in Category = “MASTER_DATA” and Key Name = “TIME_FILTER“.

Category	Key Name	Value	IsDefault	Order	Key Label
MASTER_DATA	TIME_FILTER	MTD		1	MTD
MASTER_DATA	TIME_FILTER	QTD		2	QTD
MASTER_DATA	TIME_FILTER	YTD	YES	3	YTD
MASTER_DATA	TIME_FILTER	L3M		4	L3M
MASTER_DATA	TIME_FILTER	L6M		5	L6M
MASTER_DATA	TIME_FILTER	L12M		6	L12M

If you want to change the text shown in the Time Filter selector (e.g. MTD Month To Date), you need to update the value of the column “Key Label” from “MTD” to “Month To Date“. If you clear the value of this column, the Time Filter selector will show the value of the “Value” column.

Top/Worst Customers Selector Input



Data for this selector are defined in Category = "MASTER_DATA" and Key Name = "TOP_WORST_CUSTOMERS".

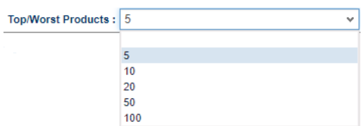
Category	Key Name	Value	IsDefault	Order
MASTER_DATA	TOP_WORST_CUSTOMERS	5	YES	1
MASTER_DATA	TOP_WORST_CUSTOMERS	10		2
MASTER_DATA	TOP_WORST_CUSTOMERS	20		3
MASTER_DATA	TOP_WORST_CUSTOMERS	50		4
MASTER_DATA	TOP_WORST_CUSTOMERS	100		5

If you want to add more values to this list, you need add a new row with same category and key name.

Example: To add a value "200" to the list and put it at the end of the list, you need to add the following:

- Category= MASTER_DATA
- Key Name = TOP_WORST_CUSTOMER
- Value = 200
- Order = 6

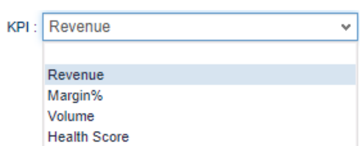
Top/Worst Products Selector Input



Data for this selector are defined in Category = "MASTER_DATA" and Key Name = "TOP_WORST_PRODUCTS".

Category	Key Name	Value	IsDefault	Order
MASTER_DATA	TOP_WORST_PRODUCTS	5	YES	1
MASTER_DATA	TOP_WORST_PRODUCTS	10		2
MASTER_DATA	TOP_WORST_PRODUCTS	20		3
MASTER_DATA	TOP_WORST_PRODUCTS	50		4
MASTER_DATA	TOP_WORST_PRODUCTS	100		5

KPI Selector Input



Data for this selector are defined in Category = "MASTER_DATA" and Key Name = "KPI".

Category	Key Name	Value	IsDefault	Order	Key Label
MASTER_DATA	KPI	Revenue		1	Revenue
MASTER_DATA	KPI	Margin%		2	Margin %
MASTER_DATA	KPI	Volume		3	Volume
MASTER_DATA	KPI	Health Score	YES	4	Health Score

If you want to change the text shown in the KPI selector (e.g. "Margin %" "Margin Percent"), you need to update the value of the column "Key Label" from "Margin %" to "Margin Percent". If you clear the value of this column, the KPI selector will show the value of the "Value" column.

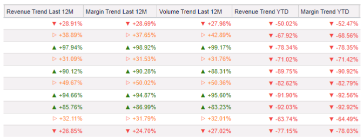
Display of Trend Columns in Table

In the tables of the dashboard, Trend columns are displayed with three

You can define threshold values to match your business case – just update the value of the key name "TREND_UPPER" and "TREND_LOWER":

formats based on the setting:

- Green up arrow
- Orange horizontal arrow
- Red down arrow



Green and up arrow	*Trend value* >= TREND_UPPER
Orange and horizontal arrow	TREND_LOWER < *Trend value* < TREND_UPPER
Red and down arrow	*Trend value* <= TREND_LOWER

Category	Key Name	Value	IsDefault	Order
CONFIGURATION	TREND_UPPER	0.6		
CONFIGURATION	TREND_LOWER	0.3		

Display of Health Score Columns

This column has the same display format as the trends columns but the threshold is different.

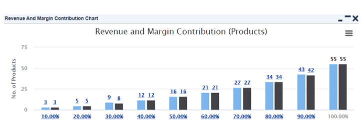
The Health Score column is included in two tables: Customer Health Summary Table (Customer Global View Dashboard) and Product Health Summary Table (Customer Product Portfolio View Dashboard):

You can define it in Category = “CONFIGURATION“, the key names are “CUSTOMER_HEALTH_SCORE_UPPER“ and “CUSTOMER_HEALTH_SCORE_LOWER“:

Green and up arrow	*Health Score* >= CUSTOMER_HEALTH_SCORE_UPPER
Orange and horizontal arrow	CUSTOMER_HEALTH_SCORE_LOWER < *Health Score* < CUSTOMER_HEALTH_SCORE_UPPER
Red and down arrow	*Health Score* <= CUSTOMER_HEALTH_SCORE_LOWER

Category	Key Name	Value	IsDefault	Order
CONFIGURATION	CUSTOMER_HEALTH_SCORE_UPPER	70		
CONFIGURATION	CUSTOMER_HEALTH_SCORE_LOWER	40		

Revenue and Margin Contribution Chart (Customer Product Portfolio Dashboard)



In this chart, you can re-define:

- Number of buckets – via the key name = “NUMBER_OF_BUCKETS“
- Percent of the start bucket / percent of the end bucket via the key name =”BUCKET_START_PERCENT” and “BUCKET_END_PERCENT“

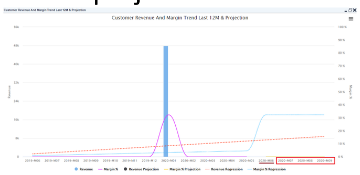
Category	Key Name	Value	IsDefault	Order	Note
REVENUE_AND_MARGIN_CONTRIBUTION	NUMBER_OF_BUCKETS	10			
REVENUE_AND_MARGIN_CONTRIBUTION	BUCKET_START_PERCENT	0			
REVENUE_AND_MARGIN_CONTRIBUTION	BUCKET_END_PERCENT	100			

Number of Next months (Customer Detail View Dashboard)

In the Customer Detail View dashboard, we have two charts: “Customer

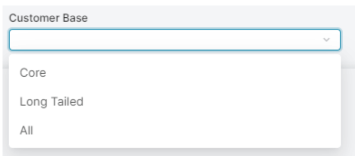
The default number of next months is three. You can update this value in Category = ”MASTER_DATA” and key name = “NEXT_MONTH_AMOUNT“.

Revenue And Margin Trend Last 12M & Projection" and "Number Of Transactions Trend Last 12M & projection".



Category	Key Name	Value	IsDefault	Order	Note
MASTER_DATA	NEXT_MONTH_AMOUNT	3			

Customer Base, Product Base (Core Customers and Products) Selector Input



Data for this selector are defined in Category = "Configuration" and Key Name = "CUSTOMER_CORE" or "PRODUCT_CORE".

The value specifies the cumulative revenue thresholds for the Core vs. Long Tailed definition.

Values range: 0..1 (e.g. 0.8 = 80%).

Category	Key Name	Value
CONFIGURATION	CUSTOMER_CORE	0.8
CONFIGURATION	PRODUCT_CORE	0.8

Pre-Processing (Simulation Logic) Configuration

Customer Health Score

For more details see Glossary (CIP).

Health Score = Revenue Score * Revenue Weight + Margin Score * Margin Weight

Note: Revenue Weight + Margin Weight = 1

Revenue Score / Margin Score is based on the defined table (the Trend value is the revenue/margin trend last 12M):

Trend	Health Score
>25%	100
15% - 25%	75
5% - 15%	60
-5% - 5%	50
-5% - -15%	40
-15% - -25%	25
< -25%	0

You can change the threshold trends value in the CP as shown below:

Category	Key Name	Value	IsDefault	Order
SCORE_CLASSIFICATION	100	0.25		1
SCORE_CLASSIFICATION	75	0.15		2
SCORE_CLASSIFICATION	60	0.05		3
SCORE_CLASSIFICATION	50	-0.05		4
SCORE_CLASSIFICATION	40	-0.15		5
SCORE_CLASSIFICATION	25	-0.25		6
SCORE_CLASSIFICATION	0	-10		7

You can change the Revenue Weight and Margin Weight values in the Company Parameter.

- If you set just the value of Revenue Weight, the system will calculate Margin Weight = (1 - Revenue Weight) automatically.
- If you set just the value of Margin Weight, the system will calculate Revenue Weight = (1 - Margin Weight) automatically.
- If you do not set either of these values, the default value is: Revenue Weight = Margin Weight = 0.5.

Category	Key Name	Value	IsDefault	Order
CONFIGURATION	REVENUE_WEIGHT	0.5		
CONFIGURATION	MARGIN_WEIGHT	0.5		

Customer Revenue Classification

The simulation logic uses this setting to identify the customer classification based on the contribution and cumulative revenue contribution of each customer.

You can change the threshold value and label (show on the dashboard) in the PP as shown below:

Category	Key Name	Value	IsDefault	Order	Key Label	Note
CUSTOMER_CLASSIFICATION_REVENUE	A	20		1	A	Simulation logic
CUSTOMER_CLASSIFICATION_REVENUE	B	50		2	B	Simulation logic
CUSTOMER_CLASSIFICATION_REVENUE	C	80		3	C	Simulation logic
CUSTOMER_CLASSIFICATION_REVENUE	D	100		4	D	Simulation logic

Customer Health Score Classification

This classification is based on the customer health score – the simulation logic assigns customers to different classes based on Health Score.

You can change the threshold value and label (shown on the dashboard) in the PP as shown below:

Category	Key Name	Value	IsDefault	Order	Key Label	Note
CUSTOMER_CLASSIFICATION_HEALTH	EXCELLENT	75		1	Excellent	Simulation logic
CUSTOMER_CLASSIFICATION_HEALTH	GOOD	50		2	Good	Simulation logic
CUSTOMER_CLASSIFICATION_HEALTH	NORMAL	25		3	Normal	Simulation logic
CUSTOMER_CLASSIFICATION_HEALTH	PROBLEMATIC	0		4	Problematic	Simulation logic

Product Quantity Classification

The simulation logic uses this setting to identify the product classification based on the contribution and cumulative volume contribution of each product.

You define the threshold value in this CP, for example:

- Very High Volume <= 10%
- High Volume <= 20%
- Normal Volume <= 75%
- Low Volume = rest

You must update the threshold value and label (shown on the dashboard) in the CP as shown below:

Category	Key Name	Value	IsDefault	Order	Key Label	Note
PRODUCT_CLASSIFICATION_QUANTITY	VERY_HIGH	10		1	Very High	Simulation logic
PRODUCT_CLASSIFICATION_QUANTITY	HIGH	20		2	High	Simulation logic
PRODUCT_CLASSIFICATION_QUANTITY	NORMAL	75		3	Normal	Simulation logic
PRODUCT_CLASSIFICATION_QUANTITY	LOW	100		4	Low	Simulation logic

Commodity vs. Specialty Product Classification

The simulation logic uses this setting to identify if a product is Commodity or Specialty Product.

It is defined based on an average margin achieved by the product.

- Speciality >= 30%
- Commodity = rest

You can update the threshold value and label (shown on the dashboard) in the CP as shown below:

Category	Key Name	Value	IsDefault	Order	Key Label	Note
PRODUCT_CLASSIFICATION_HEALTH	SPECIALITY	30		1	Speciality	Simulation logic
PRODUCT_CLASSIFICATION_HEALTH	COMMODITY	0		2	Commodity	Simulation logic

Inactive Customer classification

There is an option to define the name and value of the key which identifies active Customers in Customer Master (e.g., Customer Class = C -> active).
CP definition: category: CUSTOMER_MASTER_ACTIVE_KEY, fields: KEY_NAME, KEY_VALUE.

Company Parameter Values : CIP_Config [2]

Category	Key Name	Value	IsDef...	Order	Key Label
CUSTOMER_MASTER_ACTIVE_KEY	KEY_VALUE	C			
CUSTOMER_MASTER_ACTIVE_KEY	KEY_NAME	attribute3			Customer Class

PFXTemplate_CustomerInsights_Customer_Segment CP

This table is used to define the customer segmentation. Customer segments can be obtained from multi data source types such as: Data Source, Customer Master, Customer Extensions. You can define it in this table.

You can add more customer attributes to the table if they are not present yet. Set the value of the Is Active column to YES, if you want to add this attribute into the segmentation processing and exclude the field with isCustomerId = YES. The field set to Is Customer Id = "YES" will **not** join into the segment data, the system uses it as a key to find data.

Main columns:

- **Source Type** – Data Source types from which we get data for the customer segments. They include: DMDS (Data Source), C (Customer Master), CX (Customer Extension).
- **Source Name** – Data source name.
- **Source Field** – Source Field in the Data Source.
- **Field Label** – Label of the field in the Data Source.
- **Is Active** – If set to 'YES', the dashboard will add this field in the segmentation.
- **Is Customer Id** – If this field is customer ID in a Data Source, set the value to 'YES'. It helps the system get the correct "Customer Id" field in the source.
  If the Data Source is Customer Master or Customer Extension, you do not need to add the "customer Id" field name.
  If the Data Source is datasource, you must add the "customer Id" field name.

Note: For the field you want to be a key to find data in DMDS, you need to set IsActive = "YES" and IsCustomerId = YES".

Example

We define that a customer segment will be obtained from the Data Source named 'Customer' with these parameters:

Case 1: Segment data query from one source

Customer Type = active
Region = active
3 Customer Types = {Enduser, Industry,

Case 2: Segment data query from two sources

Customer Type: get from Customer Master
Region: get from DMDS "Customer"

Restaurant}
4 Regions = {America, Oceania, Asia, Europe}
=> We will have 3*4 = 12 Customer segments = {Enduser_America, Enduser_Oceania,.....}

Source Type	Source Name	Source Field	Field Label	Is Active	Is Customer Id
C	Customer	attribute1	Customer Group		
C	Customer	attribute2	Customer Type		
C	Customer	attribute3	Customer Class		
C	Customer	attribute4	Region		
DMDS	Customer	CustomerId		YES	YES
DMDS	Customer	CustomerType	Customer Type	YES	
DMDS	Customer	Region	Region	YES	

Note: If the customer segment is queried from a Data Source, we **must** add the 'customer Id' field name in this source and set the value to 'YES' in the 'Is Customer Id' column.

You need to create a configuration like this:

Source Type	Source Name	Source Field	Field Label	Is Active	Is Customer Id
C	Customer	attribute1	Customer Group		
C	Customer	attribute2	Customer Type	YES	
C	Customer	attribute3	Customer Class		
C	Customer	attribute4	Region		
DMDS	Customer	CustomerId		YES	YES
DMDS	Customer	CustomerType	Customer Type		
DMDS	Customer	Region	Region	YES	

Note:

- When querying segment data from multiple sources, the system will take time to process (query and combine). You should consider this before processing.
- If the segment data is large and complex for combination, you should create a DMDS to build the customer segment data first, then use it in this configuration for Customer Insights Package.

CurrencySymbols CP

This is a Company Parameter of Sales Insights Package and it should be deployed by this package. Customer Insights re-uses it to show the currency symbol in charts. If your currency is missing, you can add it to this table.

Name	Value
AUD	$
NZD	$
USD	$
HKD	$
EUR	€
JPY	¥
GBP	£
CHF	CHF

CI_QuoteType_Mapping CP

This table is used to define the Quote Type on each portlet of the dashboard. When a user selects multiple products and clicks the **Create Quote** button on a portlet, a new Quote with this Quote Type mapping will be created.

Currently, we support creating a new quote from 3 portlets of the Customer Products Portfolio dashboard, so this table has just 3 rows:

Dashboard Name	Portlet Name	Quote Type
CustomerInsights_CustomerProductsPortfolio	Trends	__DEFAULT__
CustomerInsights_CustomerProductsPortfolio	Pricing Opportunity	__DEFAULT__
CustomerInsights_CustomerProductsPortfolio	Selling Opportunity	__DEFAULT__

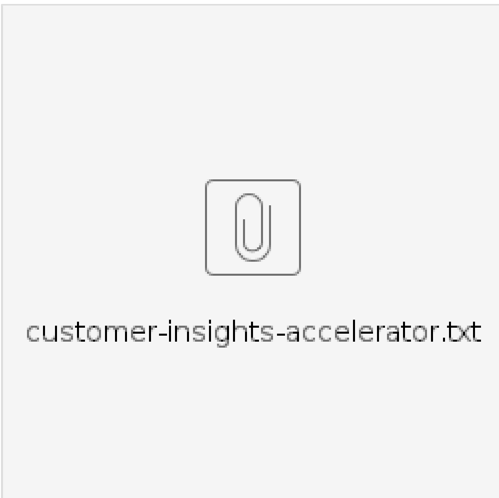
If you want to change Quote Type, you need to update the column "Quote Type" of this table from "__DEFAULT__" to your Quote Type name.

Advanced Configuration Options (Customer Insights)

Customer Insights Package also uses the Advanced Configuration Option (AP) with the name “customer-insights-accelerator“ to store:

- Data source information
- Mapping fields

This is a template for this Advanced Configuration Option:



Waterfall Chart Configuration (Customer Insights)

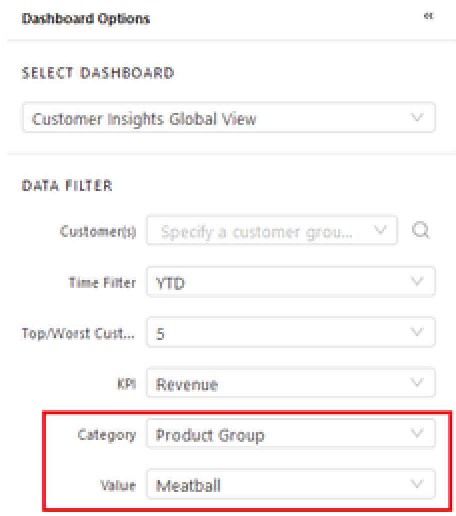
As Customer Insights is an extension of Sales Insights, the configuration of waterfall chart is re-used from Sales Insights. To update the waterfall configuration, follow waterfall configuration details.

Groovy Libraries and Logics (Customer Insights)

These are the main Groovy logics in this architecture:

CustomerInsights (Groovy library)		The main library is used in the Customer Insights Dashboard logic. It provides functions to query and process data.
	CustomerUtils	Provides functions related to Customer such as: getAllCustomerIdsWithOtherAttributes, groupByCustomerAttributes
	ProductUtils	Provides functions related to Products such as: getProductAttributes, getSourceFieldsFromProductDataSource
	DateUtils	Provides functions related to dates.
	Configuration	Reads configured data from a price parameter and advanced configuration options.

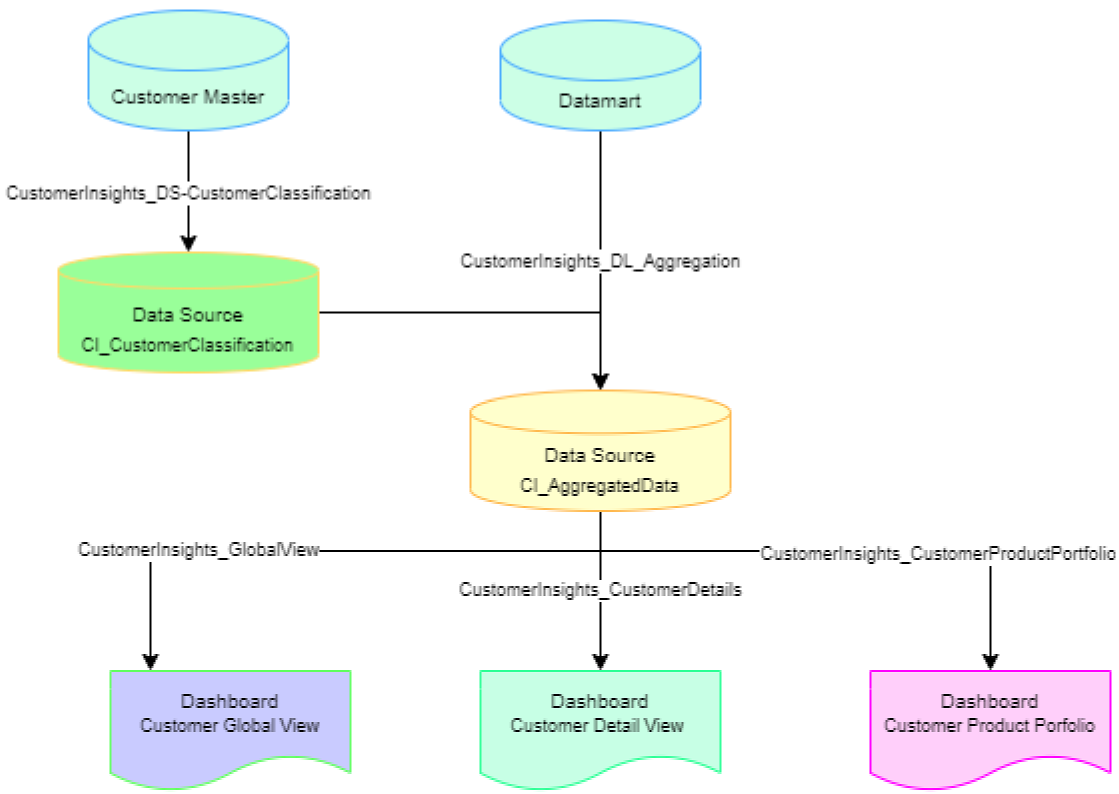
CustomerGlobalDashboardUtils	Provides logics to process data to be shown in CustomerInsights_GlobalView dashboards.
CustomerDetailDashboardUtils	Provides logics to process data to be shown in CustomerInsights_CustomerDetails dashboards.
CustomerProductPortfolioDashboardUtils	Provides logics to process data to be shown in CustomerInsights_CustomerProductsPortfoliodashboards.
CalculationCommonUtils	Provides some common/calculation functions.
QueryUtils	Provides functions to query data from the Datamart / Data Source.
Constant	Defines constants used in the Customer Insights Dashboard.
DataTable	Provides functions to build the row format of the result matrix to be displayed in the dashboard.
InputUtils	Provides functions to build input controls such as: Time Filter, Category/Value...
Classification	Provides logics to pre-process data such as: calculate Customer Health Score, Trends... Used in dataload logic (CustomerInsights_DL_Aggregation).
ClassificationQueryHelper	Provides functions to build a Query object to summarize data from Datamart / Data Source to use in Classification.
CalculationQueryHelper	Provides functions to build a Query object to summarize data from Datamart / Data Source to use in Calculation.
SummaryPortletUtils	Provides functions to create a summary data table (Summary portlet) in dashboards.
CustomerSegmentUtils	Provides functions to query and build segment data from sources.
CommonDashboardParameter	Defines common parameters used in the package.
GlobalViewDashboardParameter	Defines parameters used in the Global View dashboard, they are inherited from Common Dashboard Parameter.
DetailViewDashboardParameter	Defines parameters used in the Detail View dashboard, they are inherited from Common Dashboard Parameter.
PortfolioDashboardParameter	Defines parameters used in the Portfolio dashboard, they are inherited from Common Dashboard Parameter.
DataLoadParameter	Defines parameters used in the Data Load logic (CustomerInsights_DL_Aggregation), they are inherited from Common Dashboard Parameter.
InactiveCustomerUtils	Provides functions to process inactive customers.

CommonChartUtils	Provides functions to process charts in dashboards.
DataLoadUtils	Provides functions to process Data Loads such as: find dataload...
SharedLib	Groovy library to provide common functions.
HighchartsLibrary	Groovy library to provide functions to build Highcharts shown on the dashboard. Use version 1.1.2 and higher.
SIP_Dashboards_Commons	Groovy library of Sales Insights, it re-uses some methods to build a waterfall chart in a dashboard.
CustomerInsights_DimensionFilter_Configurator	Configurator logic to build the Category/Value input in dashboards. 
CustomerInsights_GlobalView	Customer Global View dashboard logic.
CustomerInsights_CustomerDetails	Customer Detail View dashboard logic.
CustomerInsights_CustomerProductPortfolio	Customer Product Portfolio dashboard logic.
CustomerInsights_DL_Aggregation	Fills data into Data Source CI_AggregatedData
CustomerInsights_CF_Sequencer	CF logic.
CustomerInsights_DS_CustomerClassification	Fills data into Data Source CI_CustomerClassification.

Note: Almost all dashboard logics use SQL to have a better performance in case there are large data sets.

Data Flow (Customer Insights)

Overview



In Customer Insights Accelerator, we use Data Load to aggregate Datamart data by customer, product and pricing month and we store it in the Data Source AggregatedData. It helps improve the dashboard performance because:

- The system queries data in a smaller data set.
- Some data need to be pre-processed before showing on dashboards as trend values, product and customer classification etc.

Note: There are some charts and portlets whose data are queried from the Datamart directly, not from AggregatedData Data Source, such as:

- Customer Global View Dashboard: Customer Summary portlet
- Customer Detail View: Customer Summary Portlet, Waterfall chart

To improve performance, the processed aggregated data is limited to the last 12 months of transaction data.

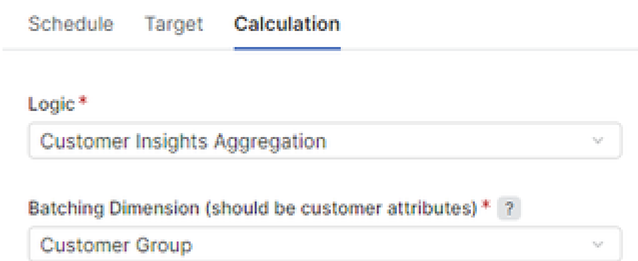
Configurable Batching for Aggregation Data Load

Configurable batching for aggregation data loads allows you to adjust batch sizes according to your specific dataset and hardware. By configuring the batch size, you can optimize performance, avoid data load failures, and ensure accurate aggregation results.

How to Configure Batching for Aggregation Data Load

1. Navigate to **Analytics** > **Data Manager** > **Data Loads** > **Customer Insights Aggregation** and open the **Calculation** tab.
2. In the **Batching Dimension** field, select the parameter that will be used to split the data for the batch.

   Note: Use a customer attribute (customer type, customer group, ...) to ensure all data for a particular customer is processed within a single batch.



1. **Save** the Data Load.

When you define a batching dimension, the aggregation data load process creates batches based on the selected dimension. Only the necessary data for the specified batch will be loaded to optimize memory usage and performance.

Example of Batching

- **Batch Dimension** = *customer group*
  - Batch01: customerGroup=A batchFilter: customerGroup = A
  - Batch02: customerGroup=B batchFilter: customerGroup = B
  - Batch03: customerGroup=C batchFilter: customerGroup = C

Best Practices

- Try to choose a batching dimension that will produce relatively even-sized data slices over the last 12 months.
- Ideally, aim for batches of approximately 100,000 transaction rows each to achieve a balance between processing speed and system stability – it all depends on your cluster setup. If other batch sizes are working well for your setup, you can continue using them.
- If you encounter data load timeouts, consider selecting a more granular batching dimension to create smaller, more manageable batches.

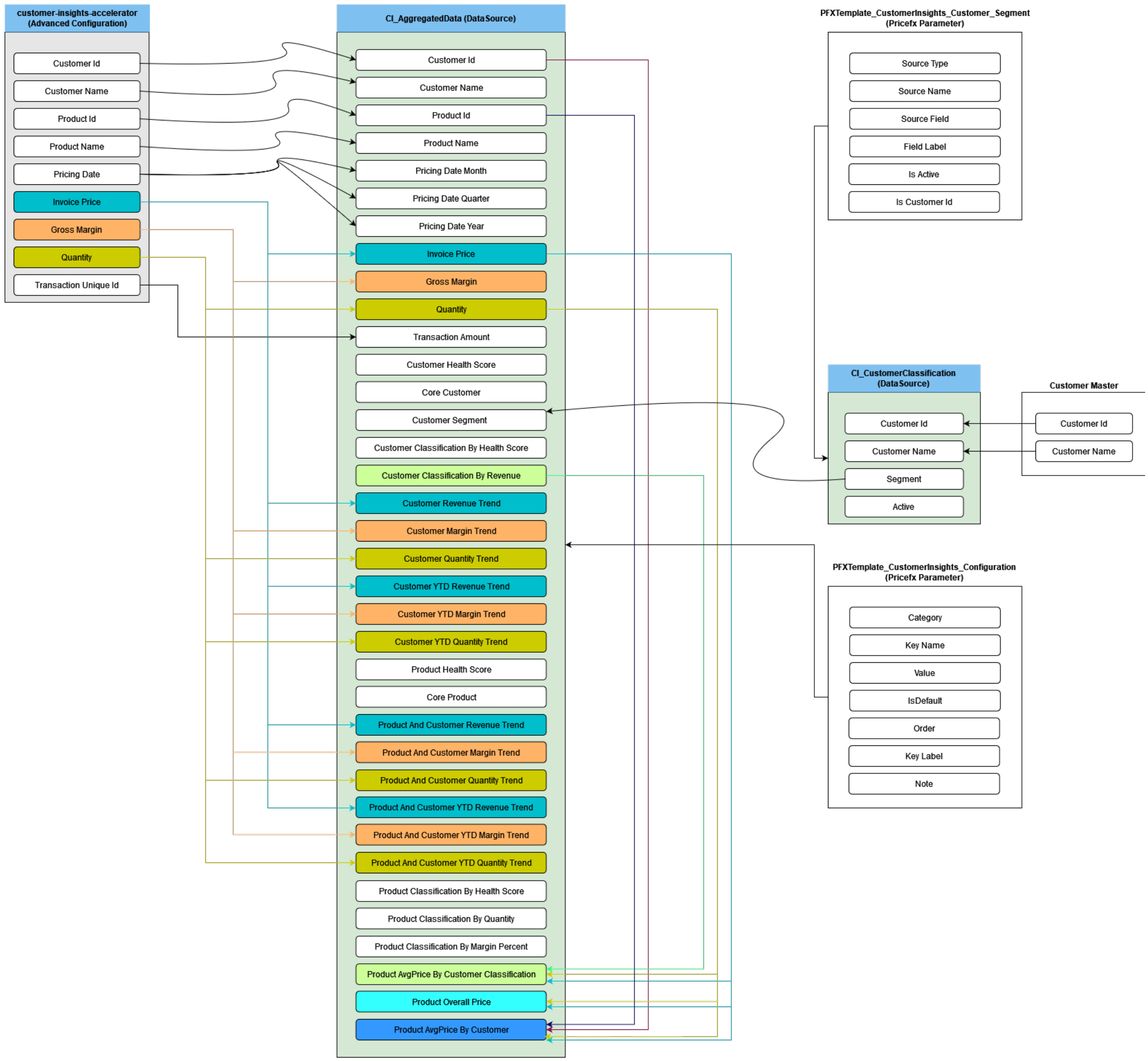
Limitations

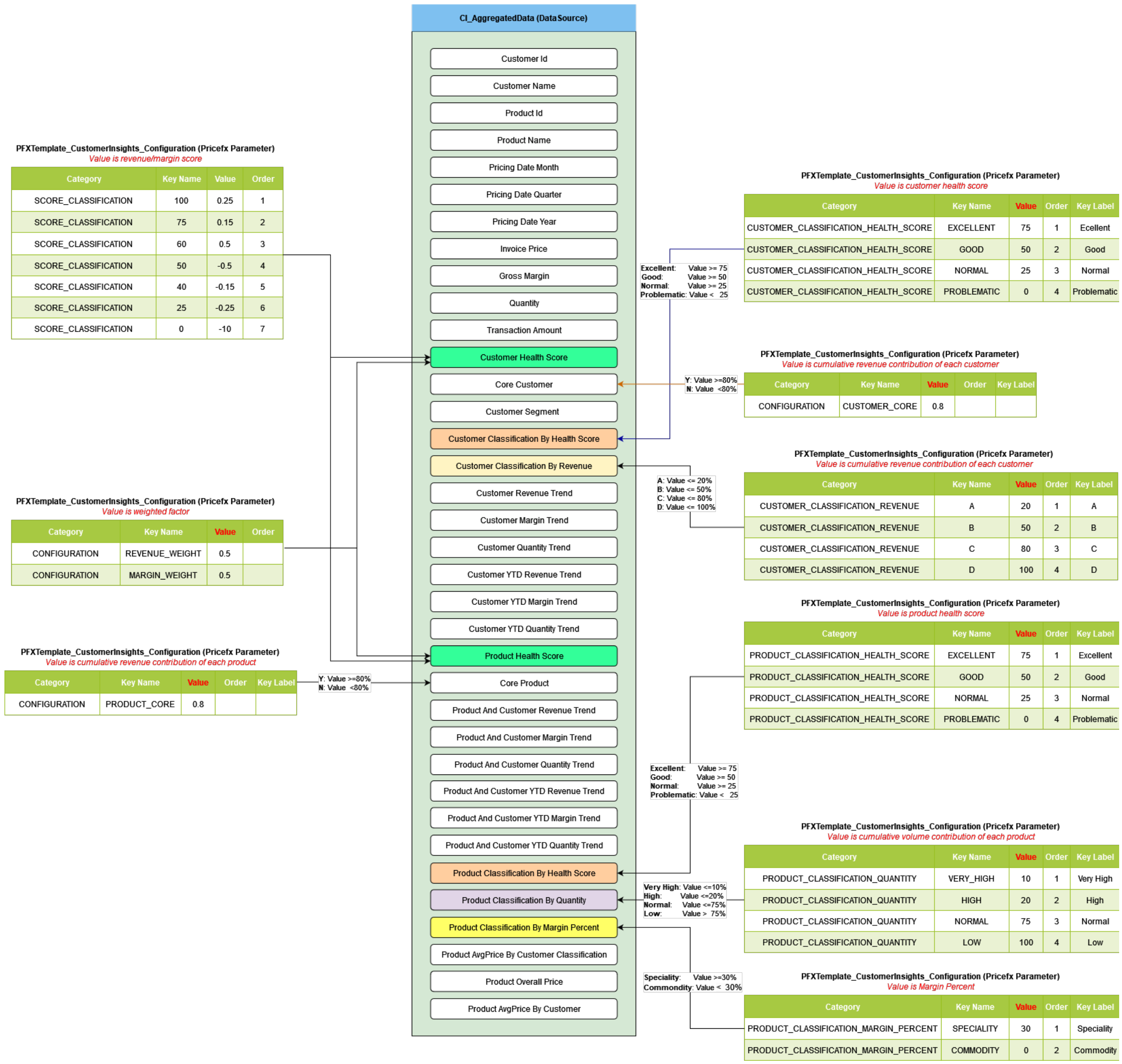
When using our test dataset containing 41 million transaction rows (with 21 million rows of the last 12 months data), we encountered the following limitations:

- A single calculation with more than 50.000 batches took approximately 7 hours to process and did not complete successfully.

- Batches covering more than 1 million transaction rows frequently resulted in timeouts.

Aggregated Data


customer-insights-accelerator (Advanced Configuration)
Customer Id
Customer Name
Product Id
Product Name
Pricing Date
Invoice Price
Gross Margin
Quantity
Transaction Unique Id
CI_AggregatedData (DataSource)
Customer Id
Customer Name
Product Id
Product Name
Pricing Date Month
Pricing Date Quarter
Pricing Date Year
Invoice Price
Gross Margin
Quantity
Transaction Amount
Customer Health Score
Core Customer
Customer Segment
Customer Classification By Health Score
Customer Classification By Revenue
Customer Revenue Trend
Customer Margin Trend
Customer Quantity Trend
Customer YTD Revenue Trend
Customer YTD Margin Trend
Customer YTD Quantity Trend
Product Health Score
Core Product
Product And Customer Revenue Trend
Product And Customer Margin Trend
Product And Customer Quantity Trend
Product And Customer YTD Revenue Trend
Product And Customer YTD Margin Trend
Product And Customer YTD Quantity Trend
Product Classification By Health Score
Product Classification By Quantity
Product Classification By Margin Percent
Product AvgPrice By Customer Classification
Product Overall Price
Product AvgPrice By Customer
PFXTemplate_CustomerInsights_Customer_Segment (Pricefx Parameter)
Source Type
Source Name
Source Field
Field Label
Is Active
Is Customer Id
CI_CustomerClassification (DataSource)
Customer Id
Customer Name
Segment
Active
Customer Master
Customer Id
Customer Name
PFXTemplate_CustomerInsights_Configuration (Pricefx Parameter)
Category
Key Name
Value
IsDefault
Order
Key Label
Note



PFXTemplate_CustomerInsights_Configuration (Pricefx Parameter)
Value is revenue/margin score

Category	Key Name	Value	Order
SCORE_CLASSIFICATION	100	0.25	1
SCORE_CLASSIFICATION	75	0.15	2
SCORE_CLASSIFICATION	60	0.5	3
SCORE_CLASSIFICATION	50	-0.5	4
SCORE_CLASSIFICATION	40	-0.15	5
SCORE_CLASSIFICATION	25	-0.25	6
SCORE_CLASSIFICATION	0	-10	7

PFXTemplate_CustomerInsights_Configuration (Pricefx Parameter)
Value is weighted factor

Category	Key Name	Value	Order
CONFIGURATION	REVENUE_WEIGHT	0.5	
CONFIGURATION	MARGIN_WEIGHT	0.5	

PFXTemplate_CustomerInsights_Configuration (Pricefx Parameter)
Value is cumulative revenue contribution of each product

Category	Key Name	Value	Order	Key Label
CONFIGURATION	PRODUCT_CORE	0.8		

PFXTemplate_CustomerInsights_Configuration (Pricefx Parameter)
Value is customer health score

Category	Key Name	Value	Order	Key Label
CUSTOMER_CLASSIFICATION_HEALTH_SCORE	EXCELLENT	75	1	Ecellent
CUSTOMER_CLASSIFICATION_HEALTH_SCORE	GOOD	50	2	Good
CUSTOMER_CLASSIFICATION_HEALTH_SCORE	NORMAL	25	3	Normal
CUSTOMER_CLASSIFICATION_HEALTH_SCORE	PROBLEMATIC	0	4	Problematic

PFXTemplate_CustomerInsights_Configuration (Pricefx Parameter)
Value is cumulative revenue contribution of each customer

Category	Key Name	Value	Order	Key Label
CONFIGURATION	CUSTOMER_CORE	0.8		

PFXTemplate_CustomerInsights_Configuration (Pricefx Parameter)
Value is cumulative revenue contribution of each customer

Category	Key Name	Value	Order	Key Label
CUSTOMER_CLASSIFICATION_REVENUE	A	20	1	A
CUSTOMER_CLASSIFICATION_REVENUE	B	50	2	B
CUSTOMER_CLASSIFICATION_REVENUE	C	80	3	C
CUSTOMER_CLASSIFICATION_REVENUE	D	100	4	D

PFXTemplate_CustomerInsights_Configuration (Pricefx Parameter)
Value is product health score

Category	Key Name	Value	Order	Key Label
PRODUCT_CLASSIFICATION_HEALTH_SCORE	EXCELLENT	75	1	Excellent
PRODUCT_CLASSIFICATION_HEALTH_SCORE	GOOD	50	2	Good
PRODUCT_CLASSIFICATION_HEALTH_SCORE	NORMAL	25	3	Normal
PRODUCT_CLASSIFICATION_HEALTH_SCORE	PROBLEMATIC	0	4	Problematic

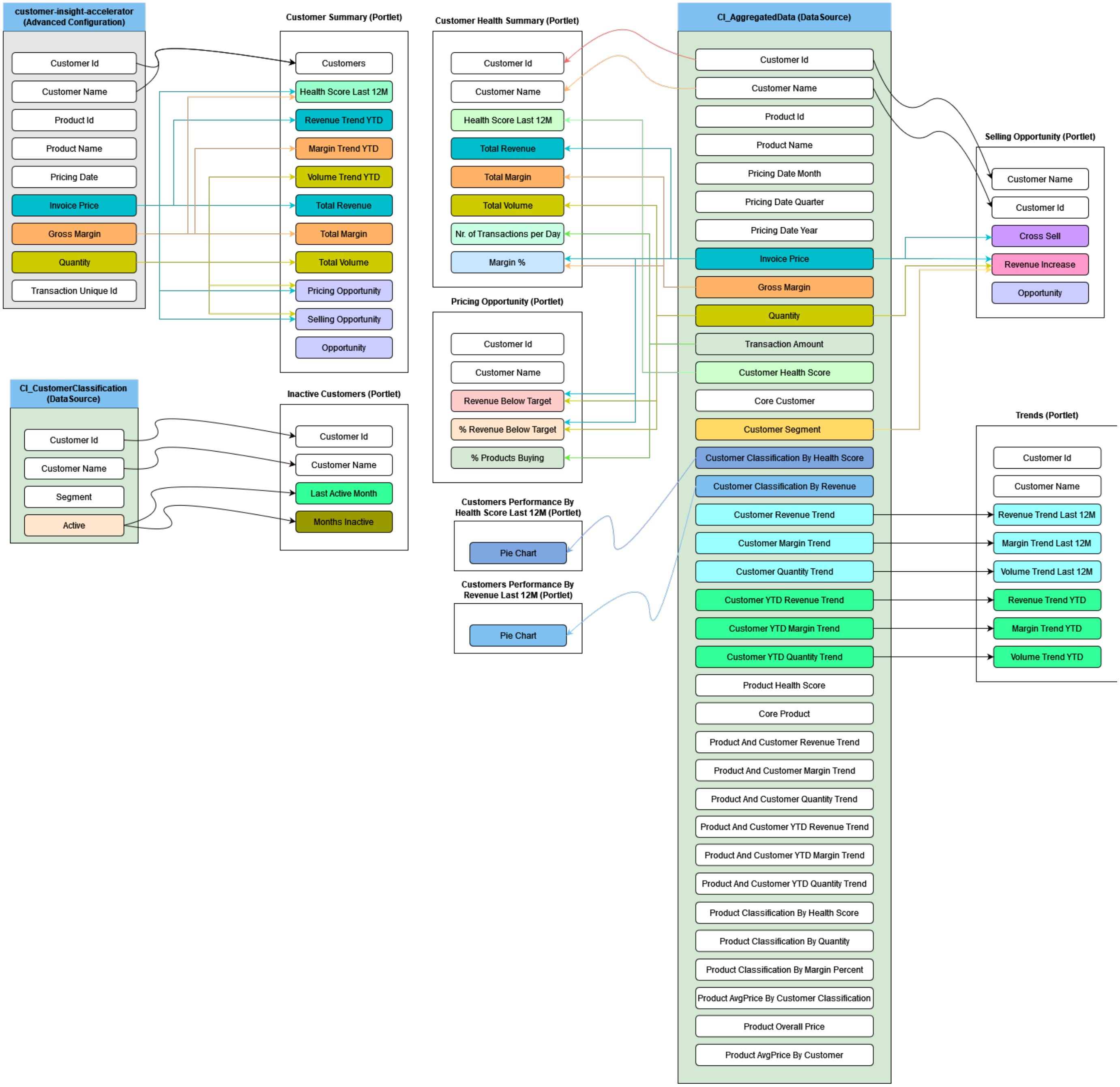
PFXTemplate_CustomerInsights_Configuration (Pricefx Parameter)
Value is cumulative volume contribution of each product

Category	Key Name	Value	Order	Key Label
PRODUCT_CLASSIFICATION_QUANTITY	VERY_HIGH	10	1	Very High
PRODUCT_CLASSIFICATION_QUANTITY	HIGH	20	2	High
PRODUCT_CLASSIFICATION_QUANTITY	NORMAL	75	3	Normal
PRODUCT_CLASSIFICATION_QUANTITY	LOW	100	4	Low

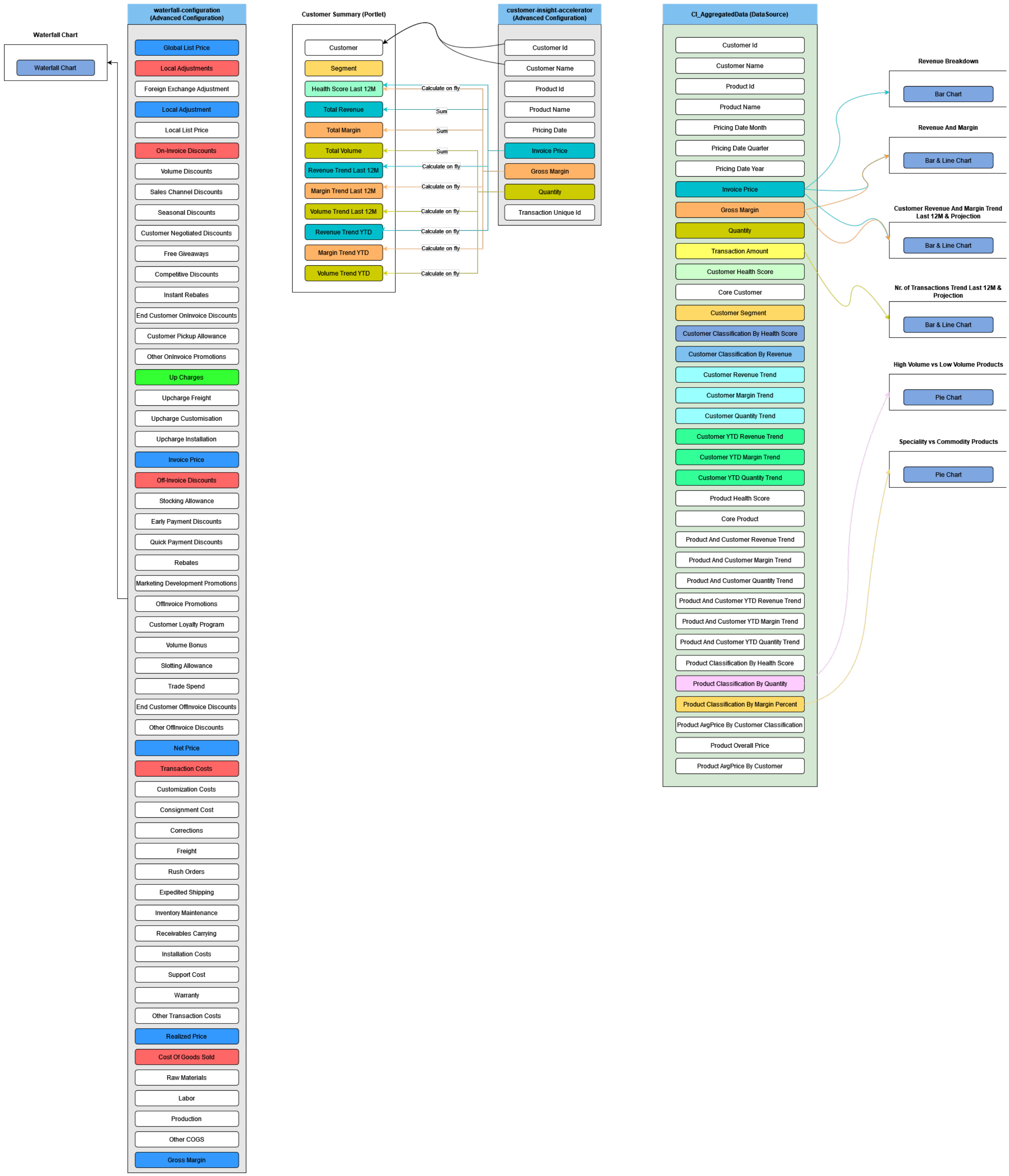
PFXTemplate_CustomerInsights_Configuration (Pricefx Parameter)
Value is Margin Percent

Category	Key Name	Value	Order	Key Label
PRODUCT_CLASSIFICATION_MARGIN_PERCENT	SPECIALITY	30	1	Speciality
PRODUCT_CLASSIFICATION_MARGIN_PERCENT	COMMODITY	0	2	Commodity

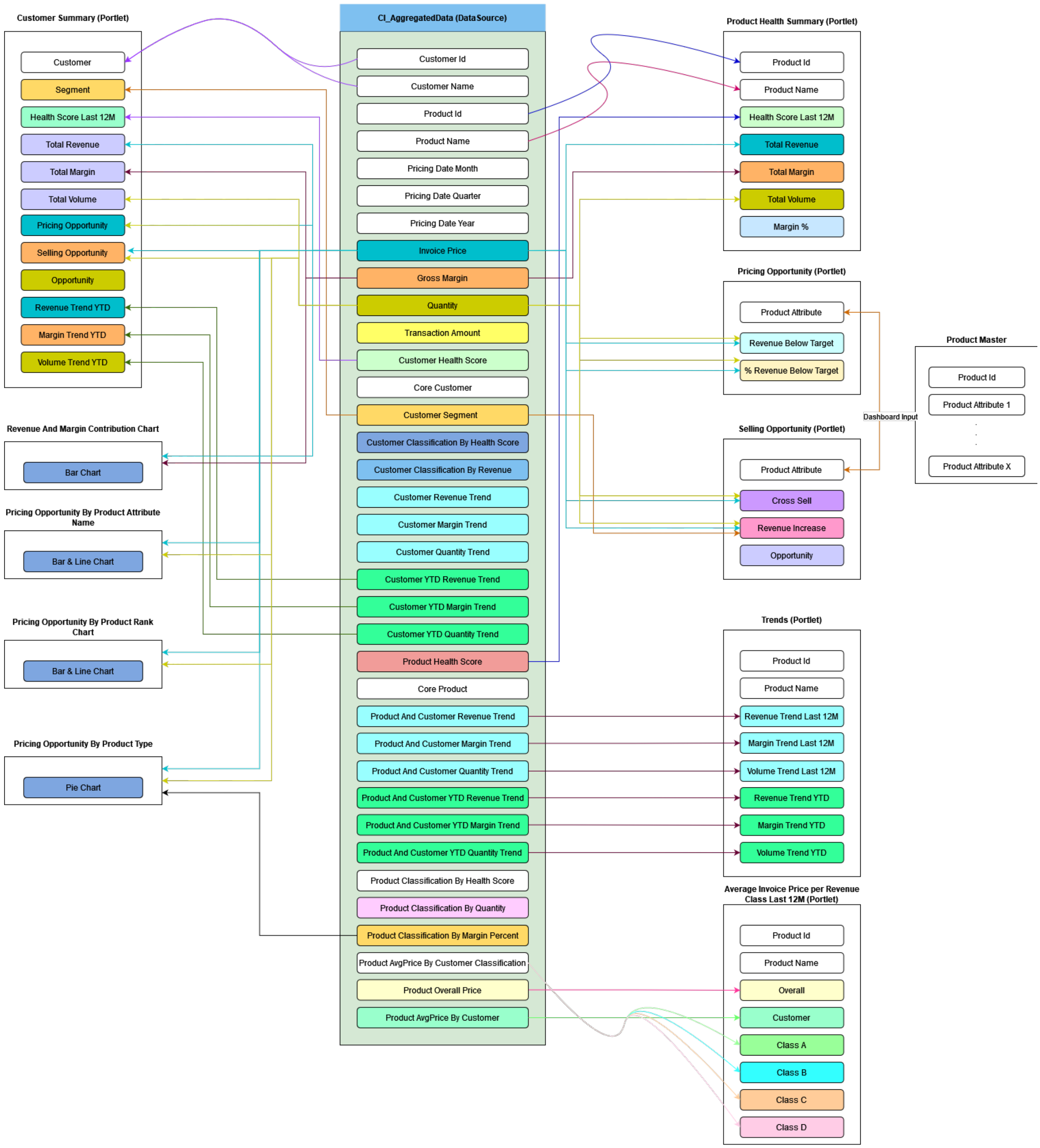
Customer Global View Dashboard



Customer Detail View Dashboard



Customer Product Portfolio Dashboard



Common Errors (Customer Insights)

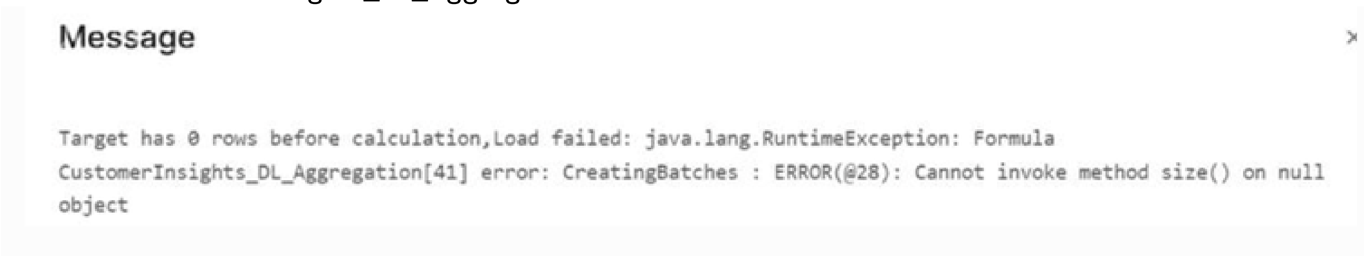
It is possible to encounter the following errors:

- Cannot invoke method size () on null object
- Load failed
- Deployment fail with error "Cannot sync data source with DataMart in PriceFx core!"

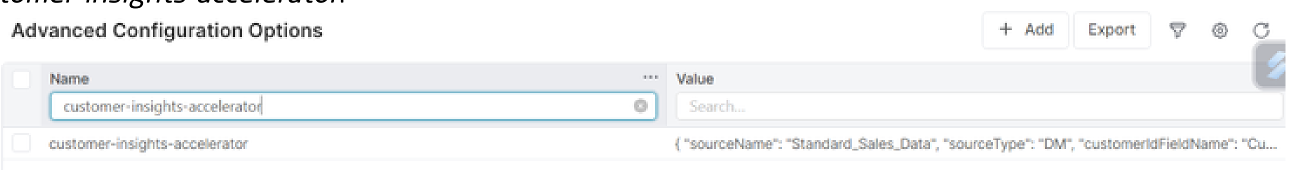
- Use cases related to Data Loads (high transactions)

Cannot invoke method size () on null object

- Where: CustomerInsights_DL_Aggregation



- Troubleshooting:
  - Make sure the mapping fields are correct - go to Advanced Configuration Options and search for *cus tomer-insights-accelerator*.



  - The columns DateMonth, DateQuarter, and DateYear must have data, they must not be empty because the logic reads data from these columns.

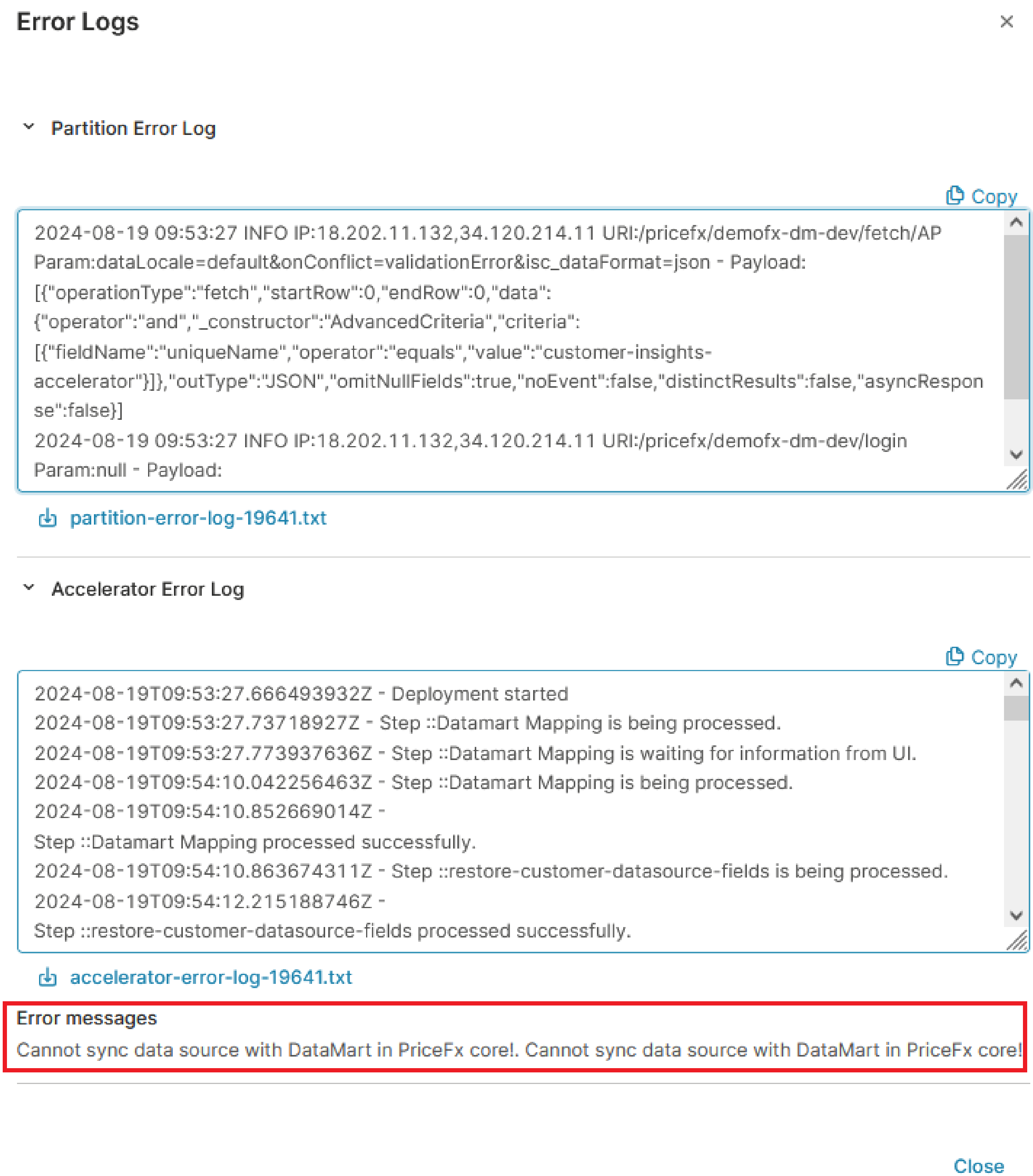
Load failed

- Where: CustomerInsights_DL_Aggregation

- Troubleshooting:
  - Increase the query thread pool in the partition which uses Customer Insights Accelerator (because dataload type = distributed_calculation is used and the logic does some queries. (For more details see the internal Pricefx Teams channel.)

Deployment fail with error “Cannot sync data source with DataMart in PriceFx core!”

- Where: deployment result of Platform Manager



- Troubleshooting:
  - Check the **Product** and **Customer** master metadata in your partition again to ensure that Product /Customer master columns (attributes) are not duplicated. An attribute name should not be the same as another attribute's name.
    - Example: attribute2 (of Product master) has name="attribute5" and attribute5 has a name (e.g: "Product class"), you should update name of attribute2 to be different with "attribute5".

- You can reproduce the error in the partition by going to the Product/Customer Data Source and clicking the **Sync Meta Data** button.
  - If successful, you should not see this error in PlatformManager anymore.

Use cases related to Data Loads (high transactions)

It may help to check out the following discussions in **internal Pricefx Teams** channel:

- Customer Insights Aggregation DL fails with a streamQuery time out
- Accelerators, we have installed Customer Insights Package for Sullivan and...
- Error during DL_Aggregation calculation

Glossary (Customer Insights)

This glossary summarizes various terms used in Customer Insights Accelerator.

Term	Description
Customer Health Score Product Health Score	Calculated based on the fields Revenue Trend Last 12 months and Margin Trend Last 12 months. The Revenue Health Score and Margin Health Score are set according to the Revenue and Margin monthly or quarterly change (trend) in the last 12 months (the maximum value is 100, the minimum value is 0) and to this classification: HealthScore_classification.xlsx *Example:* *Revenue Trend Last 12M = -19.23% => Revenue score = 25* *Margin Trend Last 12M = -18.84% => Margin score = 25* Health Score = Revenue Score * Revenue Weight + Margin Score * Margin Weight The weight value can be set (in the configuration in Price Parameters) between 0 and 1 for each (the default value is 0.5 for each); the summary of these two has to be equal to 1 (e.g. Revenue Weight = 0,5, Margin Weight = 0,5 => 0,5 + 0,5 = 1).

Customer Classification by Revenue

This category should be calculated based on last 12 months.

Calculation:

- Get sorted (Descending) sum of revenue per customer.
- Calculate **contribution** value of each customer = ∑Revenue of customer **/** ∑Revenue of all customers
- Calculate **cumulative** revenue contribution per customer.
- Assigns Customers into different classes based on cumulative revenue contribution for the last 12 months:

A ≤ 20%
B ≤ 50%
C ≤ 95%
D rest
The thresholds are configurable.

Example:

A	B	C	D	E
Customer Id	Invoice Price (SUM)	Contribution	Cumulative	Class by revenue
CD-00016	523,655	16.92%	16.92%	A
CD-00007	522,656	16.89%	33.81%	B
CD-00026	512,354	16.56%	=D3+C4	C
CD-00020	512,179	16.55%	66.92%	C
CD-00019	512,147	16.55%	83.46%	C
CD-00015	511,736	16.54%	100.00%	D

Product Classification by Volume

This category should be calculated based on last 12 months.

Calculation:

- Get sorted (Descending) sum of volume per product
- Calculate **contribution** value per product= ∑ Volume per product **/** ∑Volume per all products
- Calculate **cumulative** volume contribution per product.
- Assigns Products into different classes based on cumulative volume contribution for the last 12 months:

Very High Volume ≤ 10%
High Volume ≤ 20%
Normal Volume ≤ 75%
Low Volume rest

The thresholds are configurable.
Example:

Customer Id	Volume (SUM)	Contribution	Cumulative	Class by Volume
CD-00016	710	19.51%	19.51%	High Volume
CD-00007	650	17.86%	=D2+C3	Normal Volume
CD-00026	600	16.48%	53.85%	Normal Volume
CD-00020	590	16.21%	70.05%	Normal Volume
CD-00019	550	15.11%	85.16%	Low Volume
CD-00015	540	14.84%	100.00%	Low Volume

Product Type

Classification whether the product belongs to Commodity or Specialty, is based on Margin % = Margin Value / Invoice Price value (Margin field depends on your mapping field.)

	Commodity ≤ 40% Specialty > 40% The thresholds are configurable in the PP table. Make sure the value = ∑ Value of a product per all customers in the last 12 months (not per one customer). => We will have only one record to for Commodity, Specialty products based on the data for the last 12M. When select YTD, MTD etc., the chart will sort out products that have transactions in that period; if a product does not exist in that period of a customer, it will not count. E.g.: We have 30 products Commodity, 70 products Specialty in the last 12M. For customer X in YTD, only 50 products have transactions, 20 of them is Commodity, the rest is Specialty, so the chart will show this accordingly.
Cross Sell Opportunity	Formula = Average (Invoice) Price per Customer Segment and per period and for Products not bought by Customer *Example: Segment buys Product A, Product C and Product E, Customer A bought only Product A and Product E = > cross-sell would be an average Invoice Price of Product C per Customer Segment.* Customer Segment is defined in the configuration (Price Parameters) – a list of fields the segment consists of.
Revenue Increase	If Quantity per Product and Customer < average Quantity per Product and per Customer Segment, then: Formula = (average Quantity per Product and per Customer Segment - Quantity per Product and Customer) * average Price per Product and Customer If Quantity per Product and Customer > average Quantity per Product and per Customer Segment, then: Formula: Revenue Increase = 0 *Example: Customer Segment buys Product A in Average 500 quantity and Customer bought 350 quantity, then Revenue Increase = (500 – 350) * average Price per Customer. If Customer bought more than 500 quantity, then Revenue Increase = 0.* Customer Segment is defined in the configuration (Price Parameters) – a list of fields the segment consists of.
Selling Opportunity	= Cross Sell Opportunity + Revenue Increase
% Products buying	Formula = Number of Products buying in this period of a customer / Total of Products traded in this period * 100 *Example: With YTD, total 200 products are traded. Among of them, customer A buys 50 products.* % Products buying of customer A in YTD = 50/200 * 100 = 25 %

Revenue, Margin and Volume Trend Last 12 Months	First, the respective metric (revenue, margin or volume) is calculated for every single time unit. Customer level: time unit = month Product level: time unit = month The least-square approach is used to compute the trend. See the *Fitting a trend: Least-squares* section in the Linear trend estimation Wikipedia article. Formula: $\hat{a} = \frac{\sum_{i=1}^{n}(x_i-\overline{x})(y_i-\overline{y})}{\sum_{i=1}^{n}(x_i-\overline{x})^2}$

- **x** is the month number (like month 1 would be the first month in scope)
- **x** is the average month number
- **y** is the metric to consider, like margin
- **y** is the average metric to consider, like average margin

To convert the trend value â back to a percentage, the following formula is used: â / average (metric)

Periods with no transactions are considered to have zero revenue, margin, and volume, and are included in the trend computation.

Find the example in the the following attachment:

This calculation is used in the following portlets:

Portlets affected by this trend calculation change:

1. Global View:
   Customer Summary (Trends, Health Score)
   Customer Health Summary (Health Score)
   Trends (Trends)
2. Customer Detail View:
   Customer Summary (Trends, Health Score)
3. Customer Products Portfolio
   Customer Summary (Trends, Health Score)
   Trends (Trends)

	Product Health Summary (Health Score) Average Invoice Price per Customer Revenue Class Last 12M (Product Classification)
Revenue, Margin and Volume Trend YTD	Formula: The least-square approach is used (see the Last 12 Months computation above). This calculation is used in the following portlets: Portlets affected by this trend calculation change: 1. Global View: Customer Summary (Trends, Health Score) Customer Health Summary (Health Score) Trends (Trends) 2. Customer Detail View: Customer Summary (Trends, Health Score) 3. Customer Products Portfolio Customer Summary (Trends, Health Score) Trends (Trends) Product Health Summary (Health Score) Average Invoice Price per Customer Revenue Class Last 12M (Product Classification)
Number of Transactions	Total Transactions in a given period / Total days in a given period
Revenue Below Target	Average Invoice Price = Average Unit Invoice Price for the particular Product ID and particular Customer Segment Below Average Price = the particular Unit Invoice Price - Average Unit Invoice Price Revenue Below Target = if Below Average Price < 0 then Below Average Price * Quantity * (-1) else 0
% of Revenue below Target	Formula = Revenue Below Target / Revenue (calculated for Products with Revenue Below Target above zero)
Pricing Opportunity	= Revenue Below Target
Customer Segment	To group customers by common characteristics, the Customer Segment is defined in configuration (Company Parameters) – a list of fields the segment consists of, e.g. customer size, region, country etc. According to values aggregated on the Customer Segment level, certain KPIs for particular customers are calculated, e.g. cross sell.

Average Invoice Price per Customer Revenue Class Last 12M	 • (1) = ∑ Invoice Price of Product / ∑ Qty of Product (per customer Last 12M) -> In Simulation, this field is called "Product Avg Price By Customer" • (2) = ∑ (1) of Product Y of all customers in class A / Number of customers in class A that have product Y Do the same with class B, C , D. • (6) Overall per product = Average { (2),(3),(4),(5) }
Core Customers	Core: Customers having cumulative revenue contribution in the last 12M <= 80% (or by a PP) . Long tailed: The remaining Customers/Products having cumulative revenue contribution in the last 12M > 80% (or by a PP).
Core Products	Core: Products having cumulative revenue contribution in the last 12M <= 80% (or by a PP). Long tailed: The remaining Customers/Products having cumulative revenue contribution in the last 12M > 80% (or by a PP). • For Products this is calculated per Customer Segment (as per the Segment definition).
Projected Nr. of Transactions, Margin and Revenue *(for the next 3 months)*	Projected measure for the next 3 months (calculated as adjusted linear trend based on the first 3 months of the period). Calculation: • Projected measure for the particular month = linear trend for the particular month * Seasonality Adjustment • Seasonality Adjustment = (measure for the (particular month - 12 months)) / Average of the value for the last 12 months) • If the projected value is negative, then we return 0 instead. *measure = Number of Transactions, Margin or Revenue* Example of Revenue projection calculation: 

⚠️ Always make sure your data is complete. If, for example, the revenue data are missing, the following happens:
revenue value = 0
=>
Margin % = Margin/Revenue
=>
Margin % = null

Null values may then appear in the dashboards because the application cannot resolve missing data on its own.

Release Notes (Customer Insights)

Customer Insights Dashboard 1.9

Upgrade Notes

Configure Batching for Aggregated Data Load

Set up batching for Aggregation Data Load in the **Batching Dimension** field (**Analytics** > **Data Manager** > **Data Loads** > **Customer Insights Aggregation**, the **Calculation** tab).

Follow the steps described in the https://pricefx.atlassian.net/wiki/spaces/ACCDEV/pages/4523229845/Data+Flow+Customer+Insights#How-to-Configure-Batching-for-Aggregation-Data-Load article.

New Features and Improvements

Description	ID
Configurable batching has been introduced for the aggregation Data Load, allowing to customize batch sizes to better fit specific datasets and hardware configurations.	PFPCS-7190
The Customer Insights Data Load data processing is now limited to the last 12 months of transaction data to improve performance.	PFPCS-8476
The distributed `CI_AggregatedData` Data Load has been updated to require users to select a value in the Batch Dimension field before running the Data Load.	PFPCS-8730

Bugs

Description	ID
The *Revenue Breakdown* chart in the **Customer Detail View** dashboard does not display data when either *Last Revenue* or *Current Revenue* is equal to 0.	PFPCS-8734

Customer Insights Dashboard 1.8

New Features and Improvements

Description	ID
The trend calculation method has been changed: it is now based on the least-squares approach instead of the average of monthly changes.	PFPCS-8297

Customer Insights Dashboard 1.7

Upgrade Notes

New Company Parameter Table

This table allows users to configure Quote Type mapping for each portlet of the dashboards. When you select multiple products and click the “Create Quote” button in the dashboard, a new Quote with the corresponding Quote Type mapping will be created.

- Name: CI_QuoteType_Mapping
- Type: Matrix
- Value Type: Matrix 2
- Default data:

Dashboard Name	Portlet Name	Quote Type
Select Value	Select Value	Search...
CustomerInsights_CustomerProductsPortfolio	Trends	__DEFAULT__
CustomerInsights_CustomerProductsPortfolio	Pricing Opportunity	__DEFAULT__
CustomerInsights_CustomerProductsPortfolio	Selling Opportunity	__DEFAULT__

Manual Update of Logics

These logics should be added or updated:

CustomerInsights	Update
CustomerInsights_ProductPortfolio	Update
CustomerInsights_QuotingCreation	Add

New Features and Improvements

Description	ID
It is possible to create a new Quote directly from the dashboard, using products selected in the dashboard.	PFPCS-5913

Customer Insights Dashboard 1.7.1

Bugs

PFPCS-6624 Update CI deployment script to fix issue: removing Customer/Product data

Customer Insights Dashboard 1.7.2

This document summarizes major improvements and fixes introduced in the Accelerate Customer Insights release version.

Version	1.7.2
Release Date	Apr 5, 2023

Improvements

<table>
<tr><th>Description</th><th>ID</th></tr>
<tr><td>To allow for safe and convenient upgrades to the latest version, there is now “Customer Insights Package - Upgrade” package available.</td><td>PFPCS-6602</td></tr>
<tr><td>Documentation has been improved based on customer feedback.</td><td>PFPCS-6628</td></tr>
<tr><td>In the Detail view, “Product Base” filter is not passed after clicking “View Customer Products Portfolio”.</td><td>PFPCS-6643</td></tr>
<tr><td>Validation YTD value has been adjusted:
<table>
<tr><th>Revenue or Margin or Volume YTD value for the current year</th><th>Revenue or Margin or Volume YTD value for the last year</th><th>Current result</th><th>Expected result</th></tr>
<tr><td>Null or 0</td><td>(any value)</td><td>0%</td><td>-100%</td></tr>
<tr><td><0</td><td>Null or 0</td><td>100%</td><td>-100%</td></tr>
<tr><td>>0</td><td>Null or 0</td><td>100%</td><td>100% ✓</td></tr>
<tr><td>=0</td><td>Null or 0</td><td>0%</td><td>0% ✓</td></tr>
</table>
</td><td>PFPCS-6645</td></tr>
</table>

Customer Insights Dashboard 1.7.3

This document summarizes major improvements and fixes introduced in the Accelerate Customer Insights Dashboard release version.

Version	1.7.3
Release Date	May 22, 2023

Improvements

Description	ID
Increase all dashboard logic elements timeouts to 300.	PFPCS-6806

Bugs

Description	ID
Fix performance of Product Portfolio dashboard when loading.	PFPCS-6797

Customer Insights Dashboard 1.6

- Incompatibility with 1.5.0
- Upgrade Notes
- Bugs
- Change Requests
- Sub-tasks
- Tasks

Incompatibility with 1.5.0

Due to changes in PFPCS-5933 the Simulation object created in 1.5.0 will not be supported in this version. The main functionality is kept unchanged.

Upgrade Notes

Due to PFPCS-5933 there are several changes that need to happen during upgrade from 1.5.0 to 1.6.0. The changes are:

Note: Objects contents are available here:

- Add:
  - Data Source:
    - CI_AggregatedData

- Logics:
  - CustomerInsights_DL_Aggregation (Data Load logic)
  - Data Load:
    - DMDS.CI_AggregatedData
- Update:
  - Content of Advanced Configuration named “customer-insights-accelerator”
  - Logics:
    - CustomerInsights (Groovy library)
    - CustomerInsights_CF_Sequencer (CF logic)
    - CustomerInsights_DS_CustomerClassification (Data Load logic)
    - CustomerInsights_GlobalView (dashboard logic)
    - CustomerInsights_CustomerDetails (dashboard logic)
    - CustomerInsights_CustomerProductPortfolio (dashboard logic)
- Remove:
  - Simulation: CustomerInsights
  - Logic: CustomerInsights_Aggregation_Sim

Bugs

PFPCS-6308 Detail view: Customer summary portlet: displaying incorrectly

PFPCS-6294 Error when select filters of class

PFPCS-6274 Fix performance issue for Customer Product Portfolio dashboard

PFPCS-6254 Wrong field name of Data Source CI_AggregatedData

Change Requests

PFPCS-5933 Replace Simulation with another data source

Sub-tasks

PFPCS-6313 [Detail Dashboard] refactor api.local.xxx using to pass value to elements

PFPCS-6269 [Customer Product Portfolio] Update logics to make dashboard Customer Product Portfolio work with new data source

PFPCS-6268 [Customer Detail] Update logics to make dashboard Customer Detail View work with new data source

PFPCS-6184 Change/Update Calculation Flow to work with new Data Source

PFPCS-6183 [Customer Global] Update logic to make dashboard Customer Global work with new data source

PFPCS-6182 Update package-definition

PFPCS-6181 Update Simulation logic to data load logic

PFPCS-6138 Investigate Solution Change Simulation to Data Source using Data Load logic

PFPCS-4564 [Portfolio Dashboard] refactor api.local.xxx using to pass value to elements

PFPCS-4563 [Global View Dashboard] refactor api.local.xxx using to pass value to elements

Tasks

PFPCS-6271 Update logic CustomerInsights_DimensionFilter_Configurator based on new structure of Configuration

PFPCS-6265 Update DS Customer Classification logic to match with new structure Configuration

PFPCS-6251 Update structure of Configuration

PFPCS-4560 [Dashboard] refactor api.local.xxx using to pass value to elements

Customer Insights Dashboard 1.6.1

Bugs

PFPCS-6327 Data Load sometimes fails with errors. Use the api.getDatamartContext().streamQuery (batchQuery) function instead of the api.getDatamartContext().consumeData().

Customer Insights Dashboard 1.5

- Bugs
- Improvements
- Stories
- Sub-tasks
- Tasks

Bugs

PFPCS-5128 Portfolio: Customer Summary portlet: Opportunity value sum all regardless Product Rank = Top/Worst

PFPCS-5107 Portfolio: Some portlets not show full list products when size list < Product rank bucket

PFPCS-4963 Portfolio: Selling Opportunity: fields order change per filter values

PFPCS-4811 [Customer Product Portfolio] - Missing product when Product Rank = Top

PFPCS-4809 [Portfolio]: Pricing Opportunity By Product Type Chart: not count Top/Worst list

PFPCS-4379 Trend L12M & Projection chart: missing two bars

PFPCS-4373 Inactive Customers portlet: still show customers which have transactions in time period

PFPCS-4310 Tooltips display incorrectly in some charts

PFPCS-4272 Portfolio: Customer Summary: Opportunity value always sum "all" regardless product rank selection

PFPCS-4266 [Portfolio Dashboard] Wrong data on Pricing Opportunity By Product Rank chart

PFPCS-4231 Portfolio: Opportunity values, Revenue Below target are incorrect when select Product Class /Health Score

PFPCS-4230 Global View: Opportunity values, Revenue Below target are incorrect when select customer Class/Health Score

PFPCS-4216 [Portfolio Dashboard] Wrong Pricing/Selling Opportunities on Customer Summary Portlet

Improvements

PFPCS-5373 Customer Product Portfolio View: Pricing Opportunity By Product Type Chart and Pricing Opportunity By Product Attribute Chart - Update tooltip label

PFPCS-5372 Customer Product Portfolio View: Update tooltip label

PFPCS-5183 Detail View: add total volume into High Volume vs Low Volume Products portlet hint

PFPCS-4743 Detail View: Allow to override the mapped parameters with filters

PFPCS-4493 Allow drill-down in pie charts

PFPCS-4492 Allow columns sorting for all tables

PFPCS-4375 Update CustomerInsights.GlobalViewDashboardParameter and Global View Dashboard logic

PFPCS-4374 Update CustomerInsights.CommonDashboardParamater

PFPCS-4198 Dashboards order in label

Stories

PFPCS-5523 Add detailedDescription to steps.json mentioning that deploying SIP is mandatory

PFPCS-5442 Data tab in chart-based portlets

PFPCS-5427 Mixpanel tracking for CIP - dashboard view

PFPCS-4119 Core Customers/Products

PFPCS-4118 Inactive Customers

PFPCS-4117 Only Top, Worst or all the Customer/Products are displayed in dashboards

Sub-tasks

PFPCS-4566 Move duplicated functions for drilldown chart in 3 dashboard to Common in library

PFPCS-4557 [Global View] Allow drill-down in pie charts

PFPCS-4555 [Product Portfolio] Allow drill-down in pie charts

PFPCS-4214 Add new inputs on Customer Product Portfolio View dashboards

PFPCS-4213 Add new inputs on Customer Detail View dashboards

PFPCS-4212 Add new inputs on Customer Global View dashboards

PFPCS-4211 Add new process for Customer Core in Simulation

PFPCS-4210 Add new process for Product Core in Simulation

PFPCS-4124 Add new inputs on Customer Products Portfolio dashboards

PFPCS-4123 Add new inputs on Customer Global View dashboard

PFPCS-4122 Change Top/Worst Customers and Top/Worst Products

Tasks

PFPCS-5617 Update Element Doc and Method docs for dashboard logics

PFPCS-5606 Hide warnings for all the portlets

PFPCS-5432 Detail View, Portfolio: Customer Input mandatory

PFPCS-5431 Deployment step: Add the text noting the importance of having SIP deployed first

PFPCS-5377 Should remove date string in logic folder name

PFPCS-5206 Update document about new object in CID as: Datasource “CI Customer Insight” and CF

PFPCS-4960 Global View: Pricing Opportunity - incorrect KPI label

PFPCS-4607 Update return structure function of CustomerSegmentUtils.getCustomerSegment()

PFPCS-4599 [Global View Dashboard] Update Inactive Customers Portlet

PFPCS-4598 Add CF logic to handle dataload and simulation schedule

PFPCS-4585 CI_CustomerClassification DS

PFPCS-4569 Update Map keys in CustomerInsight.Configuration to camelCase

PFPCS-4275 [CID] Logic to get Top and Worst list with bucket to show on tables

PFPCS-4199 Reformat all code

Customer Insights Dashboard 1.5.1

Bugs

PFPCS-5718 Address the division-by-zero cases in logic

Customer Insights Dashboard 1.4

Improvements

PFPCS-3693 Add DISTINCT into SQL

PFPCS-3674 Mapped Customer parameter for Detail View

PFPCS-3669 Detail View > Revenue and Margin > No-data indication

PFPCS-3656 Summary portlets - no data indication

PFPCS-3655 Detail View - Waterfall - no-data indication

PFPCS-3628 Update Get currency of Datamart

PFPCS-3530 Customer segment PP - more effective default setting

PFPCS-3525 Update deployment script for customer insight

PFPCS-3474 Dashboards labels adjustment

PFPCS-3404 Detail View - Revenue Breakdown - no-data indication

PFPCS-3403 Create some wrapper for SummaryPortletUtils.initTableItem()

PFPCS-3350 [Simulation] Update some elements to improve performance

PFPCS-3348 [Simulation] Update cache in some elements and function to improve performance

PFPCS-3337 [Simulation] Update SQL for Customer Classification by Revenue and Product Classification by Volume

PFPCS-3322 [Simulation] Update element GetProductAvgPriceByCustomer And ProductAvgPriceByCustomer

PFPCS-3300 Multiple sources for Customer segment

PFPCS-3298 [CID] add into Simulation more field ProductClassificationByHealthScore.

PFPCS-3238 Charts > Add 1000 separator to displayed number

PFPCS-3203 Product Portfolio - Health Score filter

PFPCS-3202 Detail View - Health Score filter

PFPCS-3199 Global View - Health Score

PFPCS-3198 Product Portfolio - Product Class filter

PFPCS-3197 Detail View - Product Class filter

PFPCS-3196 Global View - Customer Class filter

Tasks

PFPCS-3489 [Simulation] Update parameter structure based on solution as dashboard

PFPCS-3438 Detail View - Update waterfall chart in CID because SIP_Dashboards_commons had been changed

PFPCS-3410 [CID] typo in the element name "CustomerProductPortfolioDahboardUtils"

PFPCS-3355 Split Calculation element in CustomerInsights library into 3 sub-elements

PFPCS-3338 Detail View > Pass values in new filters to Portfolio dashboard

PFPCS-3280 [Customer Detail View] Check changes in SIP_Dashboards_commons and update for CID PFPCS-3256 Check whether it's possible to move certain calculations to SQL

PFPCS-3177 The InputParams solution: new structure

PFPCS-3053 Redesign Customer Segment PP Table

Bugs

PFPCS-3699 Detail View > Waterfall chart display value when no data

PFPCS-3386 Total number values in tables should be integer

Customer Insights Dashboard 1.4.5

Bugs

PFPCS-4284 [Simulation] wrong calculation of YTD Trends

Customer Insights Dashboard 1.3

Bugs

- [PFPCS-3003] - Hotfix- Portfolio_ Average invoice price table
- [PFPCS-3086] - [Detail View]> Chart > Nr. of Transaction trend last 12M& projection: Number of transactions is incorrect
- [PFPCS-3137] - [Detail View] > Customer Summary > Remove "YTD" in Total revenue/margin/volume
- [PFPCS-3140] - [Portfolio] > Chart > Pricing Opportunity by Product Type > Tooltip> Not show % value
- [PFPCS-3142] - [Detail View] > Waterfall > Not show data like SIP
- [PFPCS-3157] - [Portfolio] > Table: Selling Opportunity > Column: Opportunity > Not show value
- [PFPCS-3172] - [Customer Product Portfolio]Error in Tooltip of Revenue And Margin Contribution chart
- [PFPCS-3213] - Detail View > Customer Summary > Segment does not display
- [PFPCS-3232] - Global View > Pie charts > Avg. Margin % is incorrect

Tasks

- [PFPCS-3013] - Update document for new version 1.3
- [PFPCS-3059] - Create generator for process of table
- [PFPCS-3077] - Group some constants in library
- [PFPCS-3094] - [CID] Remove some unused variables and methods
- [PFPCS-3096] - [Product Portfolio] > Tables: Selling Opportunity & Pricing Opportunity > Show top products
- [PFPCS-3104] - [CID] Rename function DataTable.setTopWorstData to DataTable.setData
- [PFPCS-3124] - [Customer Global View] update URL in CustomerSummary portlet get from constant
- [PFPCS-3126] - [CID] move some string to Constant
- [PFPCS-3127] - [CID] Update some variable names
- [PFPCS-3193] - [CID] add "setup Simulation" step into deployment Script
- [PFPCS-3201] - Add Unity preferences from QA to package
- [PFPCS-3225] - [Customer Global View] Change color setting from Constant of SIP to Dashboard of CID

Improvements

- [PFPCS-2769] - Refactor code base on Code review
- [PFPCS-2876] - [Customer Detail View] Data of Waterfall chart should be queried from DM, not query from Simulation
- [PFPCS-2878] - Update currency code and symbol in Chart
- [PFPCS-3012] - [Customer Product Portfolio] Update/refactor chart "Revenue And Margin Contribution"
- [PFPCS-3215] - Detail View, Portfolio > Customer Summary > Remove "s" in label "Customers"

Stories

- [PFPCS-3006] - Consistency for values in Average Invoice Price table

Customer Insights Dashboard 1.2

New Features

- [PFPCS-2766] - [Customer Global View] Add more Customer Summary portlet
- [PFPCS-2767] - [Customer Product Portfolio] Add Customer Summary portlet

Improvement

- [PFPCS-2930] - [Customer Detail View] Change the summary portlet

Bugs

- [PFPCS-2908] - [Detail View_Summary] Category row should be hidden if no value selected
- [PFPCS-2912] - [Customer Summary portlet]_Trend symbol is incorrect
- [PFPCS-2972] - [Customer Product Portfolio] Total Revenue/Margin/Volume in Summary portlet should be calculated based on time filter

Customer Insights Dashboard 1.1

Bugs

- [PFPCS-2722] - [Chart Pricing Opportunity by Product Attribute]_No spacing between words
- [PFPCS-2729] - Trend L12M is inaccurately for those products that data exists in just one quarter
- [PFPCS-2744] - [CID] Hotfix Preferences for Customer Insights Dashboards on Unity mode

Tasks

- [PFPCS-2564] - Write document for CIDs Introduction
- [PFPCS-2742] - [CID] Do release activities for version 1.1.0

Improvements

- [PFPCS-2568] - Customer Summary _Not display null/zero when no data exist
- [PFPCS-2569] - Update list value in Category in dashboard input
- [PFPCS-2574] - Support change label of some params configured in PP
- [PFPCS-2590] - Rename column "Field Name" in PP "PFXTemplate_CustomerInsights_Customer_Segment" to "Source Field"
- [PFPCS-2610] - Customer Summary portlet_ Little updates
- [PFPCS-2634] - [Customer Global View] add click-through from the Trends table
- [PFPCS-2643] - Update: using sourceField to match data between Product master and Product datasource
- [PFPCS-2652] - Update some points in charts and table
- [PFPCS-2656] - Update The Health Score calculation
- [PFPCS-2689] - [Simulation] Support multi order type of classification ranges
- [PFPCS-2708] - [dashboard] Using constants defined in library

- [PFPCS-2709] - [Customer Detail View] Should round before pass value to function api.formatNumber
- [PFPCS-2713] - [Customer Product Portfolio] Product Attribute should show label Translations
- [PFPCS-2715] - Should use key label in configuration PP to show in KPI dropdown list
- [PFPCS-2716] - Should use key label in configuration PP to show in Timefilter dropdown list
- [PFPCS-2726] - CID update default Preferences for dashboards

Customer Insights Dashboard 1.0

New Features

- [PFPCS-1717] - Potential by Product Attribute
- [PFPCS-2328] - Open a new dashboard in a new web browser tab
- [PFPCS-2400] - [Customer Product Portfolio]_Adding Product Health Score
- [PFPCS-2402] - [Customer Product Portfolio]_ new table: Cross-Sell and Up-Sell Opportunity
- [PFPCS-2445] - [Customer Global View]_ new table: Cross-Sell and Up-Sell Opportunity

Stories

- [PFPCS-16] - Customer Insight Dashboard
- [PFPCS-419] - Aggregated Datamart for YTD data
- [PFPCS-689] - Documentation - Aggregated Datamart
- [PFPCS-690] - Documentation - Dashboard Configuration
- [PFPCS-1203] - Data Pre-processing
- [PFPCS-1204] - Customer Insights - Customer Details
- [PFPCS-1306] - Update Customer Revenue And Margin Trend Last 12M & Projection chart
- [PFPCS-1370] - Customer Insights - Global View
- [PFPCS-1418] - Customer Insights - Customer Products Portfolio

Tasks

- [PFPCS-1075] - Manage Sonar bugs and code smells on Customer Insights
- [PFPCS-1113] - Update Product DM in QA partition
- [PFPCS-1117] - Update Sales standard data DS in QA partition
- [PFPCS-1718] - Trend symbols
- [PFPCS-1743] - Adjust [End date] for time filters
- [PFPCS-1812] - Upload new data in 2020
- [PFPCS-1837] - Should check null value in operator of DashboardUtils element in Customer Detail View
- [PFPCS-2030] - Create guideline how to configure Customer Insights Dashboard
- [PFPCS-2365] - Setup autopublishing for CID package
- [PFPCS-2395] - Create document for CIDs introduction
- [PFPCS-2536] - [CID] Create deployment script
- [PFPCS-2539] - [Portfolio] Pricing Opportunity by Worst Products should be hidden by default
- [PFPCS-2558] - Fix release package-remove gitignore

Improvements

- [PFPCS-1032] - Code Improvement from Sonar
- [PFPCS-1067] - Show customer Id, customer name under the title of embedded dashboard
- [PFPCS-1194] - Double bar graph in embedded charts
- [PFPCS-1432] - Rename label "FieldName" to "Dimension Filter"
- [PFPCS-1451] - Consistent Start and End Date for processing
- [PFPCS-1490] - Consistent name for portlet header and chart

- [PFPCS-1509] - Change configuration.RevenueFieldName to configuration.InvoicePriceFieldName
- [PFPCS-1518] - Display percentage for trend value L12M
- [PFPCS-1526] - Move calculation for potential to Simulation logic
- [PFPCS-1527] - Update logic to get Potential for Global View dashboard
- [PFPCS-1558] - Refactor element "GetTopCustomers" of Customer Global view
- [PFPCS-1565] - Fix some sonar bugs in customer detail view dashboard
- [PFPCS-1578] - Move some common inputs to libs
- [PFPCS-1627] - Fix some sonar bugs
- [PFPCS-1633] - Adding Unknown field to Cross Selling Opportunity table (Portfolio)
- [PFPCS-1683] - Classes into Data Filter (Category)
- [PFPCS-1726] - Product attributes input should get dimension attributes
- [PFPCS-1727] - Rename "Buying Frequency" to "Number of transactions" in all dashboard
- [PFPCS-1731] - Should set sortBy and list of attributes in function api.stream
- [PFPCS-1805] - Formatting label
- [PFPCS-1811] - Update waterfall chart structure from AP setting
- [PFPCS-1842] - Tooltips improvement - Revenue and margin trends & projections chart
- [PFPCS-1847] - Change solution from memoryDB to non-memoryDB
- [PFPCS-1907] - Correct value on Opportunity table of Portfolio dashboard
- [PFPCS-1916] - Just show max 100% in axis of chart
- [PFPCS-1917] - In Dimension filter, if change value of "Category" field, old value of "Value" field should be reset to null/empty
- [PFPCS-1979] - Hiding 0 value in table Potential by Product Attribute
- [PFPCS-1992] - Change arrow to fix problem on Unity and visible dashboard input items in portlet selection
- [PFPCS-2019] - Remove items as: ROWID and Scenario in Dimension Filter - Category
- [PFPCS-2020] - Show "no data" in case no customer is selected
- [PFPCS-2021] - Customer Detail View - Customer Revenue and Margin Trend & Projection - Change labels
- [PFPCS-2022] - Global View - Pricing Opportunity: Change color for top/worst group
- [PFPCS-2023] - Customer Detail View - Number Of Transaction Trend & Projection - Change labels
- [PFPCS-2025] - Set display mode is 'Never' for some elements in Simulation logic
- [PFPCS-2042] - Regression line should be a line in chart
- [PFPCS-2057] - Improve performance of simulation logic
- [PFPCS-2058] - Improve performance of customer product portfolio dashboard
- [PFPCS-2076] - Improve performance of some elements in simulation logic
- [PFPCS-2221] - Add Customer Segment to Simulation
- [PFPCS-2237] - Customer Global View: Merge other metric process to SQL (in the same with X-sell/Up-sell/RevenueBelowTarget
- [PFPCS-2264] - Support multitype source to get customer segment
- [PFPCS-2282] - [Customer Product Portfolio] Update list value of Product attribute in Potential By Product Attribute table match with Opportunity table
- [PFPCS-2286] - [Customer Global View] Remove Sorted element
- [PFPCS-2288] - Update UI_Revenue and Margin Contribution chart
- [PFPCS-2305] - [Customer Product Portfolio] Should use api.local to pass return value in element "GetDataForPotentialPerProductAttribute"
- [PFPCS-2318] - [Customer Product Portfolio] Update logic of element GetTopAverageInvoicePriceByCustomerClassData to improve performance
- [PFPCS-2456] - [Simulation] refactor simulation logic
- [PFPCS-2500] - Change format number in charts and tables
- [PFPCS-2501] - Update label and default value of DataFilter
- [PFPCS-2502] - [Customer Global View] Pricing Opportunity and Opportunity table - Just show the WORST customers

- [PFPCS-2503] - [Customer Detail View] View some value on click-through portlet
- [PFPCS-2508] - [Customer Detail View] Update regression value in charts
- [PFPCS-2512] - [Customer Detail View] - Customer Summary portlet- Adding more info
- [PFPCS-2513] - [Portfolio] – Revenue Below Target by Product Group chart – change name to Pricing Opportunity by Product Group.
- [PFPCS-2514] - [Global View and Portfolio] – the Health tables: all the Last 12 M and YTD trends will be in removed from Health table and moved to a new table Trends.
- [PFPCS-2515] - [Simulation] Customer Segment- adding separator in between the particular items
- [PFPCS-2519] - [Portfolio] – rename "Revenue Below Target" to "Pricing Opportunity"
- [PFPCS-2528] - [Customer Detail View] - Customer Summary portlet- Adding more info
- [PFPCS-2529] - Opportunity tables in Global and Portfolio – Please rename to Selling Opportunity

Sub-tasks

- [PFPCS-672] - Embedded Waterfall Chart
- [PFPCS-681] - Embedded Breakdown Revenue Chart
- [PFPCS-682] - Embedded Revenue and Margin Chart
- [PFPCS-693] - Reporting hierarchy configurable
- [PFPCS-694] - Customer health score Calculation
- [PFPCS-695] - Buying Frequency Calculation
- [PFPCS-713] - Create TDD4C for Embedded Waterfall Chart
- [PFPCS-824] - Adding label to show the chosen Customer ID or Product Group in all Charts
- [PFPCS-887] - Cross Selling Opportunity
- [PFPCS-944] - Adding Waterfall chart with percentage value
- [PFPCS-1109] - Set up Simulation to run automatically
- [PFPCS-1136] - Adding message to the chart when no data exist
- [PFPCS-1137] - Update attribute in PP Report Hierarchy to define the element we want to disable
- [PFPCS-1154] - Comparing data between periods
- [PFPCS-1176] - Rename element and method to CustomerInsights instead of CustomerInsight
- [PFPCS-1189] - Adding Volume trend into Customer Health Score
- [PFPCS-1374] - Add Pricing Opportunity table as old DB
- [PFPCS-1375] - Apply Dashboard Library into this dashboard
- [PFPCS-1389] - Add more item in time filter 'last 12 months' to compare with 12 months before
- [PFPCS-1408] - Apply Dashboard libs to existed chart in Customer Detail View
- [PFPCS-1409] - Add Revenue Breakdown to customer Detail View
- [PFPCS-1410] - Add Waterfall Chart to customer Detail View
- [PFPCS-1411] - Add Revenue and Margin per Quarter to Customer Detail View
- [PFPCS-1421] - Add more 2 items in time filter
- [PFPCS-1422] - Add Pricing Potential table
- [PFPCS-1425] - Update logic classification for customer base on new update
- [PFPCS-1452] - Refactor code for Customer Global View based on new structure data from Pre-Process
- [PFPCS-1463] - Calculate Trend L12M based on dynamic months
- [PFPCS-1475] - Update charts based on new changes of Highchart libs
- [PFPCS-1478] - Add Cross Selling Opportunity Table
- [PFPCS-1479] - Add Average Invoice Price table
- [PFPCS-1480] - Add Potential per product type Table
- [PFPCS-1481] - Add Potential per product table
- [PFPCS-1482] - Add Bar & line chart showing Potential
- [PFPCS-1483] - Add Customer Dashboard Portfolio Dashboard Inputs
- [PFPCS-1535] - Add Pie chart showing sum of Potential and % of Total Potential per product type
- [PFPCS-1588] - Set default value for List of Product Attribute is "Product Group"
- [PFPCS-1628] - Add if statement braces
- [PFPCS-1629] - Add type for Constant in CustomerInsights.Constant

- [PFPCS-1699] - Revenue and Margin Contribution chart
- [PFPCS-1830] - Update Calculation of Customer Health Score
- [PFPCS-1831] - Update calculation of Revenue/Margin/Volume trend last 12M
- [PFPCS-1832] - Add calculation of Revenue, Margin and Volume trend YTD
- [PFPCS-1833] - Update calculation of Cross-Sell Opportunity - Global View
- [PFPCS-1834] - Update calculation of Revenue below target
- [PFPCS-1840] - Calculation for Cross-Sell Opportunity - Customer Product Portfolio
- [PFPCS-1846] - Up-sell will be part of the Cross Selling Opportunity table which will be renamed to Opportunity
- [PFPCS-1936] - Change solution from memoryDB to non-memoryDB In Simulation logic
- [PFPCS-1937] - Change solution from memoryDB to non-memoryDB In Customer Global View Dashboard
- [PFPCS-1938] - Change solution from memoryDB to non-memoryDB For Revenue Breakdown chart In Customer DetailView Dashboard
- [PFPCS-2284] - Add more CustomerId parameter for some functions
- [PFPCS-2406] - Change Revenue Below Target = Potential calculation
- [PFPCS-2407] - Change % Revenue Below Target calculation
- [PFPCS-2408] - Change Pricing Opportunity table
- [PFPCS-2416] - Add Product Health Score into Simulation

Change Requests

- [PFPCS-1685] - Top/worst sorting not working properly
- [PFPCS-1692] - Add Margin to the Customer Revenue Trend and Projection chart
- [PFPCS-1693] - Average Invoice price per the relevant customer into Average Invoice Price table
- [PFPCS-1714] - Merge Customer Health Score table with Customer Insight Summary table
- [PFPCS-1715] - Potential By Product table - new columns and rename
- [PFPCS-1778] - Calculations updates
- [PFPCS-1781] - Linear trends & projections - seasonality adjustment
- [PFPCS-2124] - Update Cross Sell calculation
- [PFPCS-2326] - [Customer Product Portfolio]- Rename Opportunity table
- [PFPCS-2327] - [Customer Product Portfolio] - Product Health Summary table - revert top/worst
- [PFPCS-2401] - Update formulas for % Revenue Below Target
- [PFPCS-2404] - [Customer Product Portfolio]_Remove some Potential portlets
- [PFPCS-2405] - [Customer Product Portfolio]_ Change Pricing Opportunity table and Revenue below target
- [PFPCS-2424] - [Customer Global View]_ Change location click through " to Product Portfolio"
- [PFPCS-2429] - [Portfolio] Change "Potential" to "Revenue Below Target" for 2 charts: "Potential Worst Products Chart" and "Potential Tops Products Chart"
- [PFPCS-2446] - [Customer Global View]_ Change Revenue below target
- [PFPCS-2447] - [Customer Global View]_ remove fields in Pricing Opportunity table
- [PFPCS-2448] - [Customer Global View]_remove table Pricing Potential

Bugs

- [PFPCS-796] - Customer Insight Summary: % Margin is not calculated exactly
- [PFPCS-806] - Error (@13) cannot get property "ProductMapCurrentime" on null object when Time Dimension = MTD or QTD
- [PFPCS-808] - Error (@74) occurs when choosing a single Customer ID
- [PFPCS-829] - Incorrect cross-sell calculation
- [PFPCS-834] - Customer ID does not display with revenue = 0
- [PFPCS-835] - Export data in Unity UI does not keep filtering for country
- [PFPCS-865] - Buying frequency is incorrect

- [PFPCS-888] - Margin trend last 12M is incorrect
- [PFPCS-889] - Revenue trend last 12M is incorrect
- [PFPCS-901] - Missing trend arrow
- [PFPCS-902] - Error on clicking Customer ID has no data
- [PFPCS-1065] - Error (@76) for PricingOpportunityAnalyst
- [PFPCS-1066] - Error(@0) for CustomerHealthScoreAnalyst
- [PFPCS-1112] - Incorrect Product Group in Cross Selling Opportunity
- [PFPCS-1114] - Revenue and Margin % chart show wrong value and month format
- [PFPCS-1147] - Incorrect Price Opportunity
- [PFPCS-1153] - Customer Health Score does not show with an input Customer ID
- [PFPCS-1170] - Excel format is incorrect at fields have trending arrow
- [PFPCS-1181] - Error (@0) when opening the dashboard
- [PFPCS-1188] - Misspelled name in Waterfall chart
- [PFPCS-1423] - Cross Sell Opportunity is not calculated (Global View)
- [PFPCS-1440] - Counting for Customer classification (per Revenue) is incorrect
- [PFPCS-1484] - Edit chart label (Global View)
- [PFPCS-1485] - Error (@63) occurs when no data exists in Detail View
- [PFPCS-1488] - Customer (s) filter does not work (Global View)
- [PFPCS-1519] - Inconsistent name chart in Detail view
- [PFPCS-1547] - Trend charts display incorrect (Detail View)
- [PFPCS-1549] - Category filter runs incorrect (Detail View)
- [PFPCS-1570] - Incorrect calculation in Revenue Breakdown chart
- [PFPCS-1589] - Error (@621) Ambiguous method overloading (Detail View)
- [PFPCS-1594] - Local Adjustment does not show detail in waterfall chart
- [PFPCS-1607] - Error when removing default or leaving blank in Time Filter
- [PFPCS-1622] - Some fields in Cross Sell Opportunity table are incorrect (Product Portfolio)
- [PFPCS-1678] - Check Zero when calculation AvgPrice in function Classification.calculateAvgPrice
- [PFPCS-1725] - Should check null in some functions of CustomerInsights libs
- [PFPCS-1744] - Ranking is incorrect by KPI = Health Score (Global view)
- [PFPCS-1818] - Filter MTD and QTD do not work in Product Portfolio DB
- [PFPCS-1946] - [Product Portfolio]_ Product Trend YTD is incorrect when no customer selected
- [PFPCS-1998] - Global View_Customer input should not affect to calculation
- [PFPCS-2002] - Average Revenue segment should be calculated on Customer Revenue
- [PFPCS-2009] - % Product Buying_ total of traded products should be changed by Category filter
- [PFPCS-2247] - Customer Product Portfolio dashboard - chart "Revenue And Margin Contribution" show null in drilldown
- [PFPCS-2271] - Portfolio_Cross Sell only shows for products bought (not bought is not shown)
- [PFPCS-2287] - [Customer Product Portfolio] There is an error as attached picture
- [PFPCS-2439] - Health score should get decimal or rounding
- [PFPCS-2458] - [Portfolio] doesn't show "Revenue Below Target By Product Type" chart for some case
- [PFPCS-2461] - [Customer Global View] Pricing Opportunity table, if the Revenue below Target = 0 then % Revenue below Target should be 0%.
- [PFPCS-2467] - [Portfolio] Update formulas for Average Invoice Price = Average Unit Invoice Price for the particular Product ID and particular Customer Segment
- [PFPCS-2489] - [Global View]_ % Product Buying is incorrect
- [PFPCS-2492] - [Portfolio]_Top/Worst Products in chart should be ranked like Top/Worst Customers in Global View
- [PFPCS-2521] - [Detail View] _Remove "per Day" in chart for Transactions trend last 12M
- [PFPCS-2530] - Trend arrow displays incorrectly
- [PFPCS-2565] - [Detail View]_Error (@282) when no data to display