Accelerate Sales Insights Package

Version 1.5.1

April 2021

Accelerate Sales Insights Package 1.5.1

This package helps you get started with the analytical capabilities of Pricefx. It allows you to set up all necessary data structures to be able to start quickly analyzing sales data - with minimum effort and limited requirements for the initial data set.

Setup

To set up this package, go to the Marketplace in PlatformManager and select 'Sales Insights'. You will be guided through several steps in which you upload all information needed to make the package work (such as products, customers and transactions). The system then automatically adds exchange rates and conversion factors for different units of measures. As a result, you get an initialized PriceAnalyzer module with an initial set of dashboards.

Included Dashboards

- Default Filters 1.5.1
- Waterfall Dashboards 1.5.1
- Revenue and Margin Dashboard 1.5.1
- Regional Revenue and Margin Dashboard 1.5.1
- Revenue Breakdown Dashboard 1.5.1
- Margin Breakdown Dashboard 1.5.1
- Outliers Dashboard 1.5.1
- Causality Dashboard 1.5.1
- Sales Insights Package Release Notes 1.5.1

Required Data Set

Data Table	Mandatory Data	Optional Data
Products	• Product Id • Product Label	Up to 30 custom product attributes

Customers	• Customer Id • Customer Name	Up to 30 custom customer attributes
Sales Data (Transactions)	• Unique Id • Product Id • Customer Id • Pricing Date • Invoice Price • Gross Margin • Quantity	• Customer Id • Currency • UoM For additional waterfall fields, refer to the waterfall dashboard.

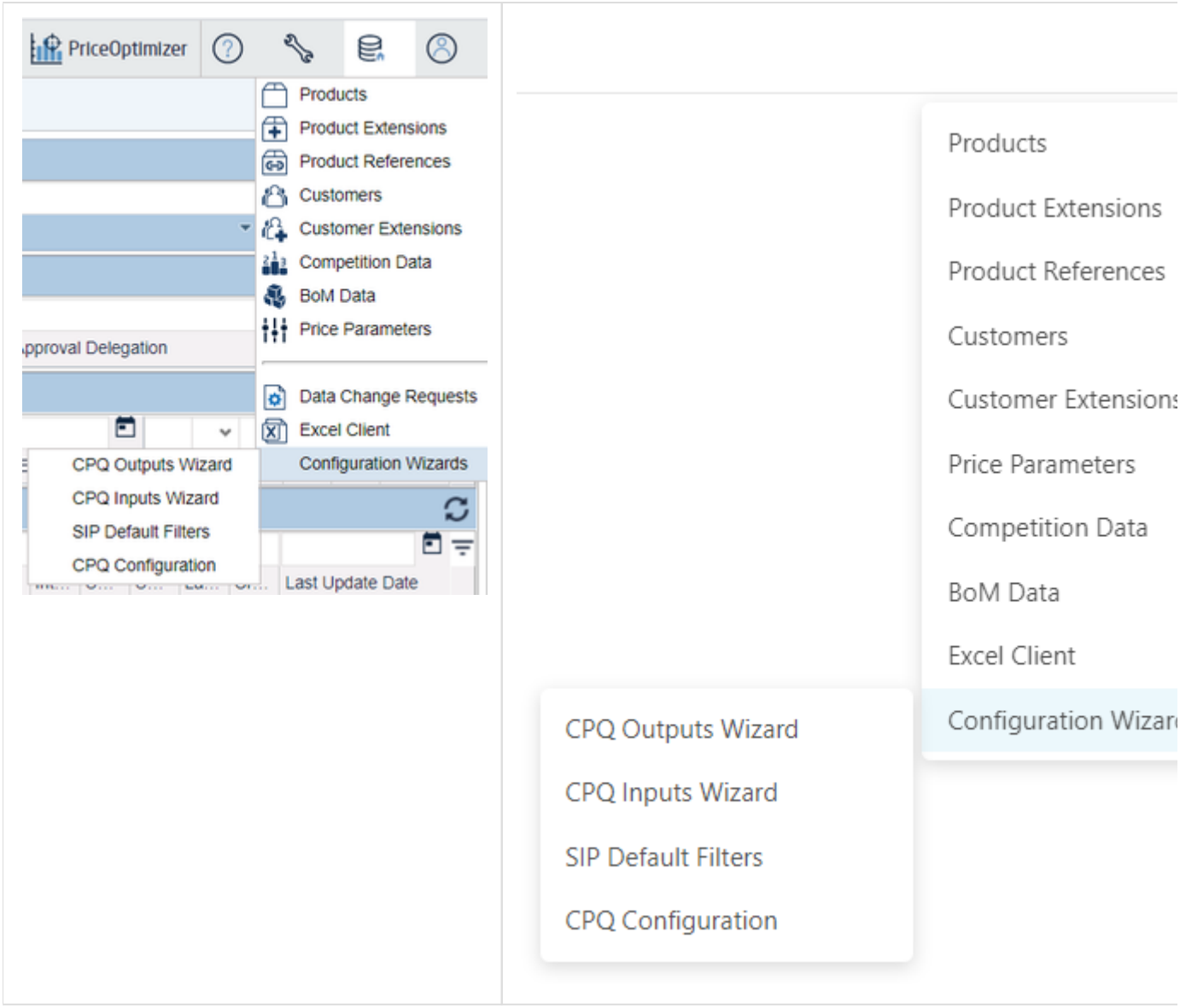
Default Filters 1.5.1

Default Filters configurator wizard allows you to set up inputs that will be used during the initial load of a dashboard.

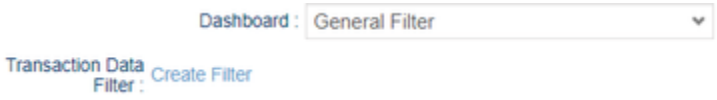
> Please note that currently there is an issue: the default values from the configurator wizard are not applied on the initial run of the dashboard. To display correct values, you need to refresh the dashboard after the initial launch.

The SIP Default Filters configurator wizard can be found here:

Classic	Unity



Generic Filter Configurator

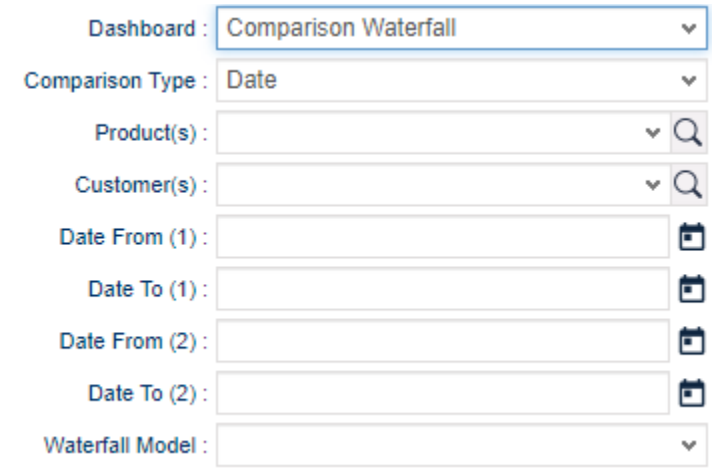


This configurator allows you to set up the generic filter input that is used in all of the dashboards. It is handy when you need to set up the data region to e.g. Europe for European customer so that they see only the relevant data.

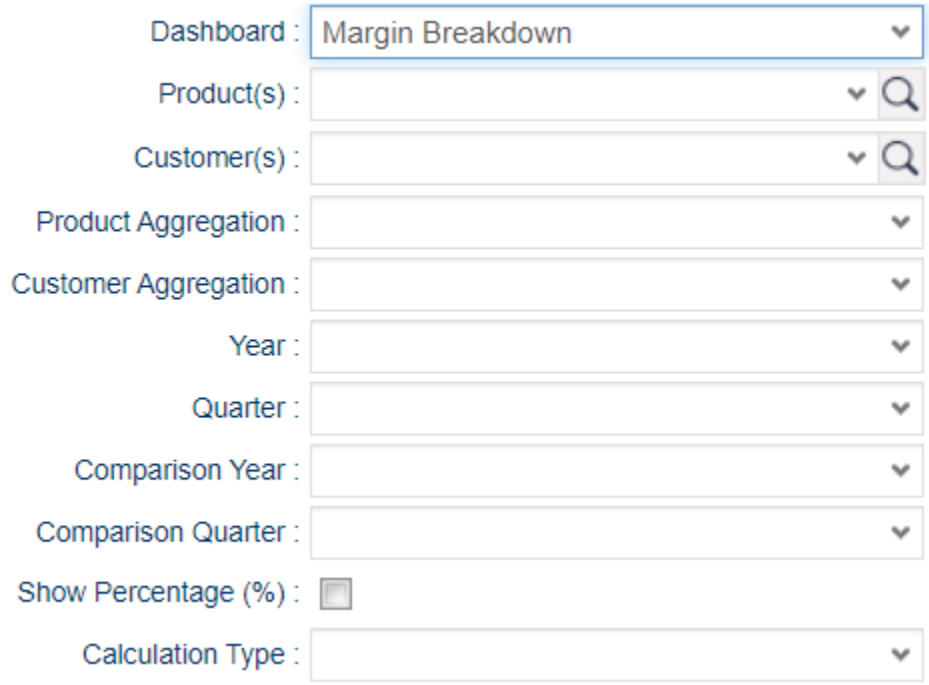
Dashboard Configurators

All of these configurators contain a copy of the given dashboard inputs.

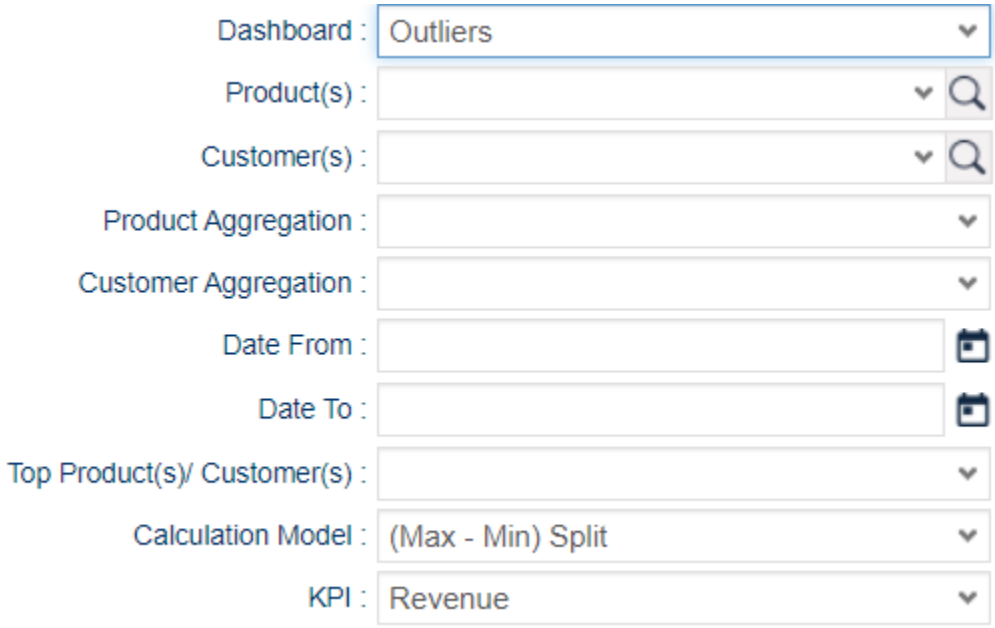
Comparison Waterfall Configurator



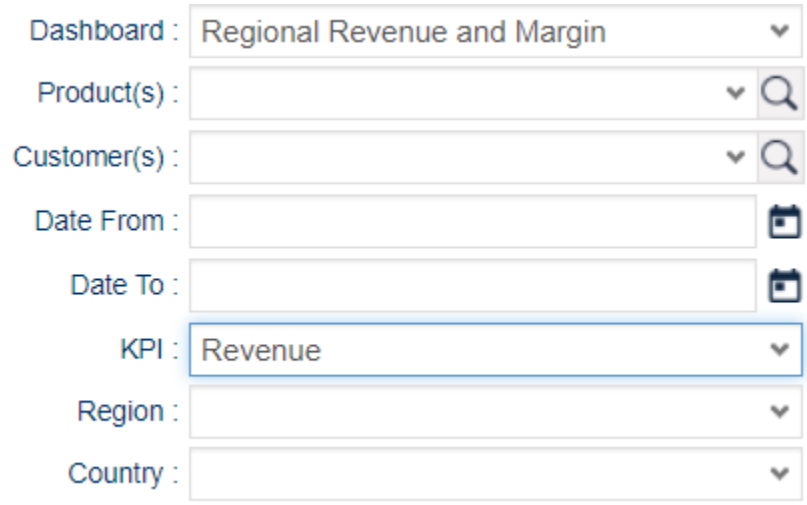
Margin Breakdown Configurator



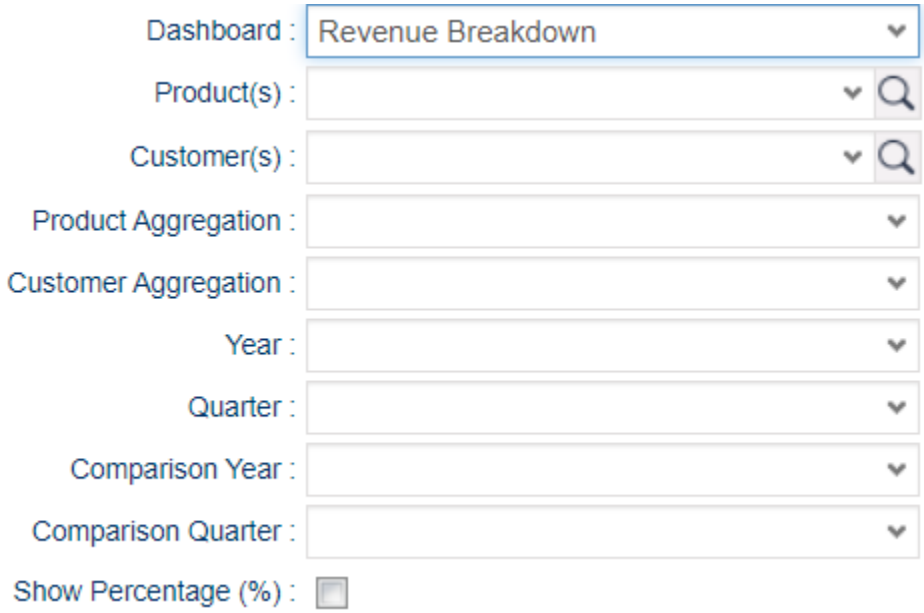
Outliers Configurator



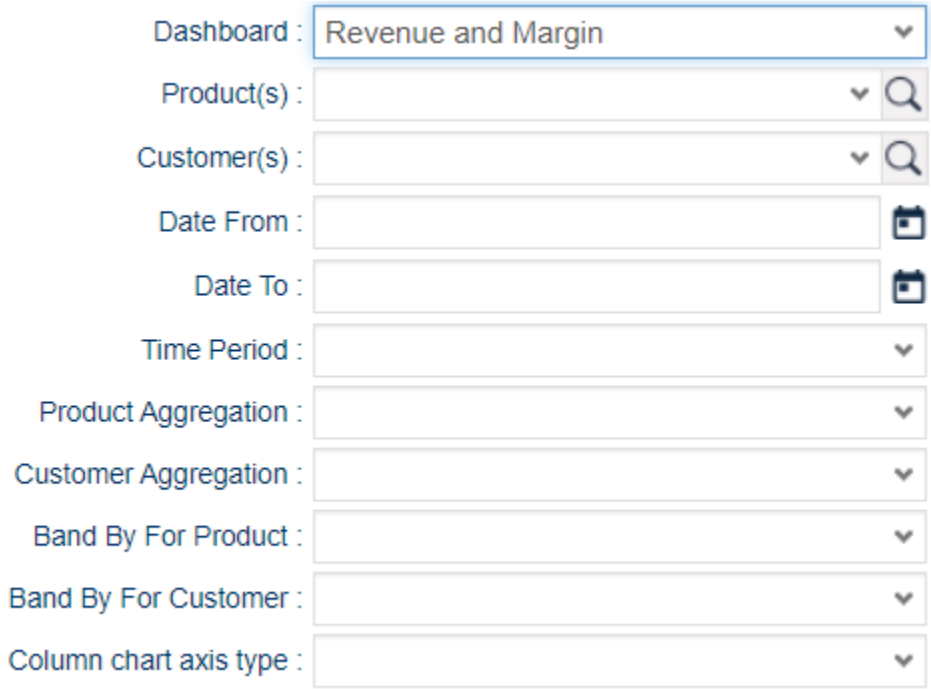
Regional Revenue and Margin Configurator



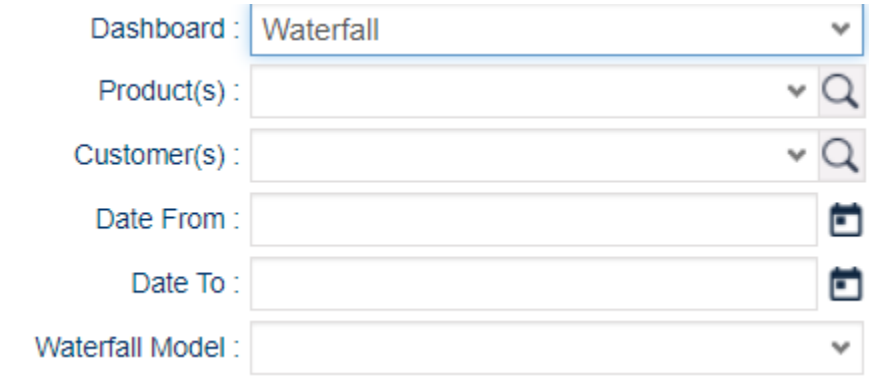
Revenue Breakdown Configurator



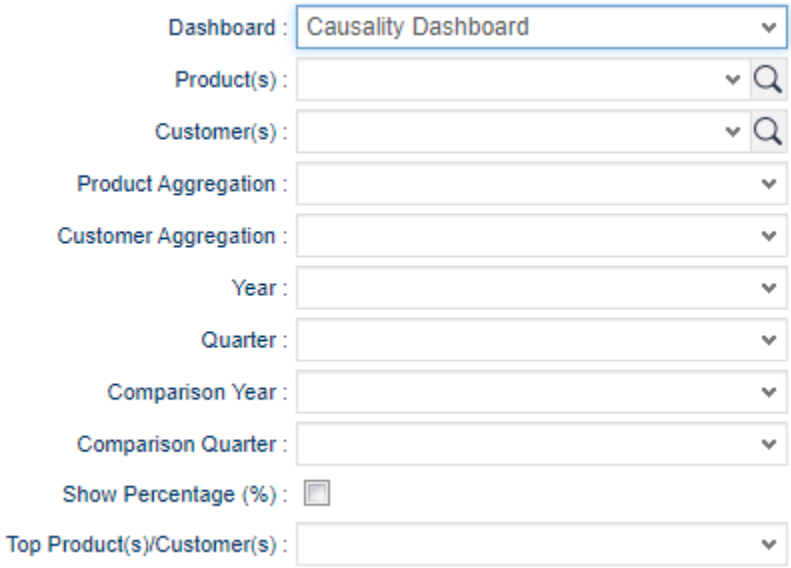
Revenue and Margin Configurator



Waterfall Configurator



Causality Configurator



Configurator Wizard Executor

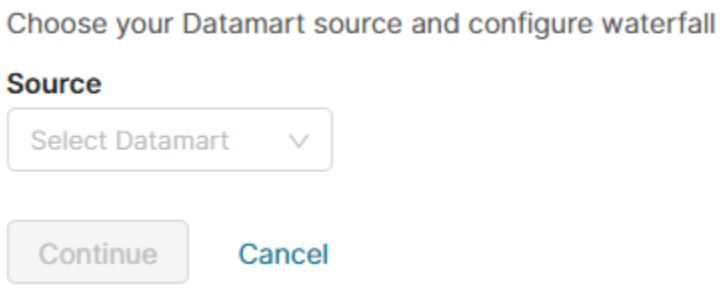
After clicking 'Apply' in the configurator, the executor logic is run for the currently filled inputs. The results of the setup are stored in the SIP_DefaultFilterValues Price Parameter table in the JSON format. This table should not be edited unless you want to delete default filters for a certain dashboard.

Waterfall Dashboards 1.5.1

PlatformManager Configuration 1.5.1

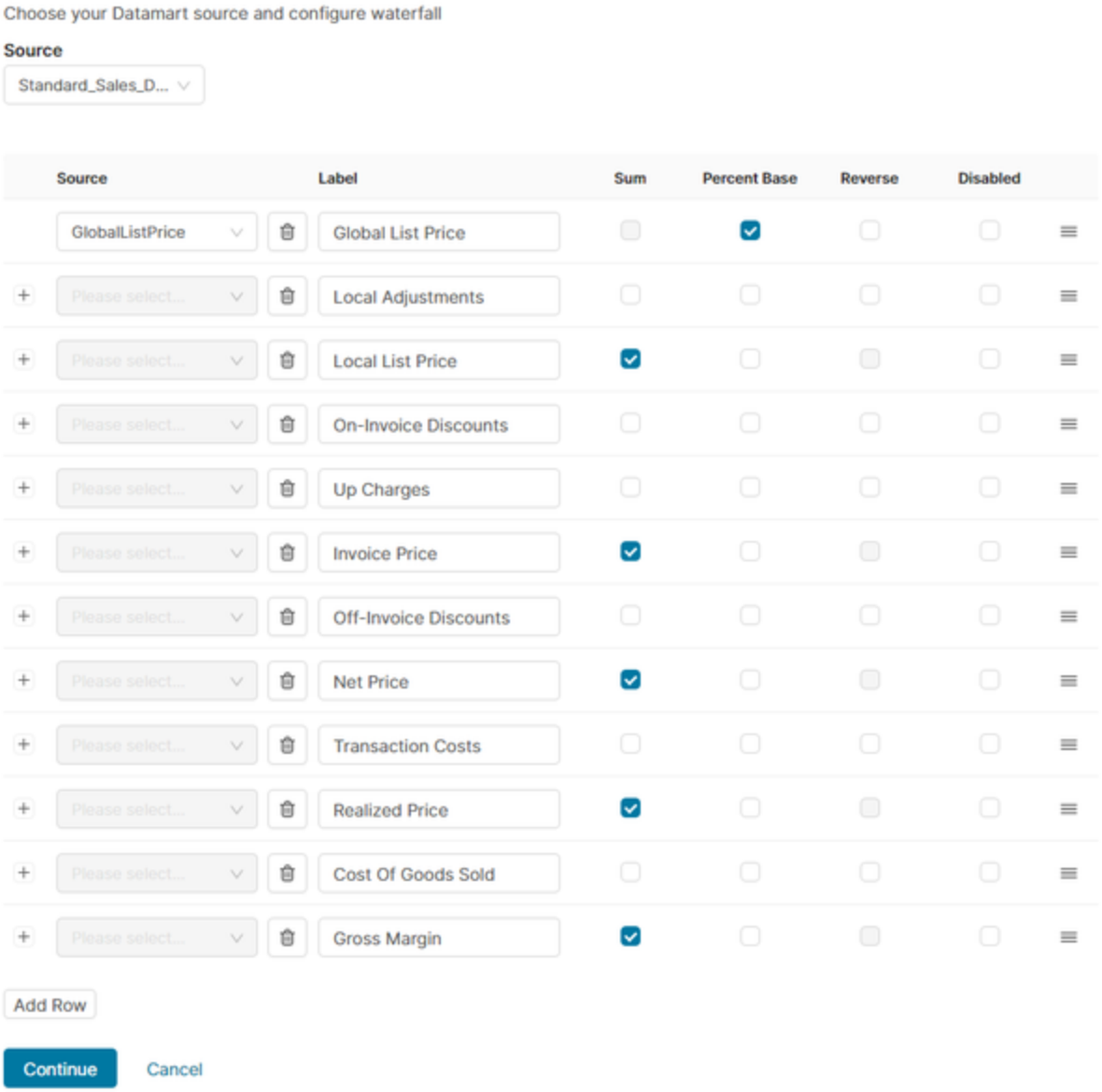
Datamart Selection

The initial step to start the waterfall configuration is selection of the source Datamart from which data will be fetched. SIP uses its own Datamart called Standard_Sales_Data.



Preloaded Template

If the Standard_Sales_Data DM is selected, the user will be presented with a predefined structure that can be used as a guide for further operations.

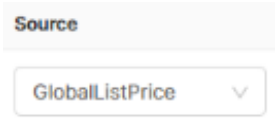


Waterfall Definition Glossary

- **Source** - Field from Datamart used to retrieve a value for a given waterfall field.
- **Label** - Allows to define a custom label to the field that is going to be displayed on the chart.
- **Sum** - Defines the field as a sum, i.e. the value of this field will be calculated by summation of all previous fields. The first field cannot be a sum, the last one however must be.
- **Percent Base** - Marks the given field as a percentage base for percentage model calculations. There can be only one percentage base field.
- **Reverse** - Allows to reverse the value of a given field. Useful for creating subtractions if the data is stored in positive values.
  ⚠ For elements with a sub-level, the fields in the sub-level are used for calculation and they should be reversed, not the parent field.
- **Disabled** - Marks the field as disabled. Disabled fields are not shown on the dashboard.

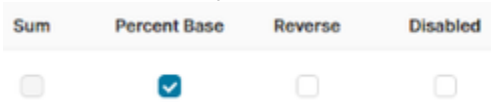
Form Controls

- **Source selection** - This input is used to select Datamart fields.



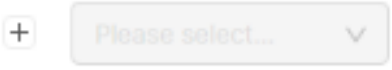
- **Remove** - This button allows you to remove the waterfall field definition.

- **Radio buttons** - These buttons allow you to select appropriate field parameters. Keep in mind they have conditions (for example only one radio button with Percent Base can be selected).



- **Move button** - This button allows you to move fields up and down. You need to click and hold it for 1 or 2 seconds before the move can happen.

- **Add sub-level** - Allows you to add sub-level fields for the drilldown functionality. Keep in mind that fields with sub-levels (parents) cannot have Datamart representations, but the sub-level fields can (children).



- **Add row** - Allows you to add a new waterfall field.

Configuration Deployment

After setup the configuration will be deployed to the partition in the Advanced Configuration section under the name "waterfall-configuration".

Advanced Configuration 1.5.1

waterfall-configuration							
Field name	name	label	isSum	isPercentBase	disabled	isSubtract	subLevel

Values	{name of the field from transactions DM}	{custom label for the field to be displayed on the dashboard}	{true/false}	{true/false}	{true/false}	{true/false}	{list of elements that are used for drilldown under this field}
Description	Defines which transaction DM fields will be displayed in the waterfall dashboard. The names here have to be 1-1 match with the ones from the DM.	Allows the user to set up a custom displayed value. For example: DM field Sales_Value_5 can be renamed to InvoicePrice.	Determines whether a given element should display the total sum across the entire series. Defaults to No. ⚠️The first entry must be marked as **isSum = "Yes"**.	Defines the base for percentage calculations. Only the first field marked with "Yes" will be taken into account. Defaults to No.	Determines whether a given field should no longer be displayed. Defaults to No.	Determines whether a given field is considered a loss. Such fields are displayed in red in the dashboard. Defaults to No.	Defines the drilldown struc

ture for a given field. The field definition follows the same structure as the parent element (

							without the is Percent Base column)

Field with both isSum and isSubtract set as "No" or left empty will display as a gain. Gains are displayed in green in the dashboard.

Waterfall Dashboard 1.5.1

Waterfall Dashboard presents the standardized price waterfall analysis. The chart helps you understand how an initial value is affected by a series of intermediate positive or negative values. The columns are color-coded for distinguishing between positive and negative values.

? Unknown Attachment

In this section:

Waterfall Dashboard - Set Up Data and Filters 1.5.1

For this dashboard you can set the following inputs:

- **Product(s)** – Allows you to choose one of product attributes to be used for the analysis.
- **Customer(s)** – Allows you to choose one of customer attributes to be used for the analysis.
- **Date From/To** – Filters data for the analysis according to the given time range.
  - By default Date From is set to one year back.
  - By default Date To is set to today's date.

- **Waterfall Model** – Allows you to choose the display model used in the waterfall.
  - Currently there are 4 models available:
    1. Absolute (selected by default) – Displays raw data with a thousands separator and currency symbol. Includes a drill-down defined in the Advanced Configuration "waterfall-configuration".
    2. Percentage – Displays data converted to percentages. The percentage base is defined by the user in the Advanced Configuration "waterfall-configuration".
    3. Absolute Detail – Displays the same data as Absolute but without the drill-down functionality.
    4. By Absolute Unit – Displays data by unit value. Includes a drill-down defined in the Advanced Configuration "waterfall-configuration".
- **Select currency** – Allows you to choose the currency used in the dashboard. The exchange rate for the selected currency is fetched from system the "ccy" Data Source, the currency symbol is fetched from the "CurrencySymbols" PP.
- **Generic Filter** – Allows you to set up a generic transaction data filter. For example: display only data from Europe, or Asia.

Waterfall Dashboard - Analyze Results 1.5.1

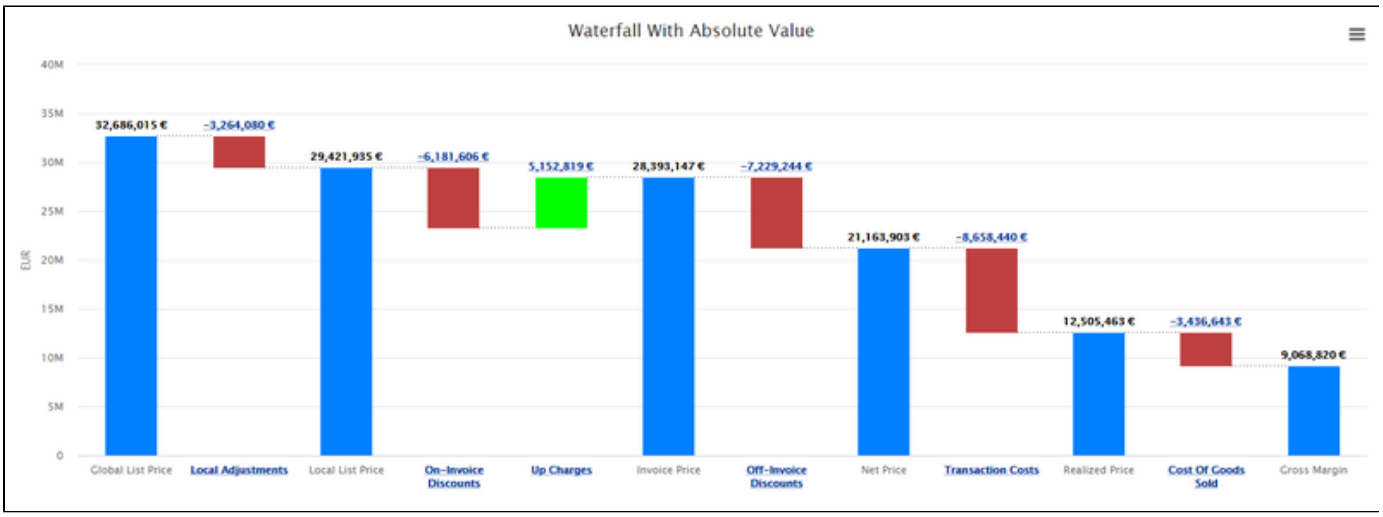
The dashboard provides the following models:

- Absolute
  - Default View
  - Drill-down for On-Invoice Discounts
- Percentage
- Absolute Detail
- By Absolute Unit

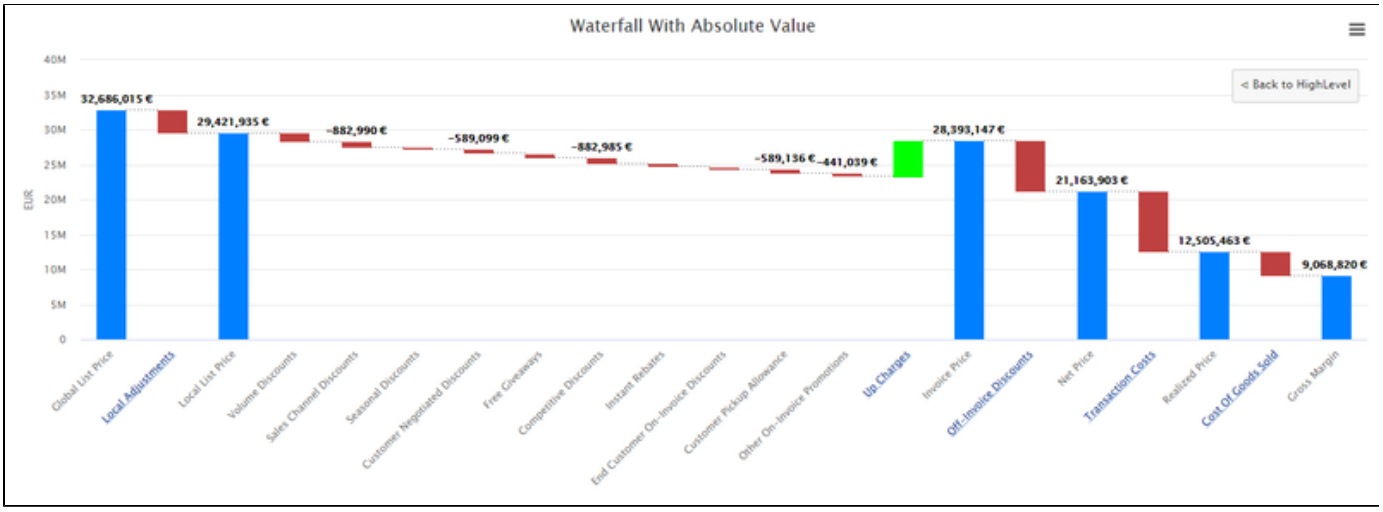
Visibility of the waterfall elements depends on availability of data in the transactional data and Price Parameter tables setup.

Absolute

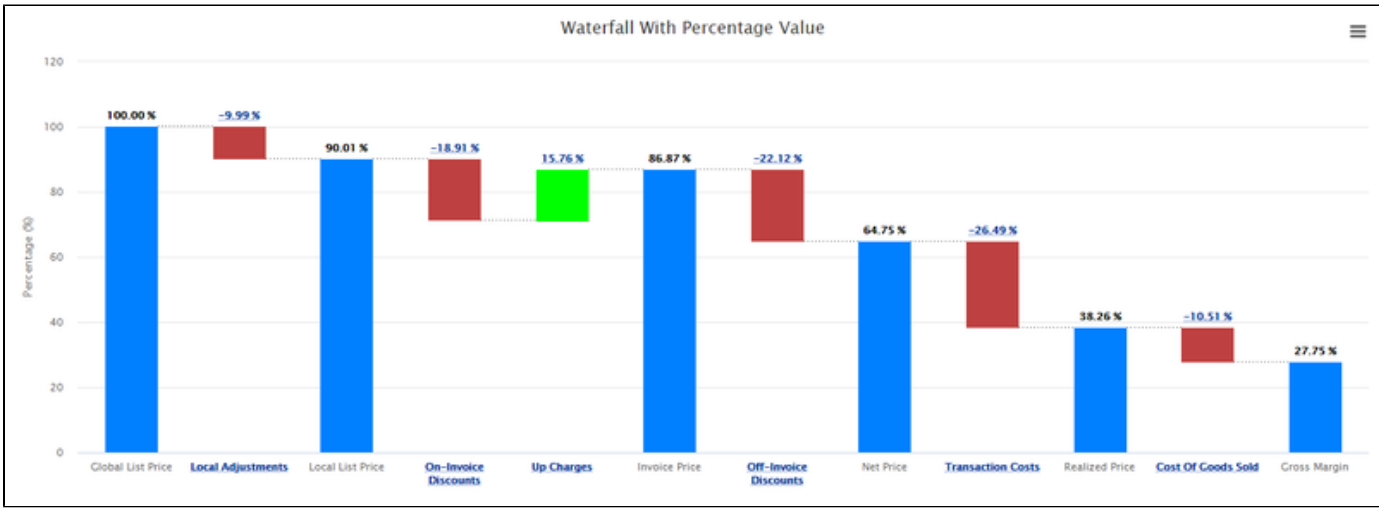
Default View



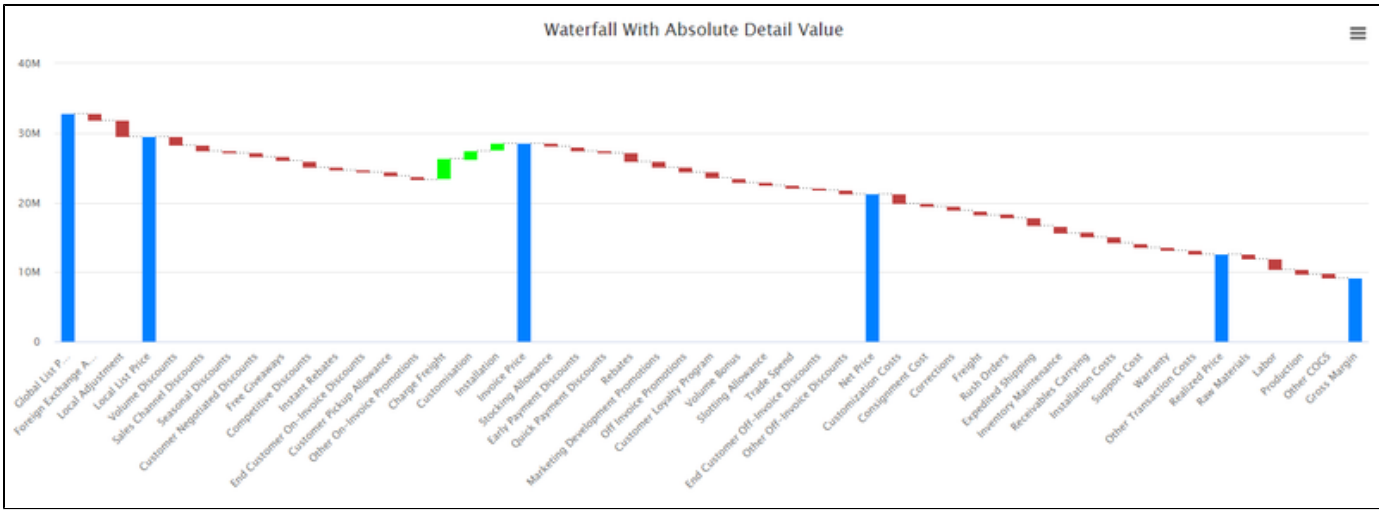
Drill-down for On-Invoice Discounts



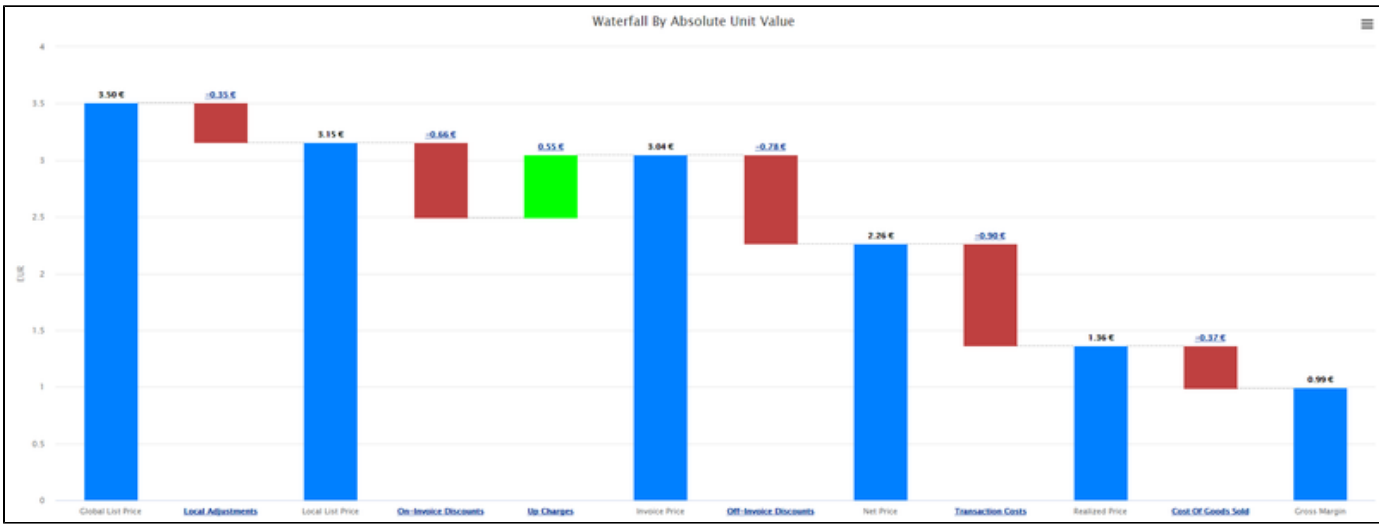
Percentage



Absolute Detail



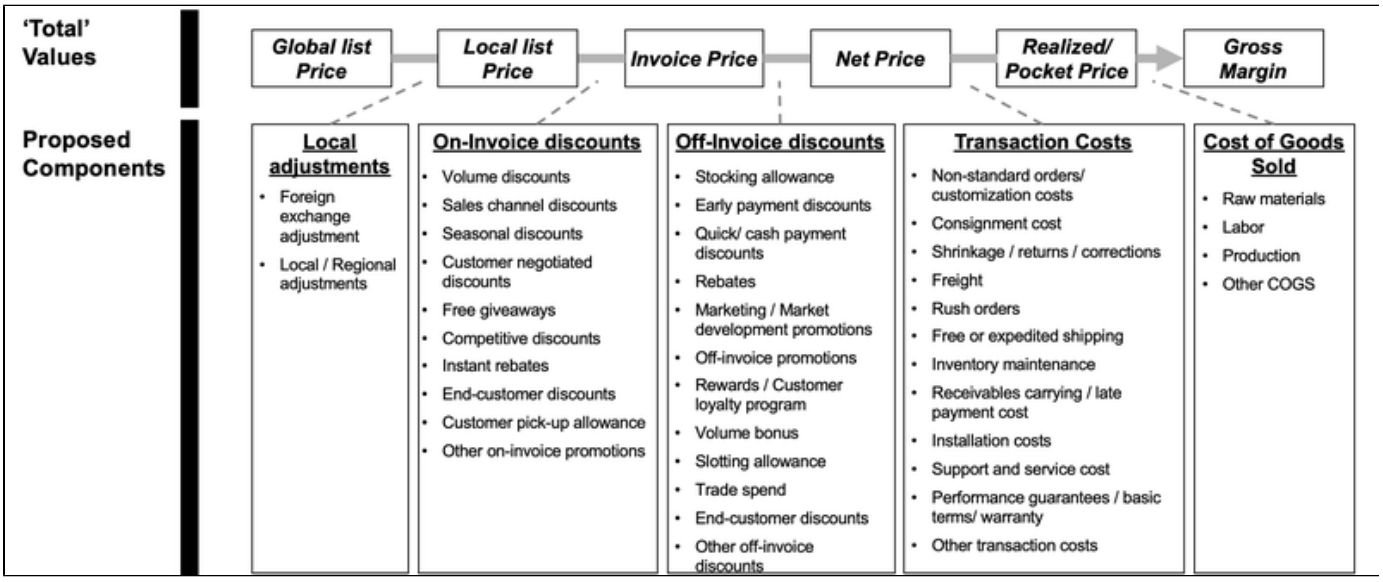
By Absolute Unit



Waterfall Dashboard - Details on Configuration 1.5.1

- Waterfall Dashboard - Fields Definition 1.5.1
- Waterfall Dashboard - Field Calculalation 1.5.1

Waterfall Dashboard - Fields Definition 1.5.1



Total Value	Component	Description
Local adjustments	Foreign exchange adjustment	Adjustments due to exchange/currency issues

	Local/Regional adjustments	Adjustments for local costs (e.g. tariffs), regional customer preferences and market competitiveness
Volume discounts	**Volume discounts**	Discounts for bulk purchases
	Sales channel discounts	Discounts for a specific sales channel
	Seasonal discounts	Discounts for seasonal sales objectives (e.g. reduce inventory)
	Customer negotiated discounts	Customized discounts negotiated with the customer
	Free giveaways	Free services or products given to customer with a purchase and shown on the invoice
	Competitive discounts	Discretionary discounts negotiated before the order is taken based on competitors' prices
	Instant rebates	Rebates given before the invoice price
	End-customer discounts	Discounts for end-customer rather than retailer or distributor (typically large end-customers)
	Customer pick-up allowance	Allowance paid for customers who pick up the goods by themselves
	Other on-invoice promotions	Others
Stocking allowance	**Stocking allowance**	Discounts paid to wholesalers/retailers to make large purchases into inventory (often before seasonal demand increase)
	Early payment discounts	Negotiated discounts or deduction from the invoice if the payment is made early
	Quick/cash payment discounts	Deduction from the invoice price if payment is made quickly
	Rebates	Refunds given for purchasing at certain times, early orders or for selling a product to a specific customer
	Marketing/Market development promotions	Allowance paid to support advertising of manufacturer's brand or to promote sales in a specific market segment or during a promotional time period
	Rewards /Customer loyalty program	Redeem points for gifts or receive one-time promotions for those in loyalty programs; long-term agreements

	Volume bonus	End-of-year bonus paid to customers if the preset purchase volume targets are met
	Slotting allowance	Allowance paid to retailer to secure the set amount of shelf space and product positioning
	Trade spend	Allowance for retailer to discounts from MSRP (manufacturer's suggested retail price)
	End-customer discounts	Discounts for end-customer rather than retailer or distributor, types of pass-through
	Other off invoice discounts	Others
Non-standard orders / customization costs	**Non-standard orders / customization costs**	Costs associated with manufacturing and delivering a non-standard or customized order
	Consignment cost	Cost of funds when the supplier provides consigned inventory to a retailer or wholesaler
	Shrinkage / returns / corrections	Cost of defective or damaged products
	Freight	Cost of transporting goods to customer
	Rush orders	Higher costs associated with filing and transporting orders more quickly
	Free or expedited shipping	Higher costs of transporting goods to a specific customer
	Inventory maintenance	Cost to hold goods in inventory
	Receivables carrying / late payment cost	Cost of funds from the moment the invoice is sent until the payment is received; cost of delayed payments
	Installation costs	Cost of installing products, including transportation and labor costs
	Support and service cost	Cost of maintenance, general customer services, dedicated services, additional support, etc.
	Performance guarantees / basic terms/ warranty	Discounts that seller agrees to give buyers if the seller misses performance targets (e.g. quality levels, delivery times, price protects)

	Other transaction costs	Others
Raw materials	**Raw materials**	Cost of materials used to manufacture the product
	Labor	Wages for employees directly involved in manufacturing the product
	Production	Cost to manufacture the product
	Other COGS	Others

Waterfall Dashboard - Field Calculalation 1.5.1

Each field value defined in the Advanced Configuration "waterfall-configuration" retrieved by querying its SUM from the Datamart.

The exceptions are fields marked as isSum – these are calculated based on previous field values.

For additional information about the configuration, see PlatformManager Configuration 1.5.1.

Waterfall Comparison Dashboard 1.5.1

Waterfall Comparison presents a set of three dashboards allowing you to compare waterfalls of different time periods, products and customers. All dashboards are built on top of a standardized Waterfall Dashboard and follow the same definition.

In this section:

- Waterfall Comparison Dashboard - Set Up Data and Filters 1.5.1
- Waterfall Comparison Dashboard - Analyze Results 1.5.1
- Waterfall Comparison Dashboard - Details on Configuration 1.5.1

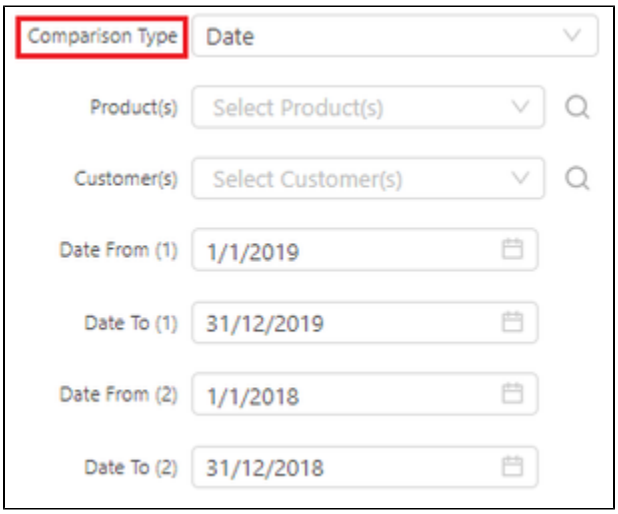
Waterfall Comparison Dashboard - Set Up Data and Filters 1.5.1

When setting up data for Waterfall Comparison Dashboard, there are some common user inputs and some which are specific for each type of the comparison.

- Specific User Inputs
  - Comparison Waterfall per Date
  - Comparison Waterfall per Product
  - Comparison Waterfall per Customer
- Common User Inputs

Specific User Inputs

The user inputs slightly differ for each type of the comparison: per Date, Product or Customer.



Comparison Waterfall per Date

- **Comparison Type** – Date
- **Product(s)** – Allows you to choose one of the product attributes to be used for the analysis.
- **Customer(s)** – Allows you to choose one of the customer attributes to be used for the analysis.
- **Date From/To (Period 1)** – Defines a date range for data used in the analysis – the first range.
  - By default Date From (1) is set to the first day of January one year back.
  - By default Date To (1) is set to the last day of December one year back.
- **Date From/To (Period 2)** – Defines a date range for data used in the analysis – the second range for comparison.
  - By default Date From (2) is set to the first day of January two years back.
  - By default Date To (2) is set to the last day of December two years back.

Comparison Waterfall per Product

- **Comparison Type** – Product
- **Product(s) 1** – Allows you to choose one of the product attributes to be used for the analysis.
- **Product(s) 2** – Allows you to choose one of the product attributes to be used for the analysis for comparison.
- **Customer(s)** – Allows you to choose one of the customer attributes to be used for the analysis.
- **Date From/To** – Filters data for the analysis according to the given time range.
  - By default Date From is set to the first day of January one year back.
  - By default Date To is set to the last day of December one year back.

Comparison Waterfall per Customer

- **Comparison Type** – Customer
- **Product(s)** – Allows you to choose one of the product attributes to be used for the analysis.
- **Customer(s) 1** – Allows you to choose one of the customer attributes to be used for the analysis.
- **Customer(s) 2** – Allows you to choose one of the customer attributes to be used for the analysis for comparison.

- **Date From/To** – Filters data for the analysis according to the given time range.
  - By default Date From is set to the first day of January one year back.
  - By default Date To is set to the last day of December one year back.

Common User Inputs

There are also common inputs that do not change based on the selected Comparison Type:

- **Waterfall Model** – Allows you to choose the display model used in the waterfall.
  - Currently there are 4 models available:
    1. Absolute (selected by default) – Displays raw data with a thousands separator and currency symbol. Includes a drill-down defined in the Advanced Configuration "waterfall-configuration".
    2. Percentage – Displays data converted to percentages. The percentage base is defined by the user in the Advanced Configuration "waterfall-configuration".
    3. Absolute Detail – Displays the same data as Absolute but without the drill-down functionality.
    4. By Absolute Unit – Displays data by unit value. Includes a drill-down defined in the Advanced Configuration "waterfall-configuration".
- **Select currency** – Allows you to choose the currency used in the dashboard. The exchange rate for the selected currency is fetched from system the "ccy" Data Source, the currency symbol is fetched from the "CurrencySymbols" PP.
- **Generic Filter** – Allows you to set a generic transaction data filter. For example: display only data from Europe or Asia.

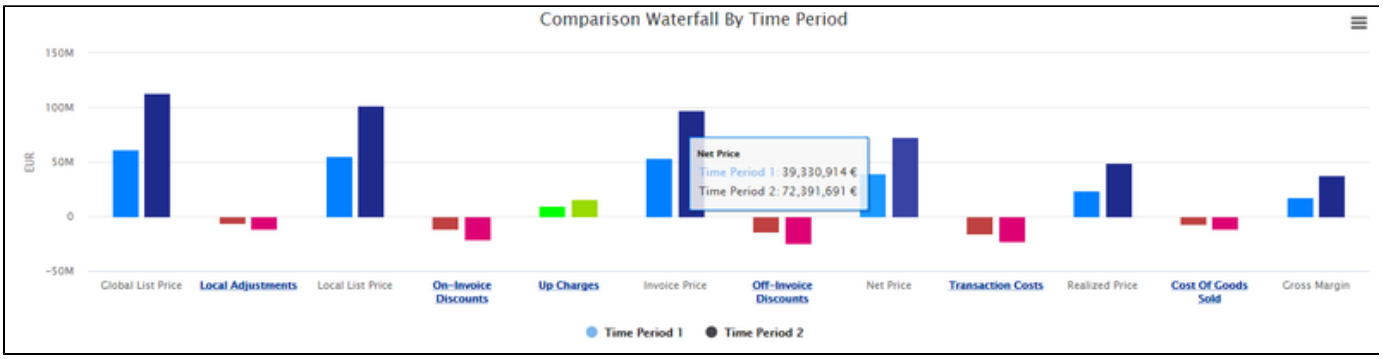
Please note that currently there is an issue: the default values from the configurator wizard are not applied on the initial run of the dashboard. To display correct values, you need to refresh the dashboard after the initial launch.

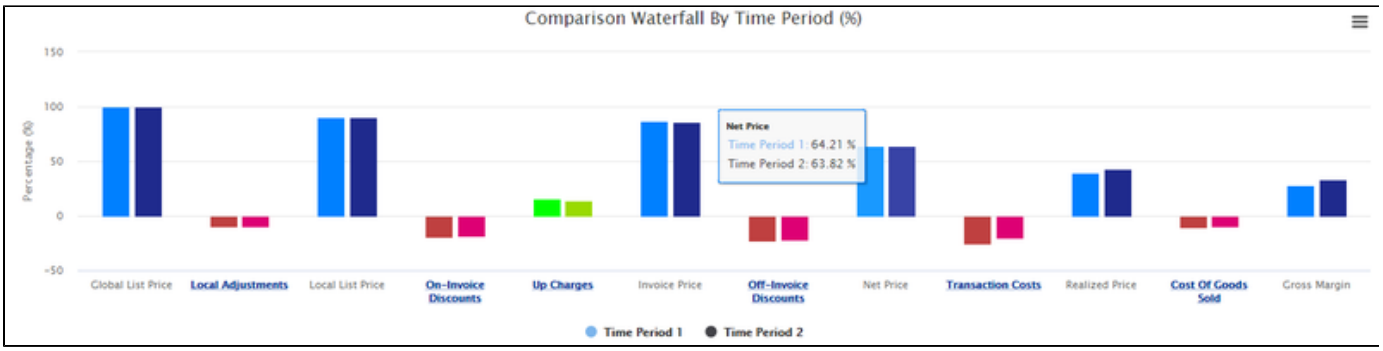
Waterfall Comparison Dashboard - Analyze Results 1.5.1

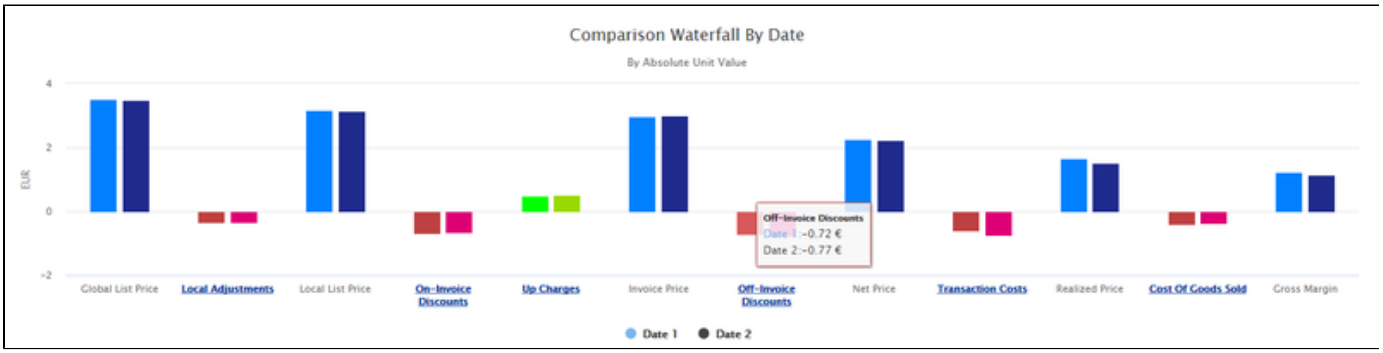
For all three comparison types there are absolute and percentage versions with enabled drill-down for adjustments.

- Comparison Waterfall per Time Period
- Comparison Waterfall per Product(s)
- Comparison Waterfall per Customer(s)

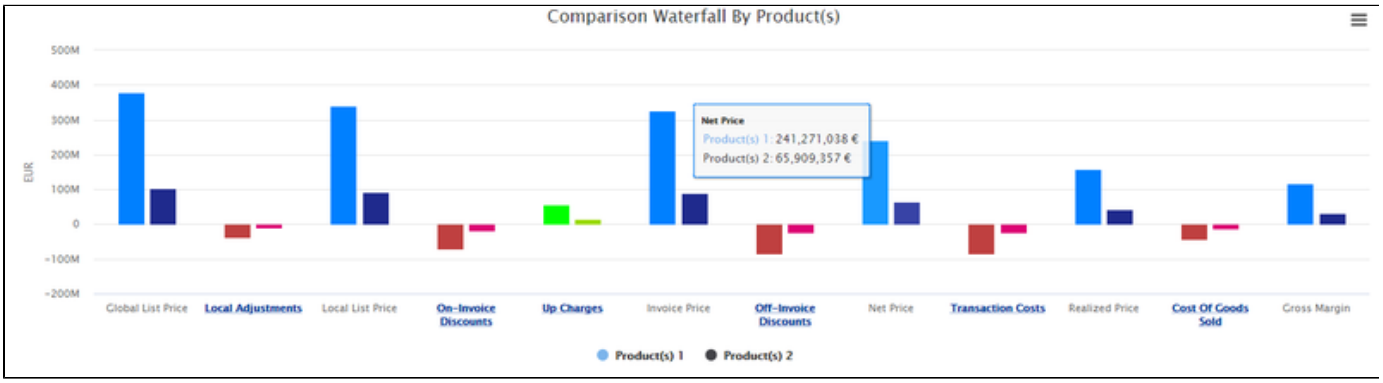
Comparison Waterfall per Time Period

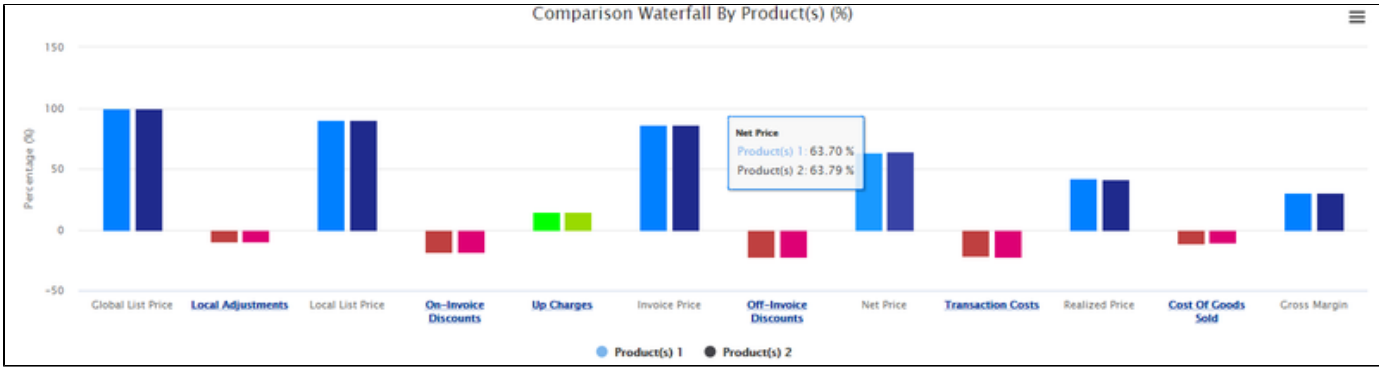


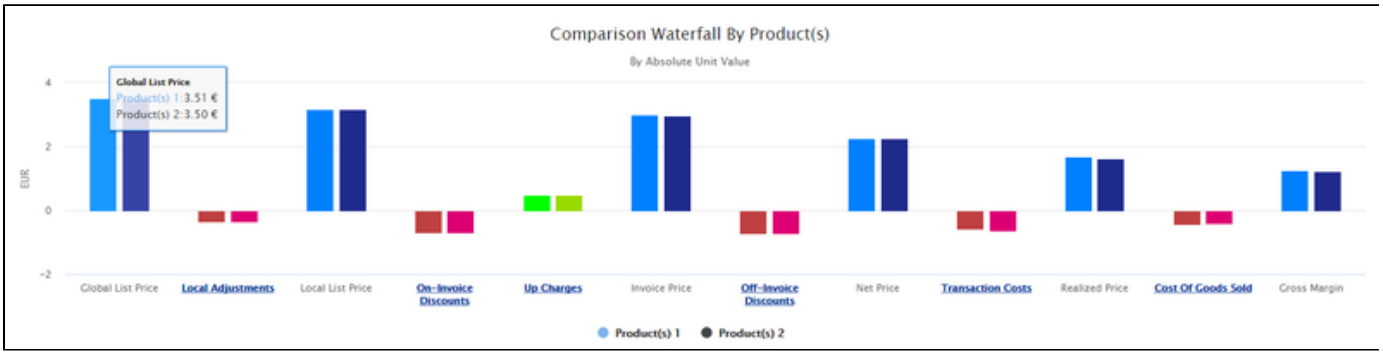




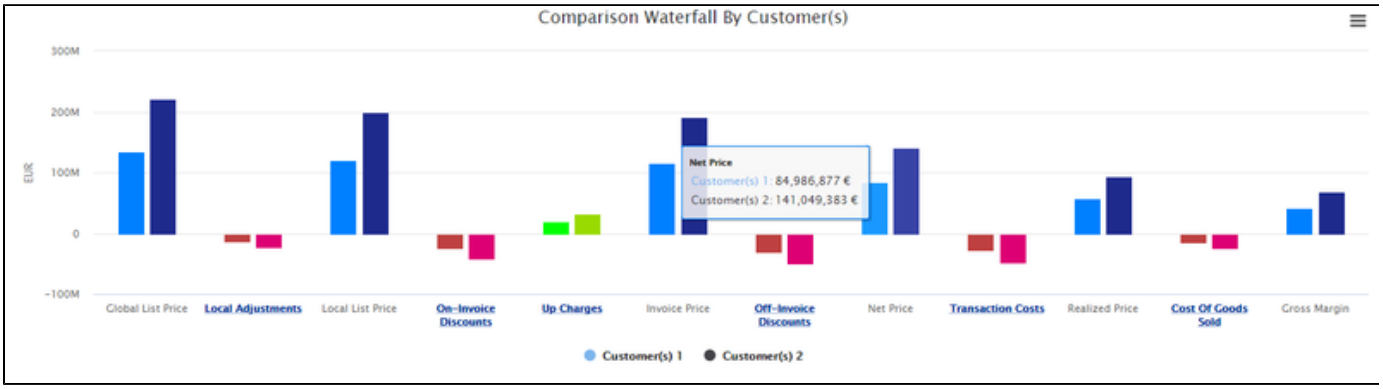
Comparison Waterfall per Product(s)

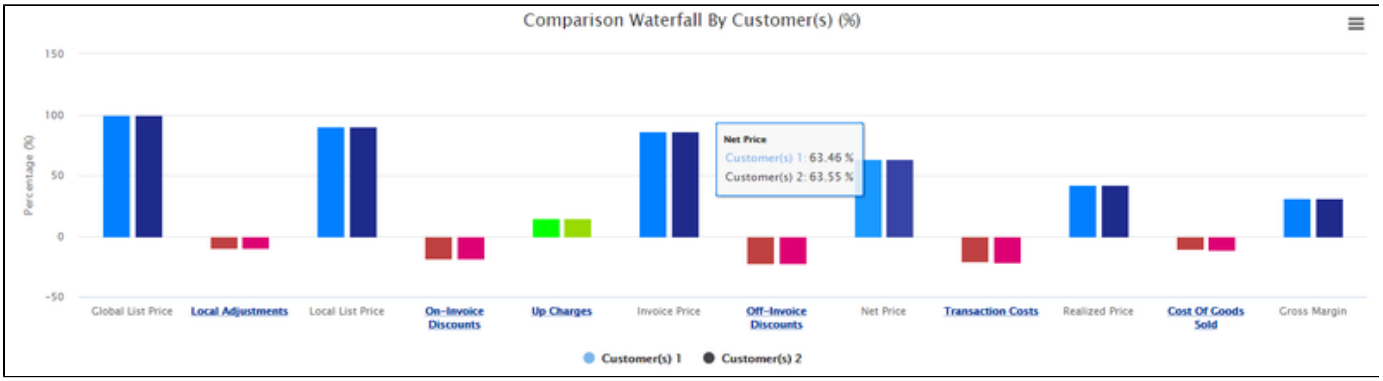






Comparison Waterfall per Customer(s)





Waterfall Comparison Dashboard - Details on Configuration 1.5.1

- Waterfall Comparison Dashboard - Used Advanced Configuration Fields 1.5.1

Waterfall Comparison Dashboard - Used Advanced Configuration Fields 1.5.1

Waterfall Comparison uses the following fields from SIP_AdvancedConfiguration:

- datamartName
- pricingDate
- productId
- customerId

Revenue and Margin Dashboard 1.5.1

Revenue and Margin Dashboard helps you visualize and analyze the relationship between Revenue and Margin % from different perspectives of time, product and customer. You can customize the date range and set of products/customers for analysis.

In this section:

- Revenue and Margin Dashboard - Set Up Data and Filters 1.5.1
- Revenue and Margin Dashboard - Analyze Results 1.5.1
- Revenue and Margin Dashboard - Details on Configuration 1.5.1

Revenue and Margin Dashboard - Set Up Data and Filters 1.5.1

For this dashboard you can set the following inputs:

- **Product(s)** - Allows to choose one of product attributes to be used for the analysis.
- **Customer(s)** - Allows to choose one of customer attributes to be used for the analysis.
- **Date From/To** - Filters data for the analysis according to the given time range.
  - By default Date From is set to one year back.
  - By default Date To is set to today's date.
- **Time Period** - Allows you to define data aggregation for the "Revenue and Margin % in Time" analysis. The available values are: Week, Month, Quarter (default), Year.
- **Product Aggregation** - Allows to define a custom grouping dimension to reduce the granularity of the product data. The product dimensions available in this input are defined in Advanced Configuration. Fields must come from the Datamart used for the package.

- **Customer Aggregation** - Allows to define a custom grouping dimension to reduce the granularity of the customer data. The customer dimensions available in this input are defined in Advanced Configuration. Fields must come from the Datamart used for the package.
- **Band By for Products** - Allows to define additional grouping of data points in the analysis by a different dimension related to the products.
- **Band By for Customer** - Allows to define additional grouping of data points in the analysis by a different dimension related to the customers.
- **Column chart axis type** - Allows to define type of Y axis used on the chart. The available values are: Linear (default), Logarithmic.
- **Select currency** - Allows you to choose the currency used in the dashboard. The exchange rate for the selected currency is fetched from system the "ccy" Data Source, the currency symbol is fetched from the "CurrencySymbols" PP.
- **Generic Filter** - Allows you to set up a generic transaction data filter. For example: display only data from Europe, or Asia.

Revenue and Margin Dashboard - Analyze Results 1.5.1

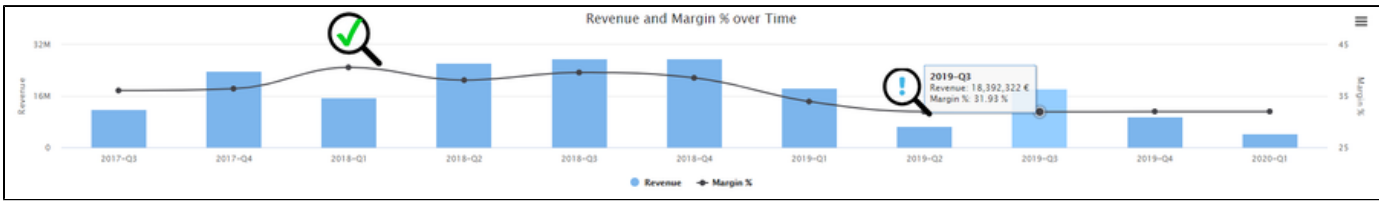
The dashboard provides the following summaries:

- Revenue and Margin % in Time
- Revenue and Margin % per Product
- Revenue and Margin % per Customer
- Revenue and Margin Contribution per Product/Customer
- Revenue Pareto per Product/Customer

Revenue and Margin % in Time

Helps you analyse the relationship between Revenue and Margin % in the time aggregated per the defined time dimension.

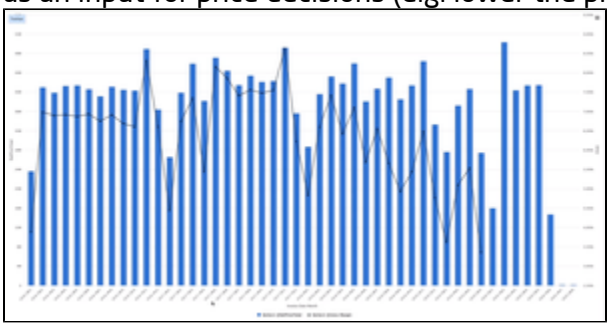
- X axis displays the time period aggregation as defined by the Time Period input.
- Left hand side Y axis shows the Revenue scale.
- Right hand side Y axis shows the Margin % scale.



What to look out for:

- Generally, if the revenue is low at a certain period, at least we want to keep the margin high.
- Pay attention to those periods where both margin and revenue are low and make sure it does not stay this way.

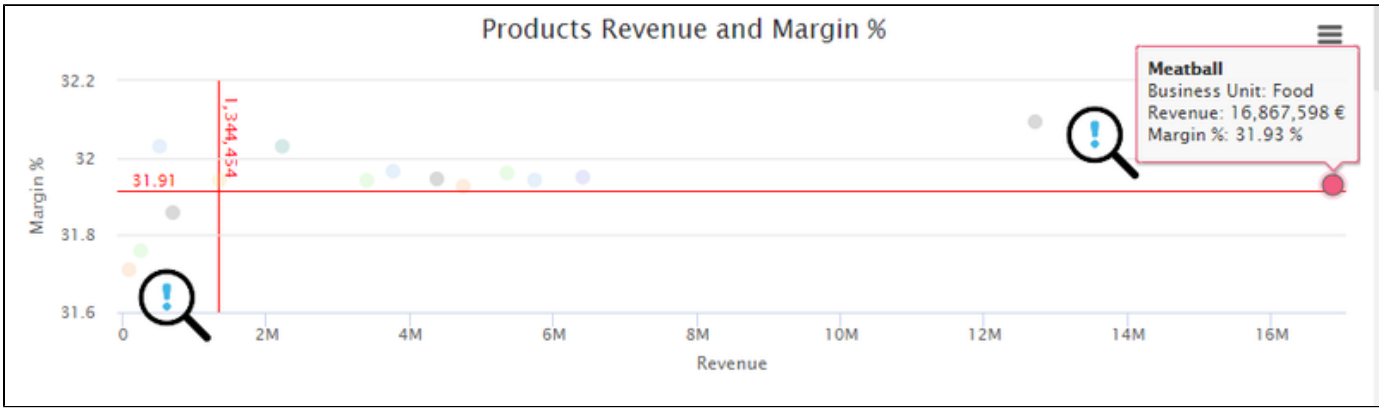
- This chart helps you discover whether there is any seasonal pattern in your data. You can use this as an input for price decisions (e.g. lower the price in less busy periods). See an example:



Revenue and Margin % per Product

Helps you analyse the relationship between Revenue and Margin % on the product level using the selected aggregation. The data points in the analysis can be colored by the product dimensions set by 'Band By For Product' which helps visualize the correlation per the chosen product attribute.

- X axis displays the sum of Revenue per chosen product aggregation.
- Y axis displays the sum of Margin % per chosen product aggregation.
- The first line is horizontal and at a defined percent value of the lowest margin (typically 10%), the second line is vertical and at a defined percent value of the lowest revenue. This divides the chart in four sections.



What to look out for:

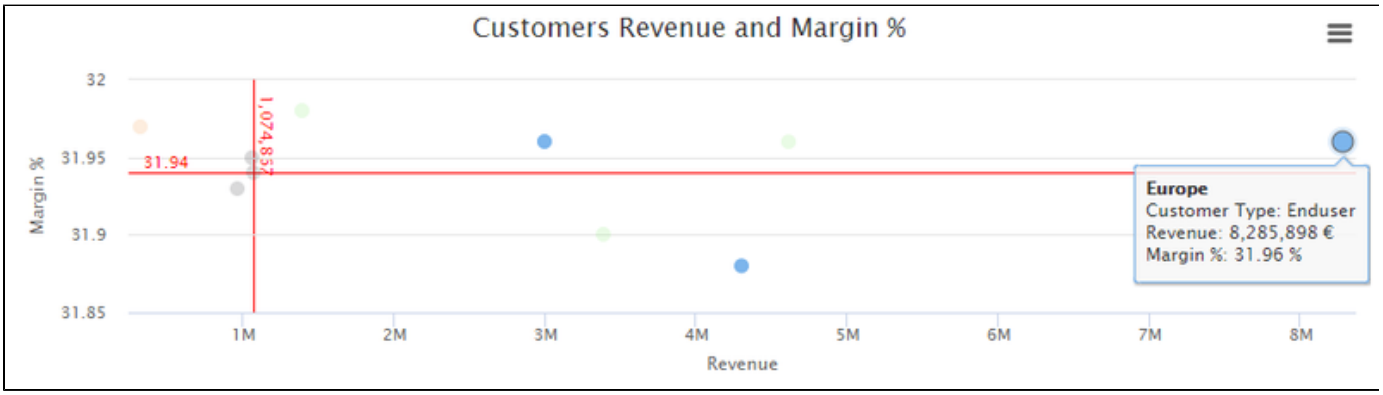
- **Bottom left section** - Shows products with low margin % & low revenue. For these products consider raising their price, so that they move up to the top (their margin increases) or work on increasing the volume of sold products (and thus move right towards a bigger revenue). The optimal move here is to go with the product to the top right sections (i.e. increase both margin and revenue).
- **"Risky business" in top right section** - This may mean that a customer buys large quantities for a high price. There is a risk of losing such a customer if they find out that others get the same product for a lower price. The optimal scenario is to have the dots grouped around some average price value.

⚠ Due to performance reasons this chart is limited to display only top 50 products. These product values are used to calculate the plot lines.

Revenue and Margin % per Customer

Helps you analyze the relationship between Revenue and Margin % on the customer level using the selected aggregation. The data points in the analysis can be colored by the customer dimensions set by 'Band By For Customer' which helps you visualize the relationship per the chosen customer attribute.

- X axis displays the sum of Revenue per chosen customer aggregation.
- Y axis displays the sum of Margin % per chosen customer aggregation.
- The first line is horizontal and at defined % of the lowest margin, the second line is vertical and at defined % of the lowest revenue. This divides the chart in four squares: the bottom left square shows low margin %, low revenue customers. It can be worthwhile to look into raising prices for these customers.



What to look out for:

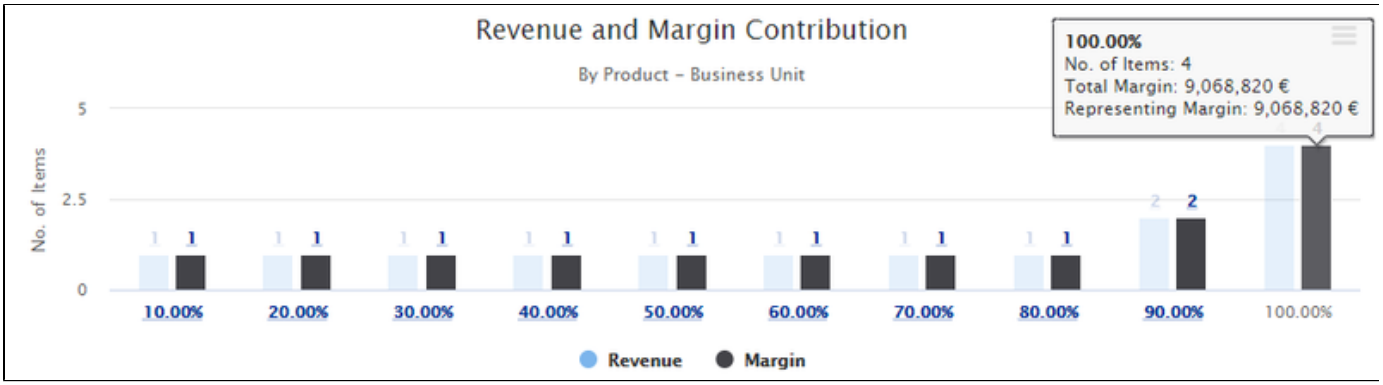
- The chart shown above illustrates that it may happen that large customers generating large revenue may not reach the optimal margin, yet it pays off to keep these customers.
- On the other hand, small customers get the products for higher prices and generate larger margin.

⚠ Due to performance reasons this chart is limited to display only top 50 customers. These product values are used to calculate the plot lines.

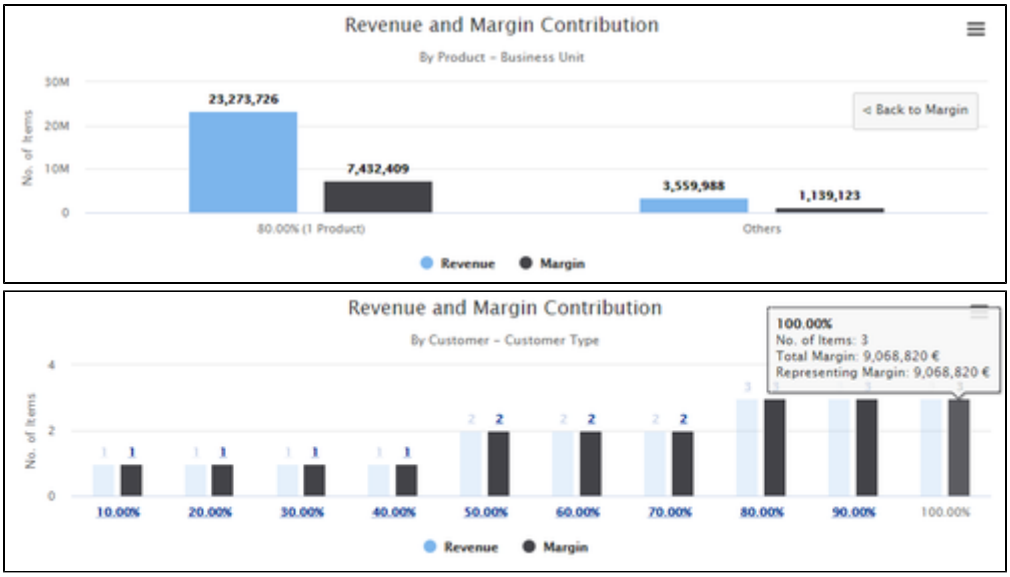
Revenue and Margin Contribution per Product/Customer

These two charts display Revenue and Margin split into defined buckets to visualize the number of product/customer aggregation levels needed to cover each bucket (cumulative contribution).

Each data point displays the number of items in the bucket, the total revenue/margin of the items in the bucket and the revenue/margin representing the bucket.
In the screenshot below, 80% of the revenue and margin is covered by 8 products, whereas the remaining 20% are covered by 6 products.



There is also a possibility to preview each of the bucket contents by clicking on the percentage labels. It displays which particular customers/products contribute to the bucket.

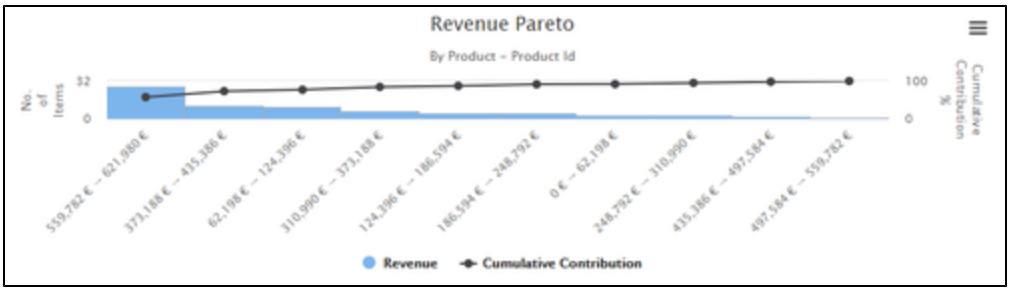


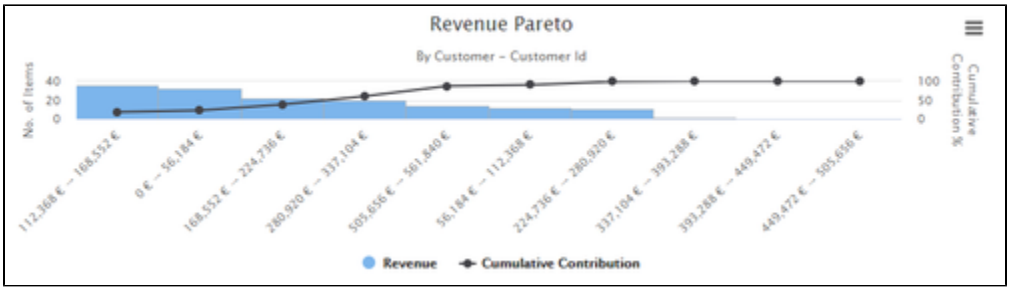
What to look out for:

- It is good to have the buckets filled in evenly; i.e. not to rely on just one product/customer contributing most.

Revenue Pareto per Product/Customer

These two charts display Revenue and Margin % split into some bins to visualize the number of product /customer aggregation levels needed to cover each bin (cumulative contribution).





Revenue and Margin Dashboard - Details on Configuration 1.5.1

- Revenue and Margin Dashboard - Used Price Parameters 1.5.1
- Revenue and Margin Dashboard - Field Calculalation 1.5.1
- Revenue and Margin Dashboard - Data Requirements 1.5.1

Revenue and Margin Dashboard - Used Price Parameters 1.5.1

PFXTemplate_DB_RevenueAndMargin

Name	Value	Description
bucketStartPercent	0-1, e.g. 0.2	Defines the starting percentage for the buckets in the Contribution charts.
bucketEndPercent	0-1, e.g. 0.8	Defines the ending percentage for the buckets in the Contribution charts.
numberOfBuckets	any Integer, e.g. 10	Defines the number of buckets in the Contribution charts. The values displayed on each bucket will depend on start/end values.
histogramBins	any Integer, e.g. 10	Number of bins displayed in the Pareto charts.
scatterPlotPercent	0-1, e.g. 0.1	Defines the percentage at which the revenue/margin plot lines will be displayed on the Revenue and Margin % charts.

Revenue and Margin Dashboard - Field Calculalation 1.5.1

- Revenue = SUM(revenue)

- Margin = SUM(grossMargin)
- Margin % = SUM(grossMargin) / SUM(revenue) * 100

There are some default filters put on various fields to ensure proper calculations. These are:

- Only entries with **not null grossMargin** are considered.
- Only entries with **not null invoicePrice** are considered.

Revenue and Margin Dashboard - Data Requirements 1.5.1

Before deploying this template, it is possible to modify some parameters of this dashboard to adapt to an existing Datamart. The following fields are used for the setup:

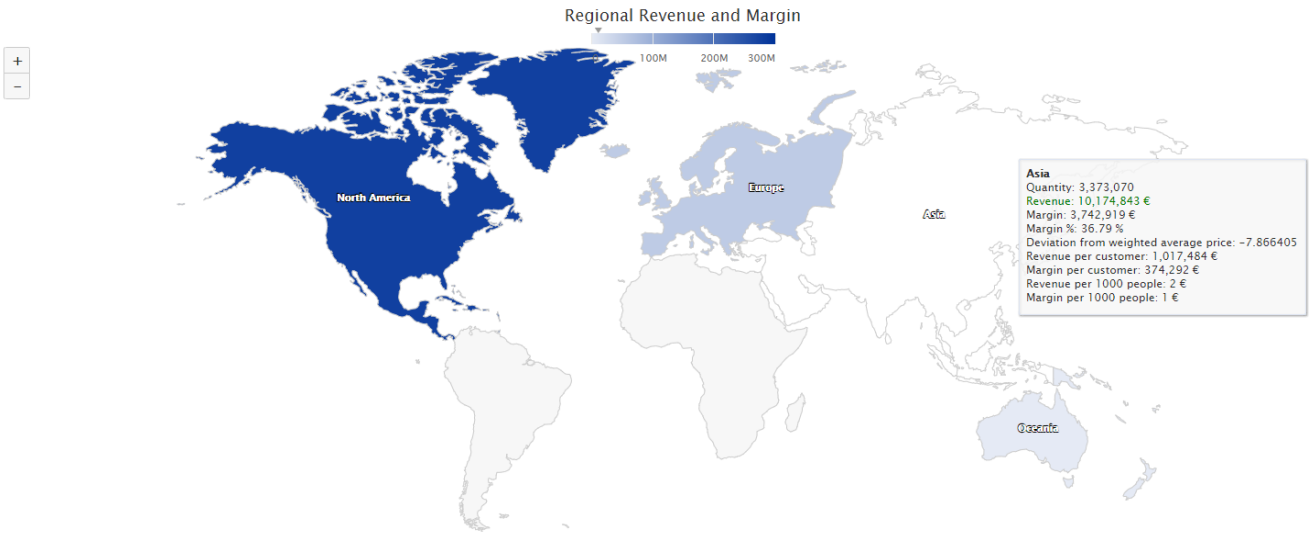
Field Name	Description	Required
Datamart	Datamart used in the analysis	Yes
Product ID	Product field in the transactional data	Yes
Customer ID	Customer field in the transactional data	No
Revenue	Field representing revenue in the transactional data	Yes
Margin	Field representing margin in the transactional data	Yes
Transaction Date	Field representing date of the transaction in the transactional data	Yes
Product Name	Product name field in the data	No
Customer Name	Customer name field in the data	No

Regional Revenue and Margin Dashboard 1.5.1

The Regional Revenue and Margin Dashboard presents KPIs distribution on the world map. It helps you analyze relationships between different continents, countries or regions based on a KPI distribution.

The dashboard provides four levels of a view based on the available Datamart data and configuration:

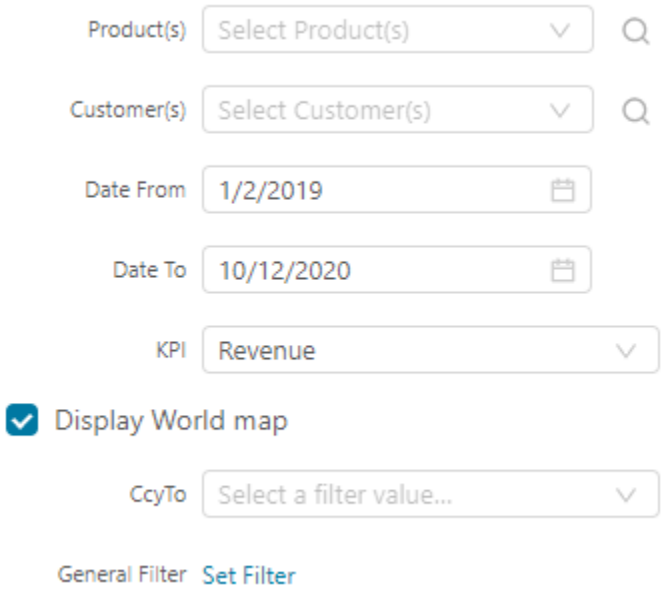
- World
- Continent
- Country
- Region



In this section:

- Regional Revenue and Margin Dashboard - Set Up Data and Filters 1.5.1
- Regional Revenue and Margin Dashboard - Analyze Results 1.5.1
- Regional Revenue and Margin Dashboard - Details on Configuration 1.5.1

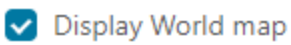
Regional Revenue and Margin Dashboard - Set Up Data and Filters 1.5.1



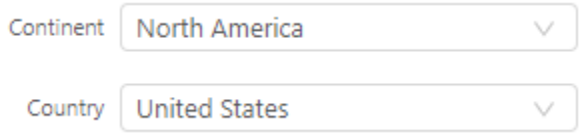
For this dashboard you can set the following inputs:

- **Product(s)** – Allows you to choose one of the product attributes to be used for the analysis.
- **Customer(s)** – Allows you to choose one of the customer attributes to be used for the analysis.
- **Date From/To** – Filters data for the analysis according to the given time range.
  - By default Date From is set to one year back.
  - By default Date To is set to today's date.

- **KPI** - Allows you to choose from the following KPIs for the analysis:
  - Quantity
  - Revenue (selected by default)
  - Margin
  - Margin %
  - Deviation from Weighted Average Price (WAP)
  - Revenue per Customer
  - Margin per Customer
  - Revenue per 1000 people (see the note on population)
  - Margin per 1000 people (see the note on population)
- **Region Configurator** - Allows you to choose which hierarchy level to display on the map.
  - Depending on what is selected, the map behaves differently:
    - If you select to display world The map will show Level 1: World (continents of the world shown).
    - If you choose Continent and do not choose Country. The map will show Level 2: Continent (countries of this continent shown).
    - If you choose Continent, Country and do not choose Region. The map will show Level 3: Country (regions of this country shown).
      - Keep in mind that currently the only available regions are states of United States of America. Other regions will be added on demand.
    - If you choose Continent, Country, Region. The map will show Level 3: Region (sectors of this region shown).
      - Keep in mind that currently there are no sectors available, they will be added on demand.
  - The world level is displayed by checking the "Display World map" checkbox.

  - If the world level is unchecked, the selection boxes come up and allow users to select other defined hierarchy levels.

- **Select currency** - Allows you to choose a currency to be used in the dashboard. The exchange rate for the selected currency is fetched from the system"ccy" Data Source, the currency symbol is fetched from the "CurrencySymbols" PP.
- **Generic Filter** - Allows you to set a generic transaction data filter. For example: display only data from Europe, or Asia.

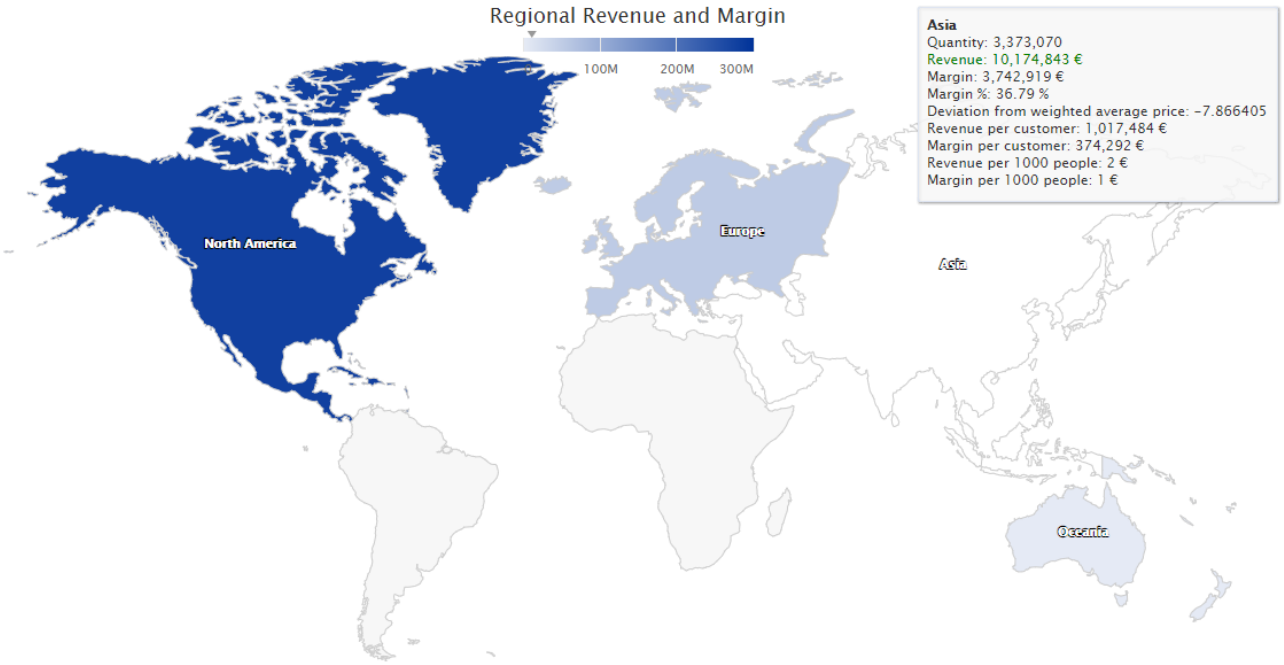
Regional Revenue and Margin Dashboard - Analyze Results 1.5.1

The following map models are available:

- World Map
- Continent Map
- Country Map

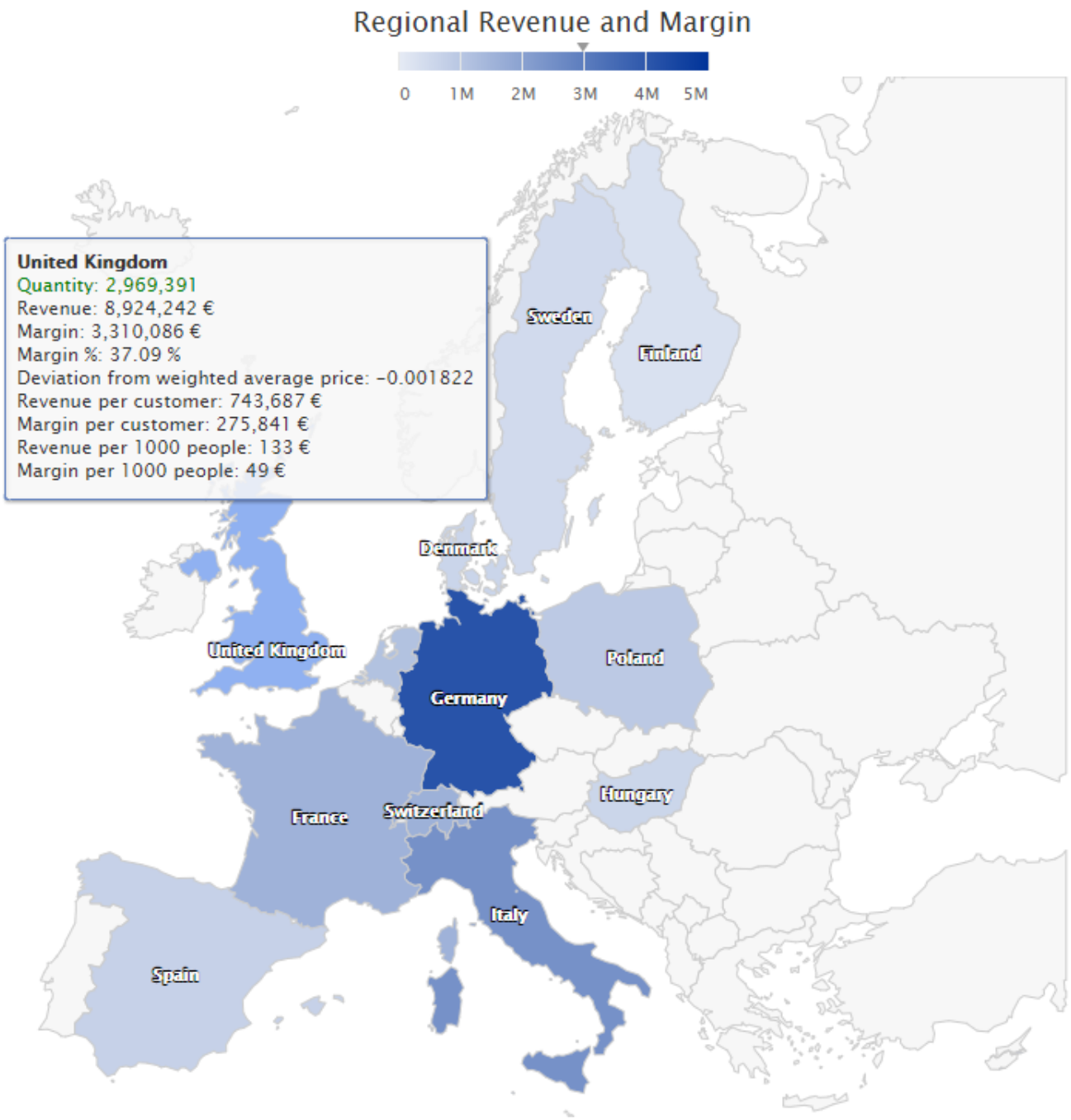
World Map

Helps you analyze the selected KPI (in this case Revenue) distribution between different continents. Beside the selected KPI, it also shows information on other KPIs for each continent.



Continent Map

Helps you analyze the revenue distribution between different countries of a selected continent. Beside the selected KPI, it also shows information on other KPIs for each country.



Country Map

Helps you analyze the revenue distribution between different regions of a selected country. Beside the selected KPI, it also shows information on other KPIs for each region.

Note on Population

To calculate Revenue or Margin per 1000 people, we need to work with the continent/country/region population, so we have a Price Parameter table to store it. If you need to update the population, you can update it in the PP table named "SIP_Population".

Regional Revenue and Margin Dashboard - Details on Configuration 1.5.1

- Regional Revenue and Margin Dashboard - Supported Map Types 1.5.1
- Regional Revenue and Margin Dashboard - Fields Definition 1.5.1
- Regional Revenue and Margin Dashboard - Used Advanced Configuration Fields 1.5.1
- Regional Revenue and Margin Dashboard - Used Price Parameters 1.5.1
- Regional Revenue and Margin Dashboard - Data Requirements and Deployment 1.5.1

Regional Revenue and Margin Dashboard - Supported Map Types 1.5.1

Continents

- North America
- Europe
- Asia
- Oceania

Countries

- North America
  - USA
- Europe
  - Denmark
  - Finland
  - France
  - Germany
  - Hungary
  - Italy
  - Netherlands
  - Poland
  - Spain

        - Sweden
        - Switzerland
        - United Kingdom
    - Asia
        - China
        - Japan
        - South Korea
    - Oceania
        - Australia

Regions

- North America
    - USA
        - Alabama
        - Alaska
        - Arizona
        - Arkansas
        - California
        - Colorado
        - Connecticut
        - Delaware
        - Florida
        - Georgia
        - Hawaii
        - Idaho
        - Illinois
        - Indiana
        - Iowa
        - Kansas
        - Kentucky
        - Louisiana
        - Maine
        - Maryland
        - Massachusetts
        - Michigan
        - Minnesota
        - Mississippi
        - Missouri
        - Montana
        - Nebraska
        - Nevada
        - New Hampshire
        - New Jersey

- New Mexico
- New York
- North Carolina
- North Dakota
- Ohio
- Oklahoma
- Oregon
- Pennsylvania
- Rhode Island
- South Carolina
- South Dakota
- Tennessee
- Texas
- Utah
- Vermont
- Virginia
- Washington
- West Virginia
- Wisconsin
- Wyoming
- District of Columbia

Regional Revenue and Margin Dashboard - Fields Definition 1.5.1

Fields displayed on the dashboard are calculated in the following manner (using the Advanced Configuration field notation):

- Revenue = SUM(revenue)
- Margin = SUM(grossMargin)
- Quantity = SUM(quantity)
- Margin % = SUM(grossMargin) / SUM(revenue) * 100
- Deviation WAP = (item revenue / item quantity) - (total revenue / total quantity)
- Revenue per Customer = (item revenue) / (number of customers in a given area)
- Margin per Customer = (item grossMargin) / (number of customers in a given area)
- Revenue per *X* People = X * (item revenue) / (population in given area)
- Margin per X People = X * (item grossMargin) / (population in given area)

By default X is set to 1000.

The following default filters are put on various fields to ensure proper calculations:

- Only entries with **not null grossMargin** are considered.
- Only entries with **not null invoicePrice** are considered.
- Only entries with **not null quantity** are considered.
- Only entries with **not null continent** are considered (if applicable).
- Only entries with **not null country** are considered (if applicable).

- Only entries with **not null region** are considered (if applicable).

Regional Revenue and Margin Dashboard - Used Advanced Configuration Fields 1.5.1

Regional Revenue and Margin Dashboard uses the following fields from SIP_AdvancedConfiguration:

- datamartName
- pricingDate
- productId
- customerId
- continent
- country
- region
- grossMargin
- quantity
- invoicePrice

Regional Revenue and Margin Dashboard - Used Price Parameters 1.5.1

Configuration Price Parameters

SIP_MapHierarchyConfig

This PP allows you to define which hierarchy levels are used in the dashboard. This can be useful when users do not have data for the Country level but they do for Continents.

This PP table also controls which inputs will be available on the dashboard configurator.

The hierarchy of the configuration needs to be kept: World Continent Country Region

So you cannot use Regions if you do not have data for Continents/Countries. Each lower hierarchy level needs to have all the higher levels enabled. This also means that in order to use the World level, you need to have the Continent data in the DM.

SIP_MapHierarchyConfig		
Column name	Label	Is Used
Value	• World • Continent • Country • Region	Yes/No
Description	Describes which hierarchy level is being configured. These values should not be edited.	Enables or disables the given configurator entry.

SIP_MapCodeOverrides

This PP allows to map Datamart data to ISO codes, if it is not already in that form. This can be useful for users who do not store regional information in the ISO code format.

Additionally this PP allows you to set up custom display labels for entries. If the "User Display Label" is not set, the default label will be used. For example, it is possible to override the default label "United States of America" to "USA".

SIP_MapCodeOverrides				
Column name	Hierarchy Level	ISO Code	User DM Field	User Display Label
Value	• Continent • Country • Region	{ISO code of the entry on the selected hierarchy level}	{DM field representing the entry marked with ISO Code in user data}	{custom user label for the entry to be displayed on the chart}
Description	For example: Country	For example: US	For example: USA	For example: USA

SIP_GeoOverrides

This PP allows to move country entries between continents. This can be useful if e.g. users have data for a country in different continent data. For example, users use the EMEA business region which leads to Oman being included in the EU data, but since it is not on the map it cannot be displayed. Users can then set the GeoOverride for Oman to be displayed in the Asia data set.

ℹ The country ISO code needs to be in the set of ISO codes for the given continent in order to be properly displayed on the continent level.

⚠ GeoOverrides work only on the country level: only countries can be moved between continents. Regions cannot be moved.

If a country is moved to a continent it does not belong to, its data will be displayed on a the world level but not on the continent level.

SIP_GeoOverrides			
Column name	ISO Code	Parent ISO Code	Override ISO Code
Value	{ISO code of country to be moved}	{ISO code of the continent entry for the given country}	{ISO code of the continent for the country to be moved to}
Description	For example: OM	For example: EU For the case described above, there would also need to be EMEA EU mapping done in SIP_MapCodeOverrides.	For example: AS

Data Price Parameters

SIP_Population				
Column name	Continent	Country	Region	Population

Values	{2 letter ISO code of a continent}	{2 letter ISO code of a country}	{ISO code of a region}	{given entry population}
Description	Values supported match the available maps.	Values supported match the available maps.	Values supported match the available maps. The default value is "*" (= none region specified for a given continent /country combination). Each region needs its own population specified in order to work properly. States in USA have ISO codes in the form US-ID; they can be found here.	

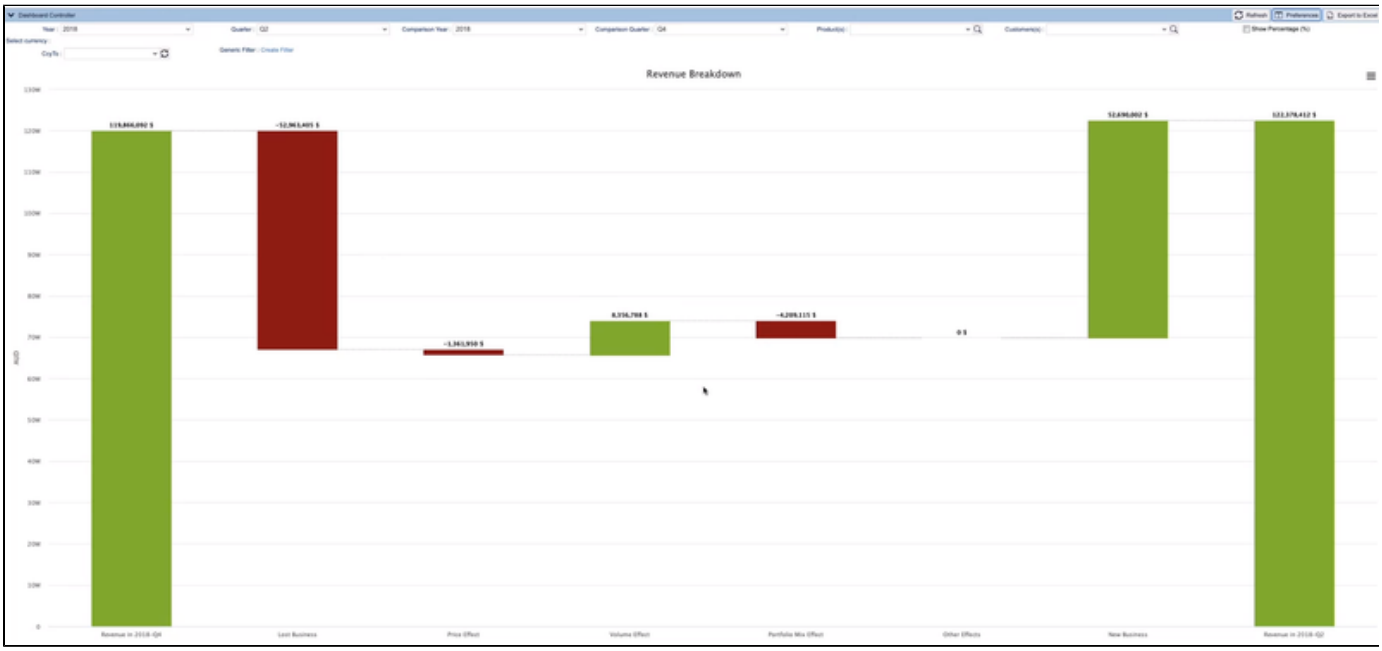
Regional Revenue and Margin Dashboard - Data Requirements and Deployment 1.5.1

Before deploying this template, it is possible to modify some parameters of this dashboard to adapt to an existing Datamart. The following fields are used for the setup:

Field Name	Description	Required	Note
Datamart	Datamart used in the analysis	Yes	
Product Id	Product field in the transactional data	Yes	
Customer Id	Customer field in the transactional data	Yes	
Revenue	Field representing revenue in the transactional data	Yes	
Margin	Field representing margin in the transactional data	Yes	
Transaction Date	Field representing date of the transaction in the transactional data	Yes	
Quantity	Field representing quantity in the transactional data	Yes	
Continent	Field representing continent in the transactional data	Yes	Required to display the world map.
Country	Field representing country in the transactional data	No	Required to display the country map on a given continent.
Region	Field representing region in the transactional data	No	Required to display the region map on a given country.

Revenue Breakdown Dashboard 1.5.1

Revenue Breakdown Dashboard shows you 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.



In this section:

Revenue Breakdown Dashboard - Set Up Data and Filters 1.5.1

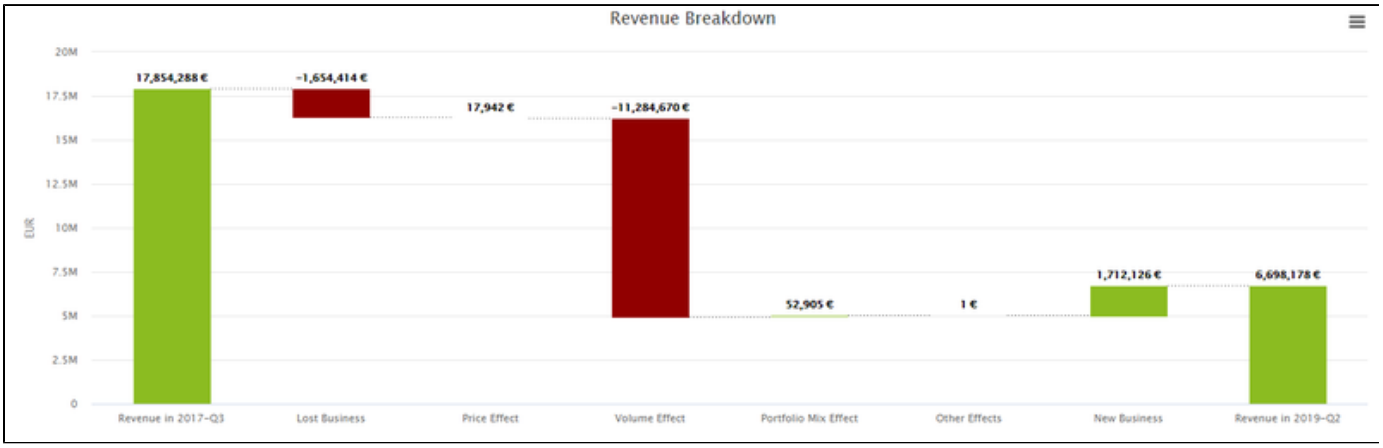
For this dashboard you can set the following inputs:

- **Year** - Allows you to select the year for the first comparison period. Data for this input are fetched from the "pricingDate" field from SIP_AdvancedConfiguration. Note: The "pricingDate" field must be marked as "Pricing Date" in Transaction DM to allow for the system year field generation.
  - Defaults to MAX(pricingDate) and if not found, fallbacks to the current year.
- **Quarter** - Allows you to select the quarter for the first comparison period. In case of no selection, the whole year is taken into comparison.
  - Defaults to the current quarter.
- **Comparison Year** - Allows you to select the year for the second comparison period.
  - Defaults to MIN(pricingDate) and if not found, fallbacks to the previous year.
- **Comparison Quarter** - Allows you to select the quarter for second comparison period.

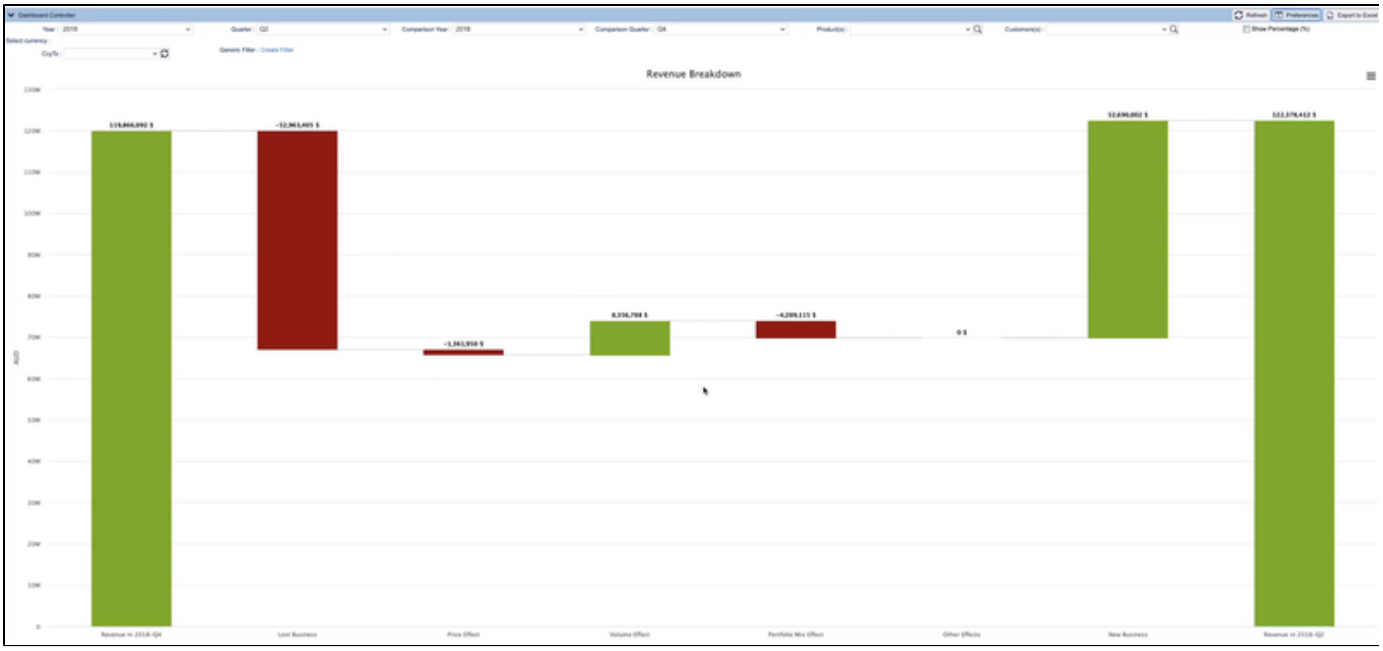
    - If neither year nor quarter are selected but the first comparison period is selected, the year before that period is selected.
    - If only Comparison Quarter is selected but Comparison Year is empty, the quarter of the year before the first period is selected.
- **Product(s)** – Allows you to choose one of product attributes to be used for the analysis.
- **Customer(s)** – Allows you to choose one of customer attributes to be used for the analysis.
- **Product Aggregation** – Allows you to define a custom grouping dimension to reduce the granularity of the product data. The product dimensions available in this input are defined in Advanced Configuration. Fields must come from the Datamart used for the package.
- **Customer Aggregation** – Allows you to define a custom grouping dimension to reduce the granularity of the customer data. The customer dimensions available in this input are defined in Advanced Configuration. Fields must come from the Datamart used for the package.
- **Show Percentage (%)** – Allows you to select whether the values should be displayed as percentage.
    - Defaults to false.
- **Select currency** – Allows you to choose the currency used in the dashboard. The exchange rate for the selected currency is fetched from the system "ccy" Data Source, the currency symbol is fetched from the "CurrencySymbols" PP.
- **Generic Filter** – Allows you to set up a generic transaction data filter. For example: display only data from Europe, or Asia.

Revenue Breakdown Dashboard - Analyze Results 1.5.1

This chart shows revenue in two periods and tries to associate the difference to categories such as volume, price, new/lost business. For better guidance, loss is shown in red, gain in green. For example, the second column Lost Business shows what amount in revenue was lost due to customers not buying particular products in the first period. But what is clearly the main reason for a smaller revenue in the second period is the significant decrease in volume sold.



Another example illustrates nicely what is typically expected: when the price is decreased (lost revenue shown in 3rd column), the volume goes up (4th column).



Revenue Breakdown Dashboard - Details on Configuration 1.5.1

Revenue Breakdown Dashboard - Fields Definition 1.5.1

In the tables below the following nomenclature is used (field definitions taken from SIP_AdvancedConfiguration):

- **T1** - First period data
- **T2** - Second period data
- **InvoicePrice** - SUM(invoicePrice)
- **Volume** - SUM(quantity)
- **InvoicePricePerUnit** - SUM(invoicePrice) / SUM(quantity)
- **T1Volume** - Total Volume for T1
- **T2Volume** - Total Volume for T2

There are 8 columns displayed in the dashboard:

1. **Revenue in {T1}** - Provides a revenue summary from the first period.
2. **Volume** - Here we isolate the transactions of sales of the same products to the same customers at the same prices. The difference in revenue between T1 and T2 is attributed to a difference in volume only. This can be positive or negative.
3. **Price** - Difference in revenue between the T2 and T1 that can be attributed solely to changes in price. We isolate the transactions of sales of the same products to the same customers in both periods, keep the volume stable in either (by only taking the lowest volume of T1 and T2) and compare the revenue. The result can be negative or positive.
4. **Mix** - Difference in revenue between T2 and T1 for transactions for customers that appear in both T1 and T2 but are not yet included in the Price Effect nor Volume Effect categories. In other words:

a change in revenue attributed to existing customers buying different products and/or a change in volume combined with a change in price.

5. **New Business** – Total revenue from transactions in T2 from customers that did not buy anything in the T1, expressed as a positive number. Always positive.
6. **Lost Business** – Total revenue from transactions in T1 from customers that did not buy anything in the T2, expressed as a negative number. Always negative.
7. **Other** – Other effects that may influence the revenue that are none of the above.
8. **Revenue in {T2}** – Provides a summary of revenue from the second period.

Effects are calculated in the following way:

Effect	Calculation
Volume	(SUM(T2.Volume)-SUM(T1.Volume)) * (SUM(T1.InvoicePrice) / SUM(T1.Volume))
Price	SUM((T2.InvoicePricePerUnit – T1.InvoicePricePerUnit)*T2.Volume)
Mix	SUM(T1.InvoicePricePerUnit * (T2.Volume/T2Volume - T1.Volume/T1Volume)) * SUM(T2.Volume)
Other	T2.InvoicePrice - (T1.InvoicePrice + lostBusinessEffect + priceEffect + volumeEffect + mixEffect + newBusinessEffect)

There are some default filters put on various fields to ensure proper calculations. These are:

- Only entries with **not null invoicePrice** are considered.
- Only entries with **not null quantity** are considered.
- Only entries with **SUM(quantity) > 0** are considered.
- Only entries with **SUM(invoicePrice) > 0** are considered.

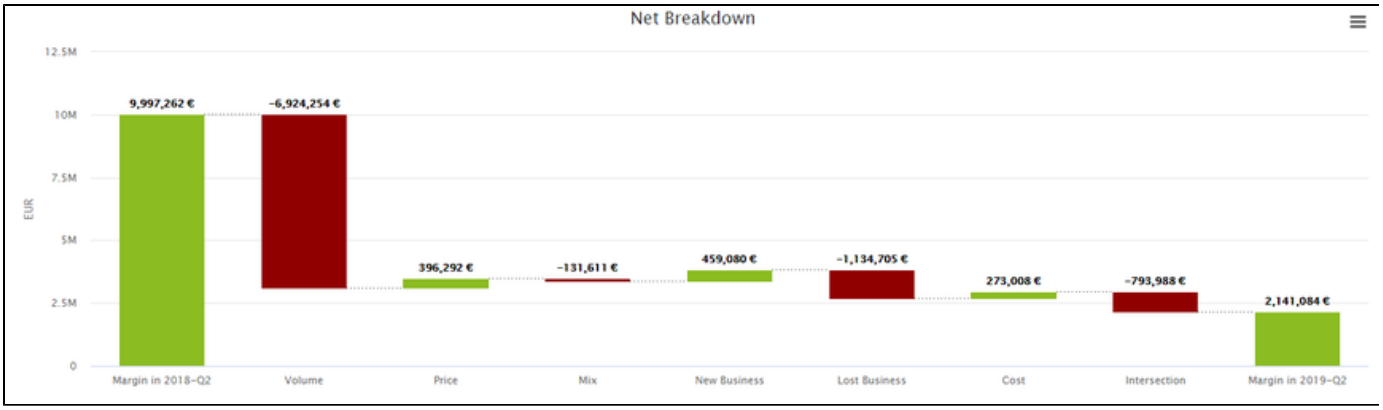
Revenue Breakdown Dashboard - Used Advanced Configuration Fields 1.5.1

Revenue Breakdown Dashboard uses the following fields from SIP_AdvancedConfiguration:

- datamartName
- pricingDate
- productId
- customerId
- quantity
- invoicePrice

Margin Breakdown Dashboard 1.5.1

The Margin Breakdown dashboard shows you what the difference in margin 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. It includes different calculation options ("models").



In this section:

- Margin Breakdown Dashboard - Set Up Data and Filters 1.5.1
- Margin Breakdown Dashboard - Analyze Results 1.5.1
- Margin Breakdown Dashboard - Details on Configuration 1.5.1

Margin Breakdown Dashboard - Set Up Data and Filters 1.5.1

For this dashboard you can set the following inputs:

- **Year** - Allows you to select the year for the first comparison period. Data for this input are fetched from the "pricingDate" field from SIP_AdvancedConfiguration. Note: The "pricingDate" field must be marked as a "Pricing Date" in Transaction DM to allow for the system year field generation.
- **Quarter** - Allows you to select the quarter for the first comparison period. If there is no selection, the whole year is taken into comparison.
- **Comparison Year** - Allows you to select the year for the second comparison period.
- **Comparison Quarter** - Allows you to select the quarter for second comparison period. If neither year nor quarter are selected but the first comparison period is selected, the year before that period is selected. If only Comparison Quarter is selected but Comparison Year is empty, the quarter of the year before the first period is selected.
- **Product(s)** - Allows you to choose one of product attributes to be used for the analysis.
- **Customer(s)** - Allows you to choose one of customer attributes to be used for the analysis.
- **Product Aggregation** - Allows you to define a custom grouping dimension to reduce the granularity of the product data. The product dimensions available in this input are defined in Advanced Configuration. Fields must come from the Datamart used for the package.
- **Customer Aggregation** - Allows you to define a custom grouping dimension to reduce the granularity of the customer data. The customer dimensions available in this input are defined in Advanced Configuration. Fields must come from the Datamart used for the package.
- **Calculation Type** - Allows you to select the calculation type to be used for the dashboard. Available values are:
  - Net
  - Gross
  - Averages

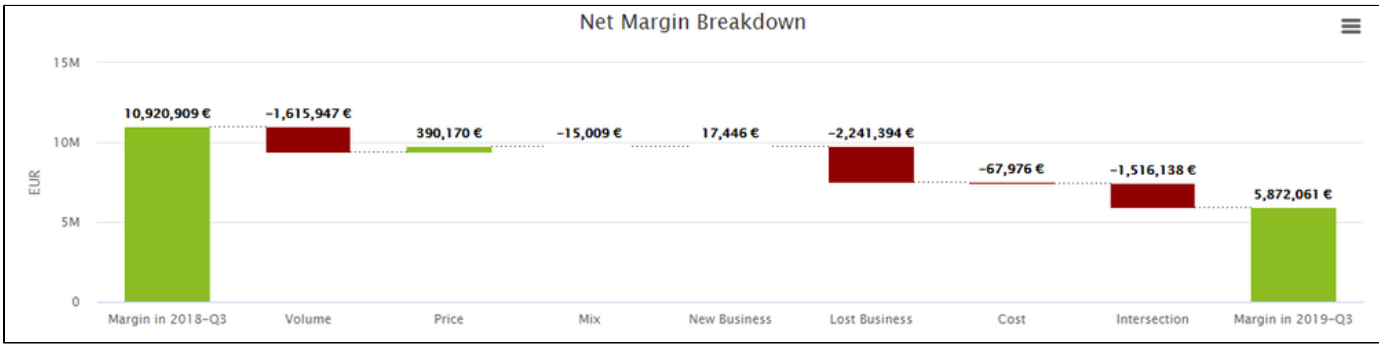
    - Most Used
- **Show Percentage (%)** – Allows you to select whether the values should be displayed as percentage.
- **Select currency** – Allows you to choose the currency to use in the dashboard. The exchange rate for the selected currency is fetched from system "ccy" DS, the currency symbol is fetched from "CurrencySymbols" PP.
- **Generic Filter** – Allows you to set up a generic transaction data filter. For example: display only data from Europe, or Asia.

Margin Breakdown Dashboard - Analyze Results 1.5.1

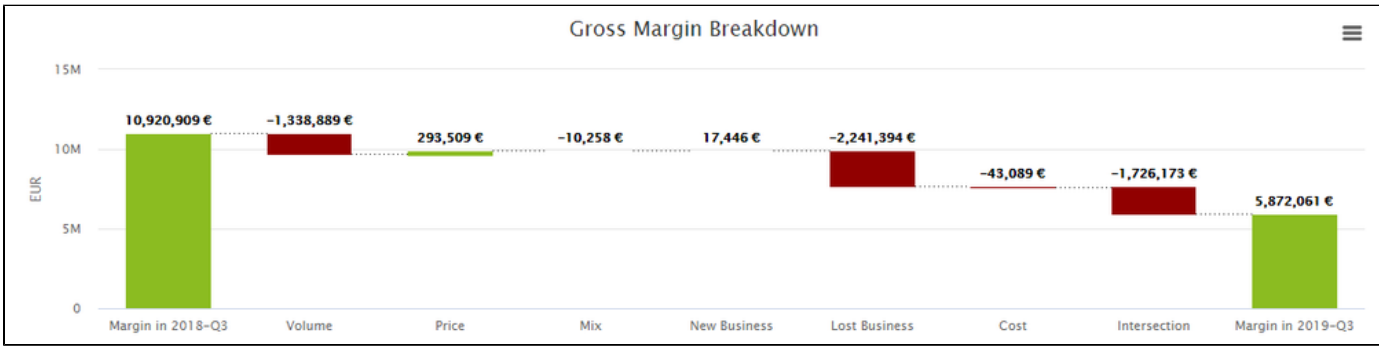
Margin Breakdown Models refer to the way the chart columns are calculated – which driver they emphasize. See the details in Margin Breakdown Dashboard - Fields Definition 1.5.1. For better guidance, loss is shown in red, gain in green.

- Net
- Gross
- Averages
- Most Used

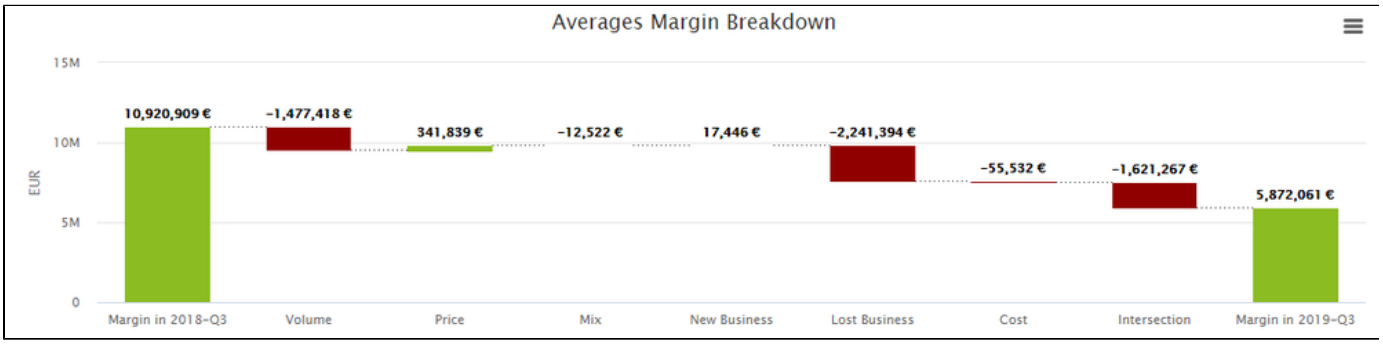
Net



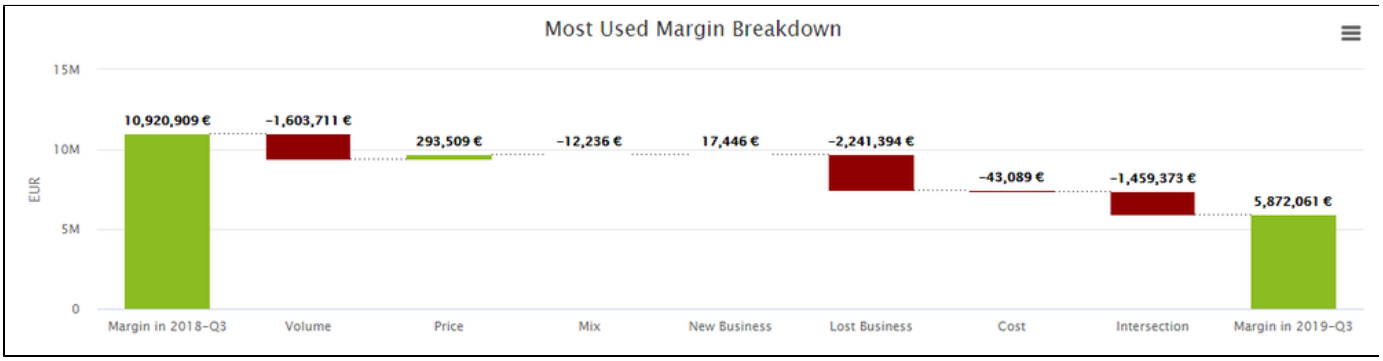
Gross



Averages



Most Used



Margin Breakdown Dashboard - Details on Configuration 1.5.1

Margin Breakdown Dashboard - Fields Definition 1.5.1

In the tables below the following terminology is used (field definitions taken from SIP_AdvancedConfiguration):

- **T1** - First period data
- **T2** - Second period data
- **Margin** - SUM(grossMargin)
- **Volume** - SUM(quantity)
- **InvoicePricePerUnit** - SUM(invoicePrice) / SUM(quantity)
- **MarginPerUnit** - SUM(grossMargin) / SUM(quantity)
- **CostPerUnit** - SUM(costs) / SUM(quantity)
- **T1Volume** - Total Volume for T1
- **T2Volume** - Total Volume for T2

There are 9 columns displayed in the dashboard:

1. **Margin in { T1 }** - Provides a margin summary from the first period.
2. **Volume** - Here we isolate the transactions of sales of the same products to the same customers at the same prices. The difference in margin between T1 and T2 is attributed to a difference in volume only. This can be positive or negative.
3. **Price** - Difference in margin between the T2 and T1 that can be attributed solely to changes in price. We isolate the transactions of sales of the same products to the same customers in both periods, keep the volume stable in either (by only taking the lowest volume of T1 and T2) and compare the margin. The result can be negative or positive.
4. **Mix** - Difference in margin between T2 and T1 for transactions for customers that appear in both T1 and T2 but are not yet included in the Price Effect nor Volume Effect categories. In other words: a change in margin attributed to existing customers buying different products and/or a change in volume combined with a change in price.
5. **New Business** - Total margin from transactions in T2 from customers that did not buy anything in the T1, expressed as a positive number. Always positive.
6. **Lost Business** - Total margin from transactions in T1 from customers that did not buy anything in the T2, expressed as a negative number. Always negative.
7. **Cost**
8. **Intersection** - Effects which could not be explained by the previous categories. If this category is large, it can be worthwhile to look into exchange rates, freight cost, rebates or even data validity. Checking the waterfall can also give you a clue.
9. **Margin in { T2 }** - Provides a margin summary from the second period.

Depending on the selected calculation model some of the effects are calculated differently, but some are common.

Common Effects	Calculation
Intersection	T2.Margin - T1.Margin - VolumeEffect - PriceEffect - CostEffect - MixEffect - NewBusinessEffect - LostBusinessEffect
New Business	Margin data that is present in the T1 but is not present in the T2 (based on ProductId and CustomerId)
Old Business	Margin data that is present in the T2 but is not present in the T1 (based on ProductId and CustomerId)

PerModelEffects	Net Calculation	Gross Calculation	Averages Calculation	Most Used Calculation

Volume	SUM((T2.Volume - T1.Volume) * T1.MarginPerUnit)	SUM((T2.Volume - T1.Volume) * T2.MarginPerUnit)	SUM((T2.Volume - T1.Volume) * ((T1.MarginPerUnit + T2.MarginPerUnit) / 2))	SUM((T2.Volume - T1.Volume) * T1.MarginPerUnit) - SUM((T2.Volume /T2Volume - T1.Volume /T1Volume) * (T1.MarginPerUnit - (T1.Margin /T1Volume))) * SUM(T2.Volume)
Price	SUM((T2.InvoicePricePerUnit - T1.InvoicePricePerUnit) * T1.Volume)	SUM((T2.InvoicePricePerUnit - T1.InvoicePricePerUnit) * T2.Volume)	SUM((T2.InvoicePricePerUnit - T1.InvoicePricePerUnit) * ((T1.Volume+T2.Volume) / 2))	SUM((T2.InvoicePricePerUnit - T1.InvoicePricePerUnit) * T2.Volume)
Mix	SUM((T2.Volume /T2Volume - T1.Volume/T1Volume) * (T1.MarginPerUnit - (T1.Margin /T1Volume))) * SUM (T1.Volume)	SUM((T2.Volume /T2Volume - T1.Volume/T1Volume) * (T2.MarginPerUnit - (T2.Margin /T2Volume))) * SUM (T2.Volume)	SUM((T2.Volume/T2Volume - T1.Volume/T1Volume) * ((T2.MarginPerUnit - (T2.Margin /T2Volume)) + (T1.MarginPerUnit - (T1.Margin/T1Volume))) / 2) * (SUM(T1.Volume) + SUM(T2.Volume)) / 2	SUM((T2.Volume/T2Volume - T1.Volume/T1Volume) * (T1.MarginPerUnit - (T1.Margin/T1Volume))) * SUM (T2.Volume)
Cost	-SUM((T2.CostPerUnit - T1.CostPerUnit) * T1.Volume)	-SUM((T2.CostPerUnit - T1.CostPerUnit) * T2.Volume)	-SUM((T2.CostPerUnit - T1.CostPerUnit) * ((T1.Volume+T2.Volume)/2))	-SUM((T2.CostPerUnit - T1.CostPerUnit) * T2.Volume)

There are some default filters put on various fields to ensure proper calculations. These are:

- Only entries with **not null grossMargin** are considered.
- Only entries with **not null invoicePrice** are considered.
- Only entries with **not null quantity** are considered.
- Only entries with **SUM(quantity) > 0** are considered.

Margin Breakdown Dashboard - Used Advanced Configuration Fields 1.5.1

Margin Breakdown Dashboard uses the following fields from SIP_AdvancedConfiguration:

- datamartName
- pricingDate
- productId
- customerId
- grossMargin
- quantity
- invoicePrice
- costs

Outliers Dashboard 1.5.1

Outliers Dashboard helps you analyse the best and worst performing products and customers based on different KPIs and a selected filter.

Best & Worst Products Performance

Name	Number	Revenue (€)	Margin (€)	Margin %	Margin Contribution %	Revenue Contribution %	Volume
Summary		28,393,147.26	9,068,819.82	31.94 %			9,333,893
▲ Meatball LM	MB-0008	621,970.02	199,005.65	32.00 %	6.86 %	2.19 %	203,318
▲ Meatball MS BxP	MB-0013	617,118.74	197,754.64	32.04 %	6.80 %	2.17 %	204,336
▲ Meatball PS	MB-0004	612,378.83	195,854.44	31.98 %	6.75 %	2.16 %	200,616
▲ Meatball MS 80Bx20P	MB-0022	611,853.50	195,996.38	32.03 %	6.75 %	2.15 %	200,253
▲ Meatball MI 80Bx20P	MB-0024	611,005.35	194,908.19	31.90 %	6.74 %	2.15 %	199,566
▼ Still Water	BV-0006	97,417.30	31,160.67	31.99 %	1.07 %	0.34 %	32,223
▼ Meatball MM Beef+Cheese+Bacon	MB-0027	97,045.25	30,867.34	31.81 %	1.07 %	0.34 %	31,923
▼ ToughTray 2000	NC-P-0002	46,904.23	14,749.25	31.45 %	0.52 %	0.17 %	15,147
▼ NyChem 075	NC-0075	42,608.89	13,598.66	31.92 %	0.47 %	0.15 %	13,894
▼ ToughTray	NC-P-0001	38,796.97	12,424.32	32.02 %	0.43 %	0.14 %	12,923

In this section:

- Outliers Dashboard - Set Up Data and Filters 1.5.1
- Outliers Dashboard - Analyze Results 1.5.1
- Outliers Dashboard - Details on Configuration 1.5.1

Outliers Dashboard - Set Up Data and Filters 1.5.1

For this dashboard you can set the following inputs:

- **Product(s)** – Allows you to choose one of the product attributes to be used for the analysis.
  ⚠ This input is applied only for the Product part of the dashboard. It is not taken into account for the summary data.
- **Customer(s)** – Allows you to choose one of the customer attributes to be used for the analysis.
  ⚠ This input is applied only for the Customer part of the dashboard. It is not taken into account for the summary data.
- **Date From/To** – Filters data for the analysis according to the given time range.
  - By default, Date From is set to one year back.
  - By default, Date To is set to today's date.
- **Product Aggregation** – Allows you to define a custom grouping dimension to reduce the granularity of the product data. The product dimensions available in this input are defined in Advanced Configuration. The fields must come from the Product Master table.

- **Customer Aggregation** – Allows you to define a custom grouping dimension to reduce the granularity of the customer data. The customer dimensions available in this input are defined in Advanced Configuration. The fields must come from the Customer Master table.
- **Calculation Model** – Allows you to select the calculation model for Outliers.
  - Currently available models are:
    - (Max - Min) Split (default)
    - Split Equally
    - Contribution
- **KPI** – Stands for Key Performance Indicator, a measure which is used to determine the Best/Worst performers. You can choose from the following values (may vary depending on the model selected):
  - Revenue
  - Revenue Contribution %
  - Margin
  - Margin %
  - Margin Contribution %
- **Top Product(s)/Customer(s)** – Allows you to choose from a predefined list of values how many products/customers should be displayed in Best & Worst performance tables.
  In case there is not enough products to display, the results are trimmed and "Best" is favored (in case of only 5 products the division will be 3/2). The default value is 5.

Please note that currently there is an issue with the configurator wizard: it does not apply the default values on the initial run of the dashboard. To display the correct values, you need to refresh the dashboard after the initial launch.

Outliers Dashboard - Analyze Results 1.5.1

The dashboard provides the following summaries:

- Best & Worst Products/Customers Performance
- Products/Customers Performance Chart

Best & Worst Products/Customers Performance

There are separate tables for products and customers showing different KPIs of the best and worst performing products or customers based on the selected filters.

Best & Worst Products Performance

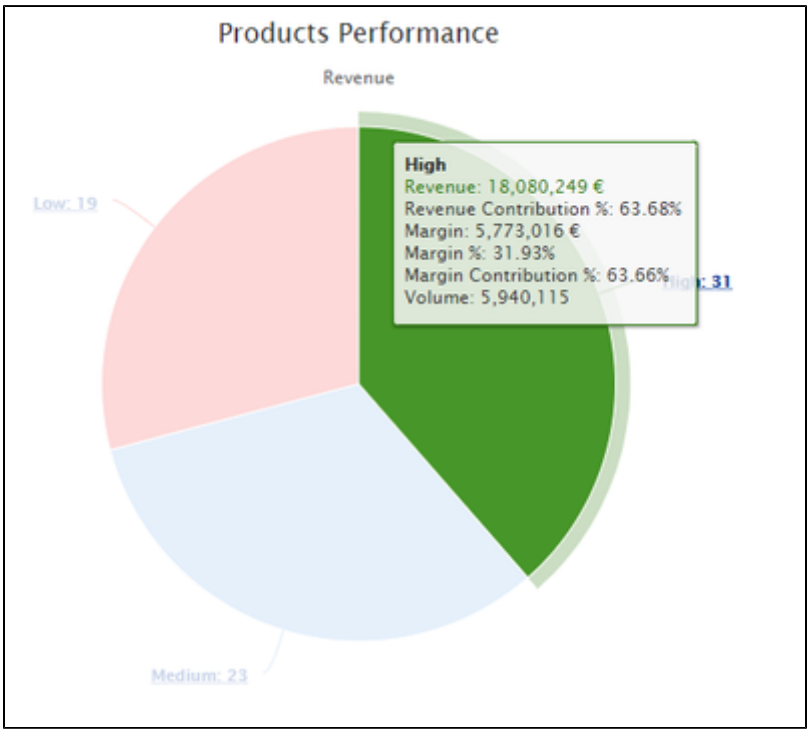
Name	Number	Revenue (€)	Margin (€)	Margin %	Margin Contribution %	Revenue Contribution %	Volume
Summary		28,393,147.26	9,068,819.82	31.94 %			9,333,893
▲ Meatball LM	MB-0008	621,970.02	199,005.65	32.00 %	6.86 %	2.19 %	203,318
▲ Meatball MS BxP	MB-0013	617,118.74	197,754.64	32.04 %	6.80 %	2.17 %	204,336
▲ Meatball PS	MB-0004	612,378.83	195,854.44	31.98 %	6.75 %	2.16 %	200,616
▲ Meatball MS 80Bx20P	MB-0022	611,853.50	195,996.38	32.03 %	6.75 %	2.15 %	200,253
▲ Meatball MI 80Bx20P	MB-0024	611,005.35	194,908.19	31.90 %	6.74 %	2.15 %	199,566
▼ Still Water	BV-0006	97,417.30	31,160.67	31.99 %	1.07 %	0.34 %	32,223
▼ Meatball MM Beef+Cheese+Bacon	MB-0027	97,045.25	30,867.34	31.81 %	1.07 %	0.34 %	31,923
▼ ToughTray 2000	NC-P-0002	46,904.23	14,749.25	31.45 %	0.52 %	0.17 %	15,147
▼ NyChem 075	NC-0075	42,608.89	13,598.66	31.92 %	0.47 %	0.15 %	13,894
▼ ToughTray	NC-P-0001	38,796.97	12,424.32	32.02 %	0.43 %	0.14 %	12,923

Best & Worst Customers Performance

Name	Number	Revenue (€)	Margin (€)	Margin %	Margin Contribution %	Revenue Contribution %
Summary		28,393,147.26	9,068,819.82	31.94 %		
▲ Soupo AG	CD-00006	561,833.55	179,390.84	31.93 %	6.20 %	1.98 %
▲ M. Müller	CD-00003	552,873.86	177,294.29	32.07 %	6.10 %	1.95 %
▲ Soupo DE	CD-00012	545,722.27	174,626.57	32.00 %	6.02 %	1.92 %
▲ M. Becker	CD-00005	544,791.23	173,504.50	31.85 %	6.01 %	1.92 %
▲ E. Fuller	CD-00009	542,027.54	173,390.60	31.99 %	5.98 %	1.91 %
▼ Martin Johann	CD-00131	27,649.42	8,813.92	31.88 %	0.30 %	0.10 %
▼ MX Meat Inc.	CD-00146	26,530.59	8,391.35	31.63 %	0.29 %	0.09 %
▼ South Chickem	CD-00132	26,393.18	8,834.00	33.47 %	0.29 %	0.09 %
▼ Stomach	CD-00129	25,502.82	8,279.86	32.47 %	0.28 %	0.09 %
▼ Very Good Meat	CD-00139	24,395.29	7,891.56	32.35 %	0.27 %	0.09 %

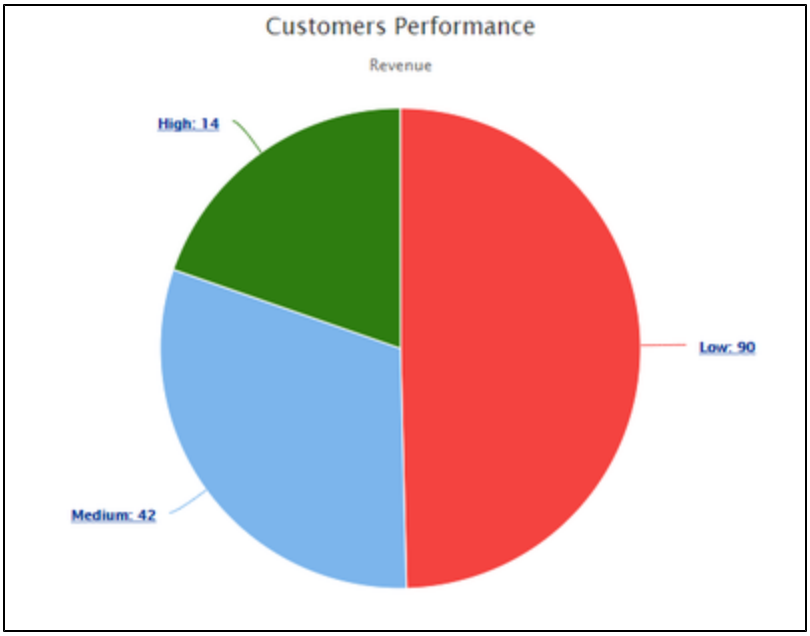
Products/Customers Performance Chart

The pie chart displays the count of products/customers in each group, the selected KPI value is highlighted.

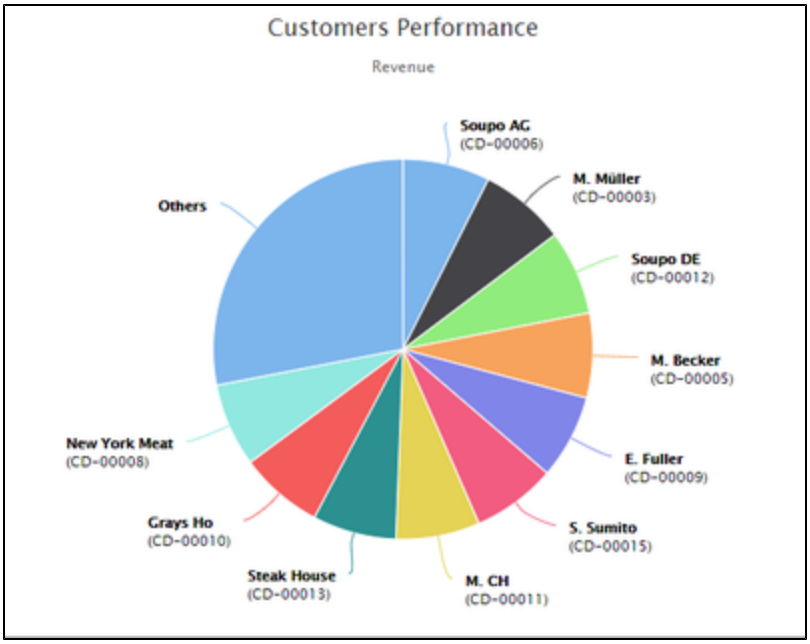


What to look out for:

- If you ever get here products with a negative margin, these are definitely candidates for review. Often, these can be gifts, warranties or other justifiable items but in other cases it may highlight a potential issue.
- Customers with negative performance are even more questionable (unless they represent internal units or similar cases).
- Also, this chart allows you to review your strategy when comes to a target customer size – whether to focus on large, medium or small customer; especially if you can support it with data on the total cost of ownership of each customer.



There is also an option to drill down into each category (by clicking the category in the chart or legend) and display additional details. For the High and Medium categories the detailed chart will display 10 best performing items and for Low and Negative 10 worst. The rest will be grouped into the "Others" group.



Outliers Dashboard - Details on Configuration 1.5.1

- Outliers Dashboard - Calculation Models 1.5.1
- Outliers Dashboard - Used Advanced Configuration Fields 1.5.1
- Outliers Dashboard - Used Price Parameters 1.5.1

Outliers Dashboard - Calculation Models 1.5.1

The current implementation provides three calculation models. These models differ in how items are distributed to buckets.

There are always 4 buckets: High, Medium, Low, Negative. The threshold calculations assign each item to a proper bucket based on the selected KPI value.

The following rules apply for all models when placing an item into one of these 4 buckets. Each item whose running total KPI value is:

- negative - gets assigned to the Negative bucket.
- below the Low threshold - gets assigned to the Low bucket.
- above the High threshold - gets assigned to the High bucket.
- in neither of previous buckets - gets assigned to the Medium bucket.

The models are:

- (Max - Min) Split Model
- Split Equally Model (Placeholder name)
- Contribution Model (Placeholder name)

(Max - Min) Split Model

Allowed KPI values:

- Revenue (selected by default)
- Revenue Contribution %
- Margin
- Margin %
- Margin Contribution %

Thresholds are calculated in the following manner:

- High = MAX(KPI) - ((MAX(KPI) - MIN(KPI)) / 3)
- Low = MIN(KPI) + ((MAX(KPI) - MIN(KPI)) / 3)

Split Equally Model (Placeholder name)

Allowed KPI values:

- Revenue (selected by default)
- Margin

This model uses the running total for bucket assignment. All items are sorted descending depending on the selected KPI. A running total is calculated along with each item assignment.

Thresholds are calculated in the following manner:

- High = SUM(KPI) / 3
- Low = SUM(KPI) / 3 * 2

Contribution Model (Placeholder name)

Allowed KPI values:

- Revenue Contribution % (selected by default)
- Margin Contribution %

This model also uses the running total for bucket assignment. Again, all items are sorted descending depending on the selected KPI. A running total is calculated along with each item assignment.

Thresholds are fetched from the OutliersContributionModelThresholds PP.

Default Filters

There are some default filters put on various fields to ensure proper calculations. These are:

- Only entries with **not null grossMargin** are considered.
- Only entries with **not null invoicePrice** are considered.
- Only entries with **not null quantity** are considered.
- Only entries with **SUM(invoicePrice) > 0** are considered.
- Only entries with **SUM(quantity) > 0** are considered.

Outliers Dashboard - Used Advanced Configuration Fields 1.5.1

Outliers Dashboard uses the following fields from SIP_AdvancedConfiguration:

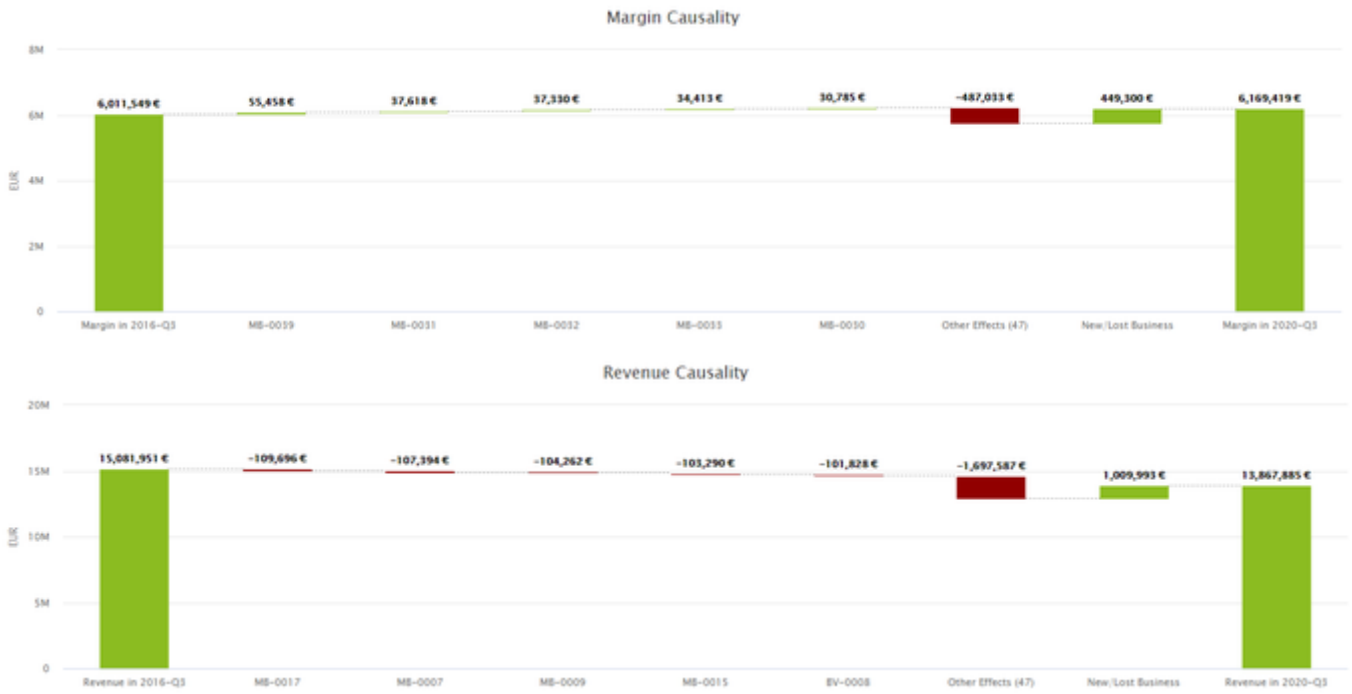
- datamartName
- pricingDate
- productId
- productName
- customerId
- customerName
- grossMargin
- quantity
- invoicePrice
- productDimensions
- customerDimensions

Outliers Dashboard - Used Price Parameters 1.5.1

OutliersContributionModelThresholds		
Column name	Name	Value
Values	{High/Low}	{Percentage value}
Description	Determines which threshold bracket for the calculation to define.	E.g. 30, 60

Causality Dashboard 1.5.1

The Causality Dashboard allows you to identify the change in contribution of Product/Customer groups to Total Revenue or Margin between two periods, so you can easily identify problematic parts of the business.



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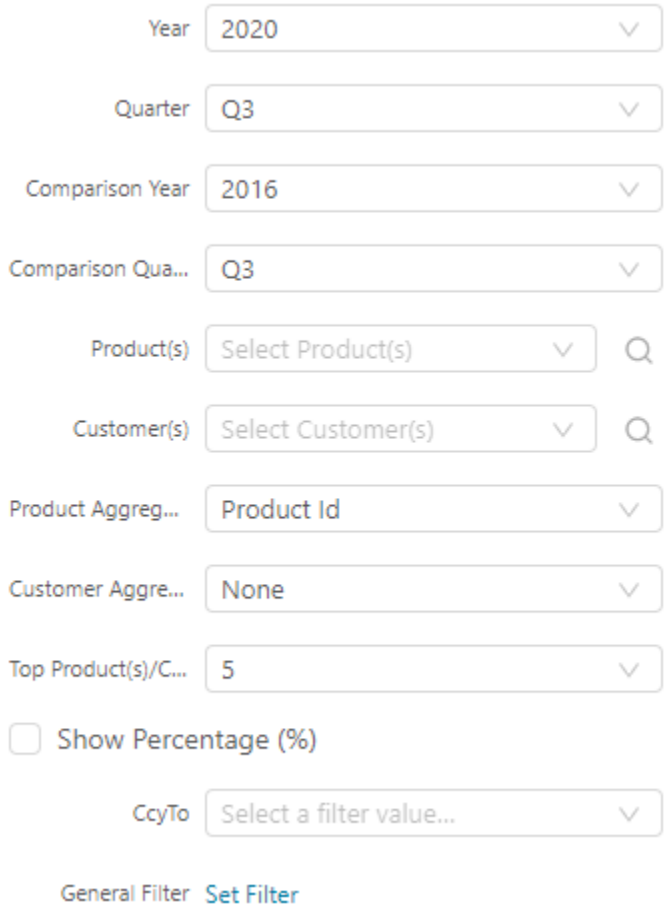
Causality Dashboard - Set Up Data and Filters 1.5.1



For this dashboard you can set the following inputs:

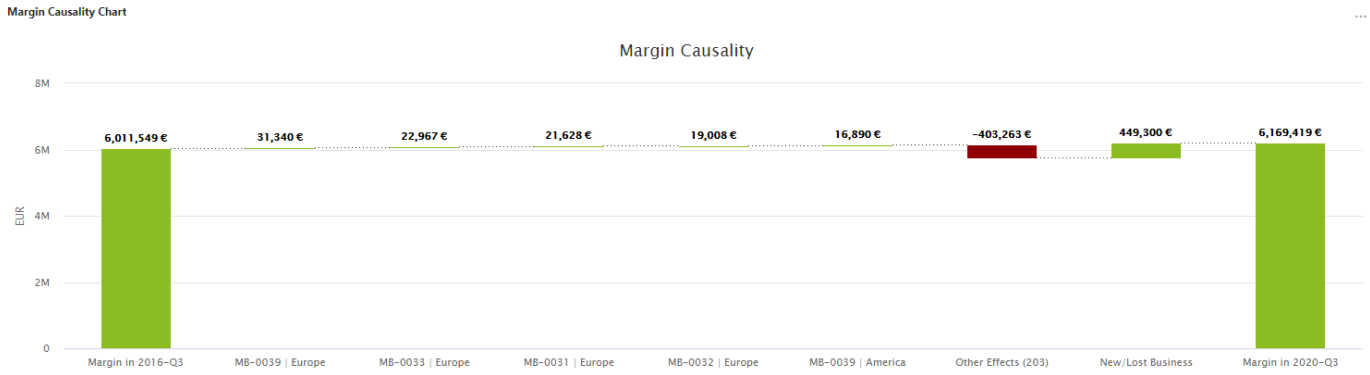
- **Year** – Allows you to select the year for the first comparison period. Data for this input are fetched from the "pricingDate" field from SIP_AdvancedConfiguration.
  - Note: The "pricingDate" field must be marked as "Pricing Date" in Transaction DM to allow for the system year field generation.
  - Defaults to MAX(pricingDate) and if not found, fallbacks to the current year.
- **Quarter** – Allows you to select the quarter for the first comparison period. In case of no selection, the whole year is taken into comparison.
  - Defaults to the current quarter.
- **Comparison Year** – Allows you to select the year for the second comparison period.
  - Defaults to MIN(pricingDate) and if not found, fallbacks to the previous year.
- **Comparison Quarter** – Allows you to select the quarter for second comparison period.
  - If neither year nor quarter are selected but the first comparison period is selected, the year before that period is selected.
  - If only Comparison Quarter is selected but Comparison Year is empty, the quarter of the year before the first period is selected.
- **Product(s)** – Allows you to choose one of product attributes to be used for the analysis.
- **Customer(s)** – Allows you to choose one of customer attributes to be used for the analysis.

- **Product Aggregation** – Allows you to define a custom grouping dimension to reduce the granularity of the product data. The product dimensions available in this input are defined in Advanced Configuration. Fields must come from the Datamart used for the package.
- **Customer Aggregation** – Allows you to define a custom grouping dimension to reduce the granularity of the customer data. The customer dimensions available in this input are defined in Advanced Configuration. Fields must come from the Datamart used for the package.
- **Top Product(s)/Customer(s)** – Allows you to choose from a predefined list of values how many product/customer groups should be displayed in between the periods.
- **Show Percentage (%)** – Allows you to select whether the values should be displayed as percentage.
  - Defaults to false.
- **Select currency** – Allows you to choose the currency used in the dashboard. The exchange rate for the selected currency is fetched from the system "ccy" Data Source, the currency symbol is fetched from the "CurrencySymbols" PP.
- **Generic Filter** – Allows you to set up a generic transaction data filter. For example: display only data from Europe, or Asia.

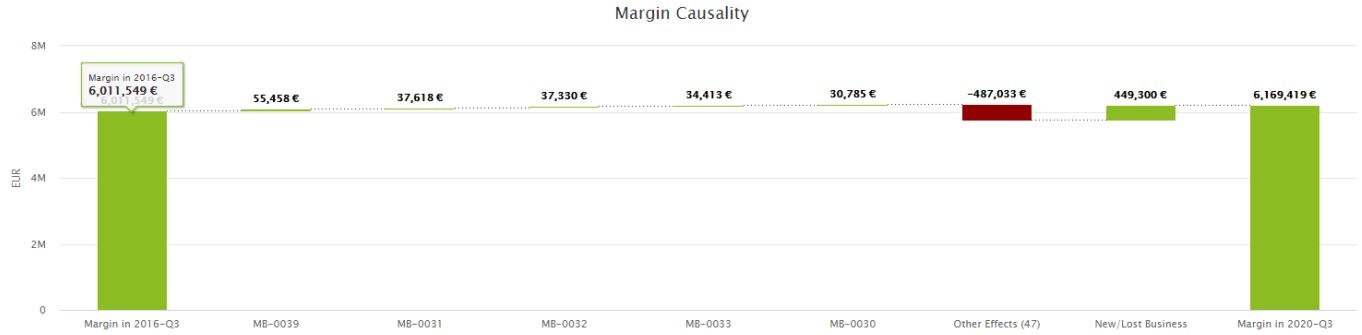
Causality Dashboard - Analyze Results 1.5.1

The Margin/Revenue Causality chart displays top X product/customer groups contribution to the total margin when comparing two periods.

When both Product and Customer aggregations are set, the dashboard displays the aggregated entries in the form: {Product Aggregation} | {Customer Aggregation}



If any aggregation dimension (in this case Customer) is set to None, the aggregation is skipped.



The entries displayed are taken from common business, so the product/customer groups are present in both periods.

Any product/customer groups that are not in the common business are grouped up in the New/Lost Business column.

Any product/customer groups that are not in top X are displayed as the Other effects column with the number of entries in that group in brackets.

Causality Dashboard - Details on Configuration 1.5.1

Causality Dashboard - Fields Definition 1.5.1

In the tables below the following abbreviations are used (field definitions taken from SIP_AdvancedConfiguration):

- **T1** – First period data
- **T2** – Second period data

There are several columns displayed on the dashboard:

1. **Revenue/Margin in {T1}** – Provides a revenue/margin summary from the first period.
2. **User selected product aggregation | User selected customer aggregation** – Total revenue/margin of a given product/customer group.
3. **Other effects (number of entries)** – Total revenue/margin contribution of all the other groups that are not displayed in the top X groups.
4. **New/Lost Business** – Total contribution of entries that are not in the common business for given periods.
5. **Revenue/Margin in {T2}** – Provides a revenue/margin summary from the second period.

The fields are calculated in the following way:

- Revenue/Margin in {T1}/{T2} = SUM(invoicePrice)/SUM(grossMargin)
- Product/Customer group entries = SELECT {productIdField}, {customerIdField}, SUM(T2.{measure} - T1.{measure}) AS 'Delta' FROM T2 INNER JOIN T1 ON {joinFields} {groupBy} ORDER BY SUM(T2.{measure} - T1.{measure}) {orderStyle}
- New/Lost Business = T2 - T1 - {top elements measure summed up} - {common business}
  - Common business = All entries - Top entries summed up

There are some default filters put on various fields to ensure proper calculations. These are:

- Only entries with **not null grossMargin** are considered.
- Only entries with **not null invoicePrice** are considered.
- Only entries with **SUM(invoicePrice) > 0** are considered.
- Only entries with **SUM(grossMargin) > 0** are considered.

Causality Dashboard - Used Advanced Configuration Fields 1.5.1

Causality Dashboard uses the following fields from SIP_AdvancedConfiguration:

- datamartName

- pricingDate
- productId
- customerId
- invoicePrice
- grossMargin

Sales Insights Package 1.5.1 1.5.1

The Sales Insights (Dashboards Only) package now contains the waterfall definition step.

Please keep in mind that currently there are two issues in the waterfall definition step:

- Non-existing fields in DM are not removed from the configuration displayed to end users, except the first one.
- The configuration step does not take the existing partition configuration into account, so it always starts with the default template.

Bug

PFPCS-3647 Adjust waterfall configuration step in PM Deployment script