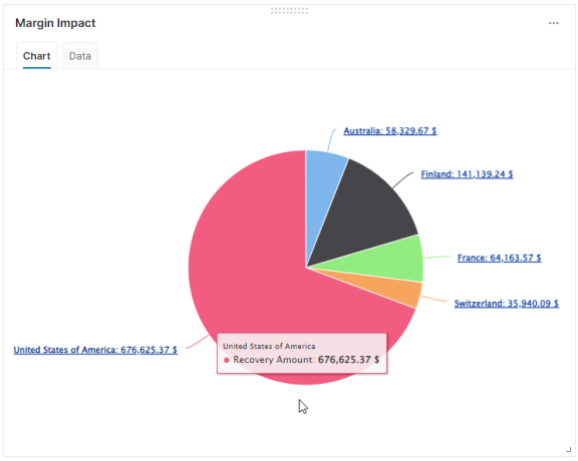
Improve profitability due to better cost recovery via cost-to-serve analytics KPIs

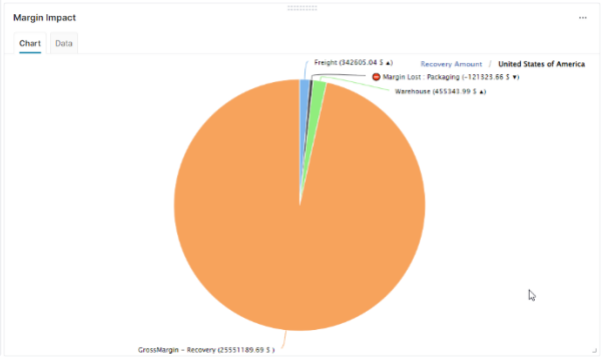
As a [Pricing Manager/Sales Rep], I want to have the ability to get access to cost-to-serve category tracking metrics, so I can:

- Get visibility on cost-to-serve elements performance
- Identify quickly cost recovery improvement opportunities
- Manage and improve cost-to-serve strategy more frequently based on data decisions support
- Improve business contribution margin

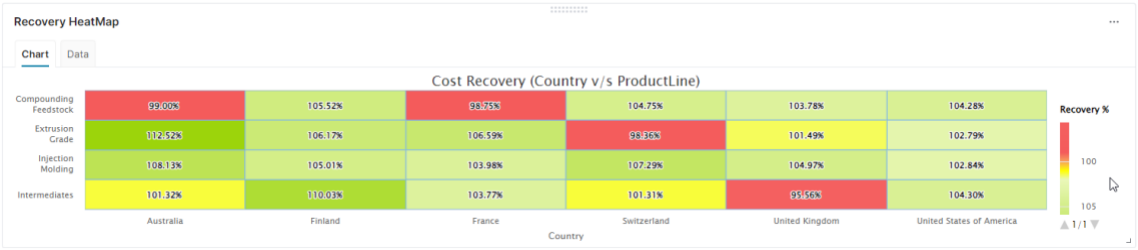
Functional Requirements

- Ability to get a dashboard where up-to-date predefined cost-to-serve metrics are collected
- Ability to switch level of granularity of the reporting using filters
    - The dashboard has the following filter options:
        - Ability to select a time period
        - Ability to filter on some Customer attributes, including Ship-To
        - Ability to filter on some Product attributes
        - Ability to select a currency for the values displayed in the portlets
        - Ability to select an aggregation metric that will show Margin Impact and Recovery Data (in the table portlet) breakdowns by the selected attribute
    - The dashboard has 4 portlets
        - The portlets are showing the following metrics:
            - Margin Impact: Occurring recovery completeness and recovery opportunities expressed in margin absolute value





- Recovery Heat Map: Cost recovery expressed in percentage (by Country v/s Product Line)



Recovery Trend: Recovery evolution trends over time (month, with potential to change this period type) per cost-to-serve category

- Recovery Data Table: Recovery status overview per cost-to-serve category with Total Cost, Total Charge (to customer) and Recovery % for each cost-to-serve metric. A "health indicator" will also show any recovery % metric that falls into certain % thresholds in three traffic light (green, yellow, red) tiers.

Ability to download portlets in various formats (PNG, PDF...)

Non-Functional Requirements

- Automatically updated metrics in the dashboard

Reporting and Dashboards (Not included in the baseline estimate)

- This use case has the dashboards and reports as described in the functional requirements section.

Measures, Calculation and Decision-Making Key Performance Indicators

- **Total Charge (per Cost-to-serve category):** Is considered as "charge" the part of the cost-to-serve value that has been invoiced (charged) to the customer.
- **Total Cost (per Cost-to-serve category):** Is considered as "cost" the part of the cost-to-serve value that is supported by the company.
- **Cost recovery percentage:** (Sum Total Charge / Sum Total Cost) * 100%
- **Margin impact = Total Charge – Total cost. If delta >0, the margin impact is positive, else it is a margin lost. (See additional details in the user story)**

Solution Design

- Costs to serve elements details (both Costs and Charges) must be part of the transactions data set and available at transaction level.
- The transactions data set must be enriched with Ship-To details as well.
- All portlets from this dashboard will be using data from the Transactions data set.

- The cost recovery percentage will be calculated on the fly based on the selected filters applied in the dashboard.

Technical Design

The technical design for this use case incorporates one or more elements depending on the nature of the customer's data:

- The core data, consisting of a main underlying Datamart
- Data enrichment logic, most likely composed of dataload logics
- The dashboard logic itself, which is composed of a few functional elements
    - Dashboard filters, which can potentially vary, but the core filter fields must exist in the source datamart
    - The 4 core charts in the dashboard

Core data

The dashboard should be based off a single Datamart that contains sufficient data to cover all the core requirements. It is worth noting that cost-to-serve data should be broken down to the transaction level in order to complete most of this use case design, but in particular it is necessary for the 4th portal – at the breakdown level. This means that the cost to serve data must be available at a per transaction basis and allocated out to each transaction data row, so that when the dashboard filters are applied, or data is aggregated, it can be split appropriately amongst transactions to provide an accurate view. Any cost to serve element will need to account explicitly for both the charges (revenue from customers) and cost (cost to serve) in order for the value to be shown in the dashboard.

Data enrichment

The need for data enrichments depends heavily on how the customer's data is provided and set up. A core aspect of the solution for this use case is the level of granularity of the data. In order for data to be properly filterable to the use case, the cost to serve data elements must breakdown at the transaction line-item level. If the native data does not have that set up, data enrichments will be required.

As an example, cost to serve elements might be tracked in a separate system (possibly not even ERP) and might be aggregated as an amount at the customer level based on a time period (like a month). This would mean that the total cost-to-serve for that customer / month would need to be *allocated* to each transaction line item appropriately so that data can be filtered and reflect accurate numbers. The specificity of how these elements are allocated to each transaction line item, though, can impact how accurate the metrics will be. To further the example

The "base case" for this use case assumes no data enrichment is necessary.

Dashboard logic

Standard charts vs. high charts – this design focuses on the use of HighChart charts. Though those rely on the configuration to provide the data, this use case still assumes the use of all data being consolidated in a single Datamart.

It's generally good practice to include a Constants element at the top of the logic to allow commonly used variables to be easily edited. Constants classes are commonly used in OO programming to allow common changes – like table names or field names – to be altered easily without having to make the change in many places. Library methods can be created in this element or a separate "Library" element as well.

Any number of filter inputs can be added, as well as an aggregation selector (select one of the filter fields) that can be used on the Margin Impact and Recovery Data Table. The fields used in the filters and for the aggregation must exist in the source Datamart, but otherwise there are no serious concerns.

Pulling in the cost recovery data basically means grabbing the transactions that meet the filter criteria. Creating the recovery metrics requires that all the charge data (revenue) and all the cost data (cost to serve) for each cost to serve element and then dividing the charge amount by the cost amount to reach the recovery percentage. Stoplight thresholds for coloration of the cells in the Recovery HeatMap and the coloration of the Status elements can be based on hard-coded or parameterized (in a Parameter table) for ease of adjustment.

Four kinds of charts are created in this dashboard:

1. Margin Impact – a pie chart that shows the pie as the total recovery amount and divides the pie by that total amount using the selected aggregation dimension.
2. Recovery HeatMap – a heat map chart that shows the total recovery percentage based on two dimensions – business unit and regionality in Pricefx's demo example, but whatever metrics are considered by the customer to be the most useful are fine choices. The cell color can be driven by whatever thresholds for the recovery percent the customer prefers.
3. Recovery Trend – this bar/line chart shows bars and lines that depict the costs and charges for each cost to serve element as stacked bars as well as the trend lines representing recovery percentage from period to period. The recovery % calculation is the same as elsewhere in the dashboard. The time period to be shown in the chart can be customized, but performance will degrade the more history is required. This should be made clear when making the decision on the orientation here.
4. Recovery Data Table – the data retrieved here is similar to the data in the heat map – focusing on the raw data and recovery percentage for each aggregation from the selected dimension (same as Margin Impact). Each cost to serve element is broken out in a Result Matrix with a field for the associated total charge amount, the associated total cost amount, the total recovery percent, and a traffic light status field. There are also a total charge, cost and recovery percent fields that represent the total amount associated with all cost to serve elements. The traffic light threshold can use the same targets as are used in the Heat Map, or they can be different.

Input Data

The following tables can be either manually loaded in Pfx via Pfx Excel Client or can be automatically integrated using CSV files in a Pfx dedicated SFTP folder:

- Frequently updated costs (costs-to-serve) data
- Customers data

- (Customer) Ship-To data
- Historical Transactions data enriched with Ship-To details
- Historical Transactions data enriched with cost-to-serve elements details

Out-of-scope business functions and features (Can be configured, but not included in the Chemical Industry Catalog)

- Any metrics reporting other than the ones explicitly mentioned above
- Any customization
- Additional filters
- User entitlement of the dashboard
- Data integration

Implementation Level of Effort

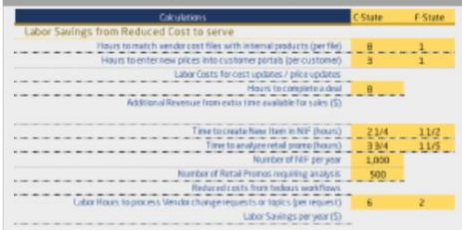
Estimation Assumptions (based on in scope / out of scope items):

- Data is available prior to the start of the build phase
- Functional data elements – filters, aggregations, etc. have been isolated and verified with the customer
- Relevant measurables – cost-to-serve elements – have been identified and are measurable and have the necessary data available (costs and charges)
- Data has the necessary orientations (described in "Input Data") – i.e. – cost to serve element impacts are broken out by transaction line item
- Any thresholds that will be used to "traffic light" various metrics will be hardcoded, not parameterized
- The "base case" charts and calculations can be used as is
- No integration is considered to be part of this use case

1 sprints/1FTE CE

Base Line Projected Annual Impact*

Value projections

Parameters (Value Case #26)		General Assumptions (sample)		Projected Annual Impact (for sample)	
		RUM	100M		
		Margin%	10%		
		Customers	2,000	Indirect	1,194.1k
		Vendors	1,000	Potential	100k
		Avg annual salary ...			
		BA	150k		
		Sales person	250k		

Prescribed User Stories			
Use Story Name	**I want to…**	**so I can …**	**Acceptance criteria**
Epic: Inbound data			
Costs Data	Have access to Costs Data	use them throughout the application and especially for my cost-to-serve analysis dashboard	- Costs data are available in the transactions data set Already covered by CHEM00, a prerequisite for all CHEM Use cases, and thus for CHEM06.
Customers Data (and Ship-to data)	Have access to Customers Data (and Ship-to data)	use them throughout the application and especially for my cost-to-serve analysis dashboard	Customers data and Ship-to are available in the transactions data set Already covered by CHEM00, a prerequisite for all CHEM Use cases, and thus for CHEM06.
Historical Transactions data	Have access to Historical Transactions data	use them throughout the application and especially for my cost-to-serve analysis dashboard	– Transactions Data must be enriched with Ship-To details and cost-to-serve elements details (costs and charges) – This baseline functionality / Use case covers up to 5 cost-to-serve elements. Already covered by CHEM00, a prerequisite for all CHEM Use cases, and thus for CHEM06.
Epic: As a Sales Rep/Pricing Manager I want to have a dashboard available that I can use to monitor the cost recovery per cost-to-serve element			
Dashboard filter	Filter the scope of my cost-to-serve analysis	Identified outline opportunities	Fields to filter on are: - From & To Date - Account Group: Ship-To - Industry - Continents - Countries - Regions - States - Customer Segments - Customer Names - Product Lines - Product Groups - Target Currency - View Recovery By
Dashboard Generic filter	Use a generic filter	create an advanced filter with a complex query to filter the scope of my cost-to-serve analysis	Generic filter option is enabled in the dashboard
Margin Impact Pie chart	See what the actual negative margin impact of each cost-to-serve category is	Plan corrective actions accordingly	Displayed metrics are the following: - Total Recovery amount per dimension. - Total Recovery amount is equal to the delta between the Costs and the Charges. If Charges - Costs >0, margin impact is positive, else it is a margin lost. o Dimension to be selected in the "View Recovery By" option in the dashboard filter menu. o Value currency corresponds to the Target Currency selected in the dashboard filter menu. Each sector of the pie chart shows the total margin impact by the selected dimension. (I.e., If the selected dimension is "Country" then the pie chart shows the total margin impact by each country.) Each sector is clickable

			When clicked, the user can access the margin impact breakdown per cost-to-serve category for the dimension clicked. In our example by Country, we will get the breakdown for a particular country. Recovery Amount: Is taken from the value of Total Recovey Delta: Total Recovery Delta is calculated with the formula: SUM (Charge Field) - SUM (Cost Field) Recovery Breakup with Margin: It is calculated with the formula: If the value for Total Recovery Delta is greater than or equal to zero: grossMargin – totalRecoveryDelta If the value for Total Recovery Delta is less than zero: grossMargin + totalRecoveryDelta where: Gross Margin is taken from Transactions data with the formula: SUM (Gross Margin) Total Recovery Delta is calculated with the formula: SUM (Charge Field) - SUM (Cost Field)
Recovery Heatmap	See the cost-to-serve recovery percentage variations per Country v/s product line	Identified outline opportunities	Displayed metrics are the following: - cost-to-serve recovery percentage variations per Country v/s product line Recovery percentages are depicted by color
Recovery Trend Time series	See the cost-to-serve recovery percentage variations per cost-to-serve category	Identified outline opportunities	Displayed metrics are the following: - cost-to-serve recovery percentage trend per cost-to-serve category - Total Charge per cost-to-serve category - Total Cost per cost-to-serve category All cost-to-serve category are clickable to be analyzed independently
Recovery Data table	See the cost-to-serve recovery	Identified outline opportunities at the lowest level of detail	Displayed metrics are the following: - cost-to-serve recovery percentage trend per cost-to-serve category - Total Charge per cost-to-serve category - Total Cost per cost-to-serve category Metrics are displayed at any level of granularity available in the filter option “View Recovery By”

Scope Validation and Project Readiness Workshop – Validation Questions:			
Questions		Answers	
Q1	How many cost-to-serve categories do you usually manage?	A1	
Q2	Where is your data stored?	A3	
Q3	What is the level of aggregation of data?	A4	
Q4	Are your transactions data enriched with those cost-to-serve elements details?	A5	
Q5		A6	
Q6		A7	
Q7		A8	
Q8		A9	
Q9		A10	
Q10		A11	
Q11		A12	
Q12		A13	
Q13		A14	