Digital Developer Conference

Data & AI

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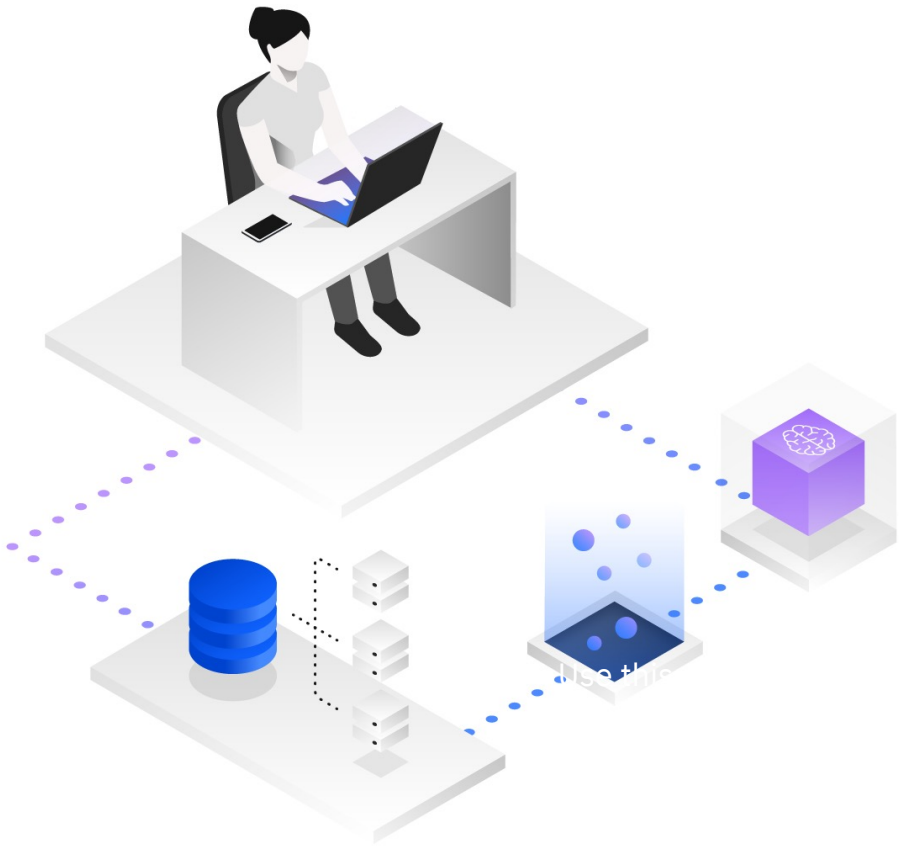


Branch Specific AI Based Target Management

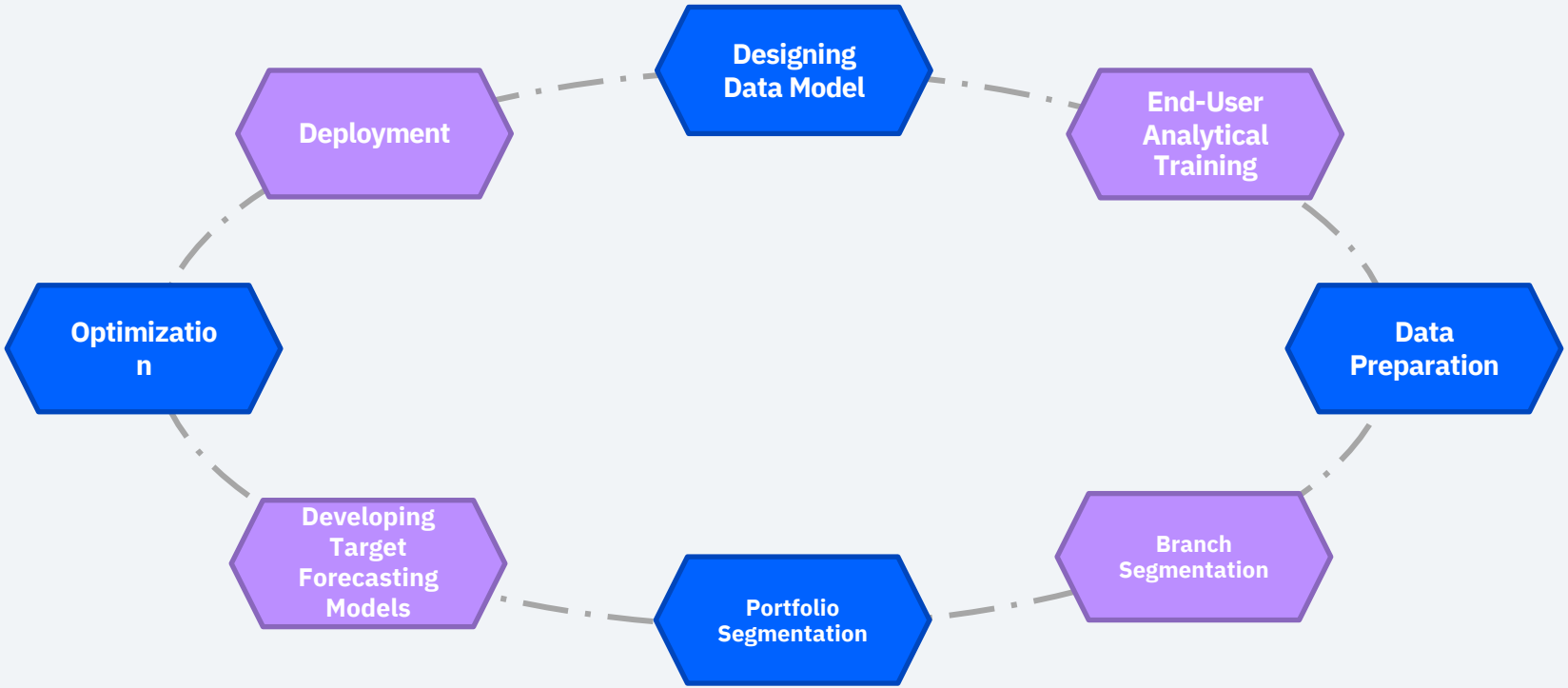
Speakers: Yılmaz MERAL — Business Analytics Team Leader @AIMS
Z. Serdar ÖZTÜRK — Business Analytics Team Leader @AIMS

Branch Specific AI Based Target Management

It is aimed to predict the target items within the bank for all branches and portfolios in an artificial intelligence-based, automated and highly explanatory manner.

- An innovative approach to target setting
- We designed a data-driven predictive analytics approach that incorporates historical performance data, branch characteristics, detailed demographic data, information about competitor locations, and more.

Branch Specific AI Based Target Management



Analytic Data Model

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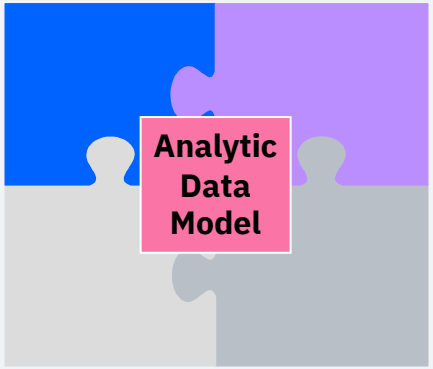

Branch Location-based Data

- Competitor branches
- POI
- ...

City-based Data

- City-based deposit ratio
- City-based loan ratio
- City-based total amount of taxes
- ...

Internal Data

- Branch / portfolio info
- Total amount of customers
- Target KPI's
- Other products
- ...

External Data

- Total amount of loans in the competitor banks
- ...

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AI Based Target Management-Components

1

Branch and Portfolio Segmentation

2

Forecasting the target KPIs

3

Target Optimization

4

Budget Optimization

5

Deployment

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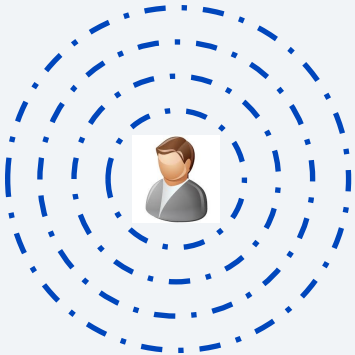
AI Based Target Management-Components

1	2	3	4	5
Branch and Portfolio Segmentation	Forecasting the target KPIs	Target Optimization	Budget Optimization	Deployment

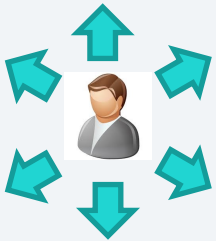
Segmentation

Potential Segment



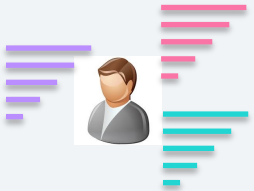
- Location-based data
- Total amount of internal+external loans of the customers
- City-based deposit ratio
- City-based loan ratio
- City-based total amount of taxes
- …

Performance Segment



- Total amount of each products
- Total amount of different types of customers
- …

KPI Segments



- Funds
- Financing Products
- Personel Financing Products
- Leasing
- Foreign Trade
- …

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Forecasting

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Regular Portfolios

* more stable
* recognizable pattern
* suitable for forecasting

Date	KPI
...	...
2021-01	10
2021-02	12
2021-03	13
2021-04	15
2021-05	14
2021-06	TBF

Irregular Portfolios

* unstable
* unrecognizable pattern
* unsuitable for standard forecasting approaches

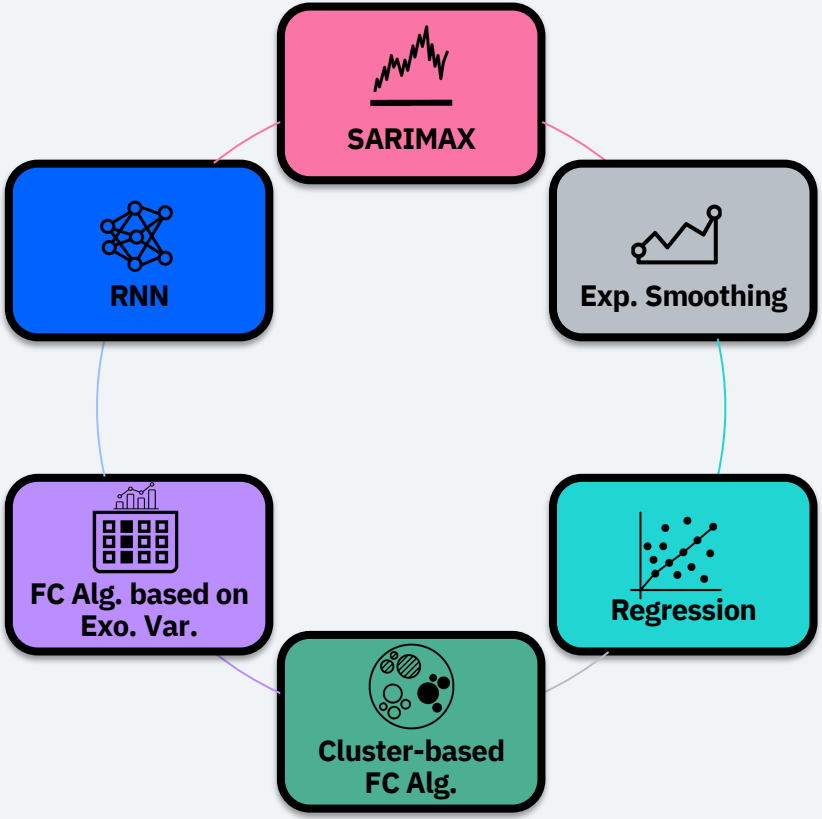
Date	KPI
...	...
2021-01	10
2021-02	12
2021-03	0
2021-04	0
2021-05	0
2021-06	TBF

New Portfolios

* new data
* unrecognizable pattern
* unsuitable for standard forecasting approaches

Date	KPI
NA	NA
NA	NA
2021-02	2
2021-03	3
2021-04	5
2021-05	10
2021-06	TBF

Forecasting



Forecasting

All models are challenging with each other. After the challenge, the champion model is dynamically selected by the model performance criteria.

Forecasting

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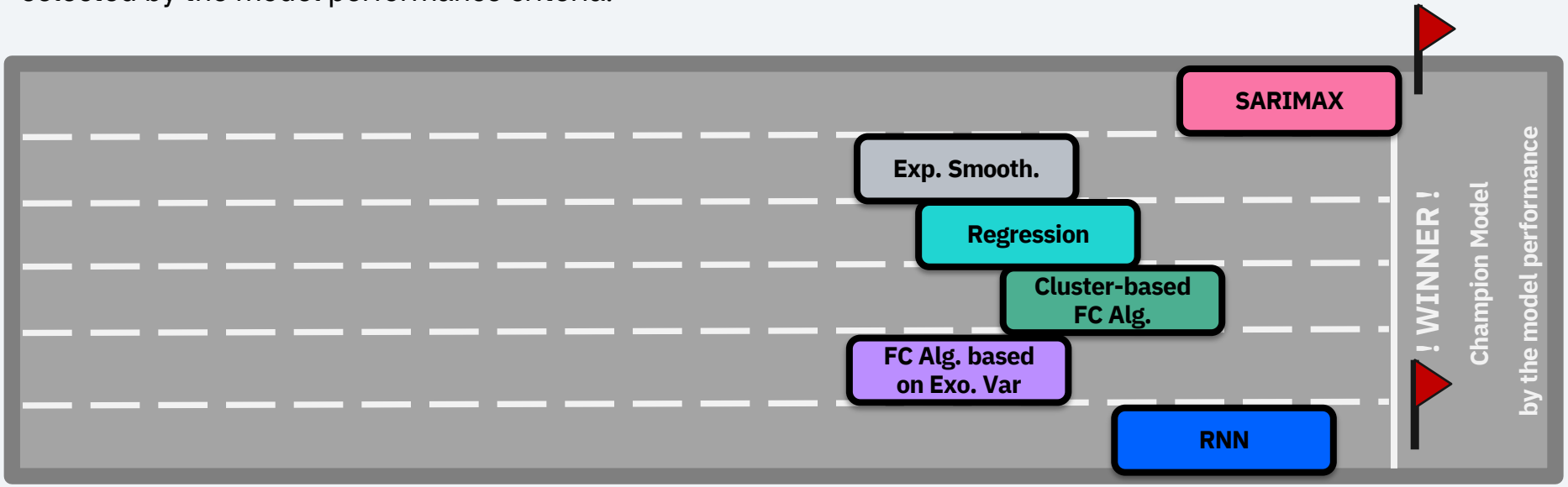
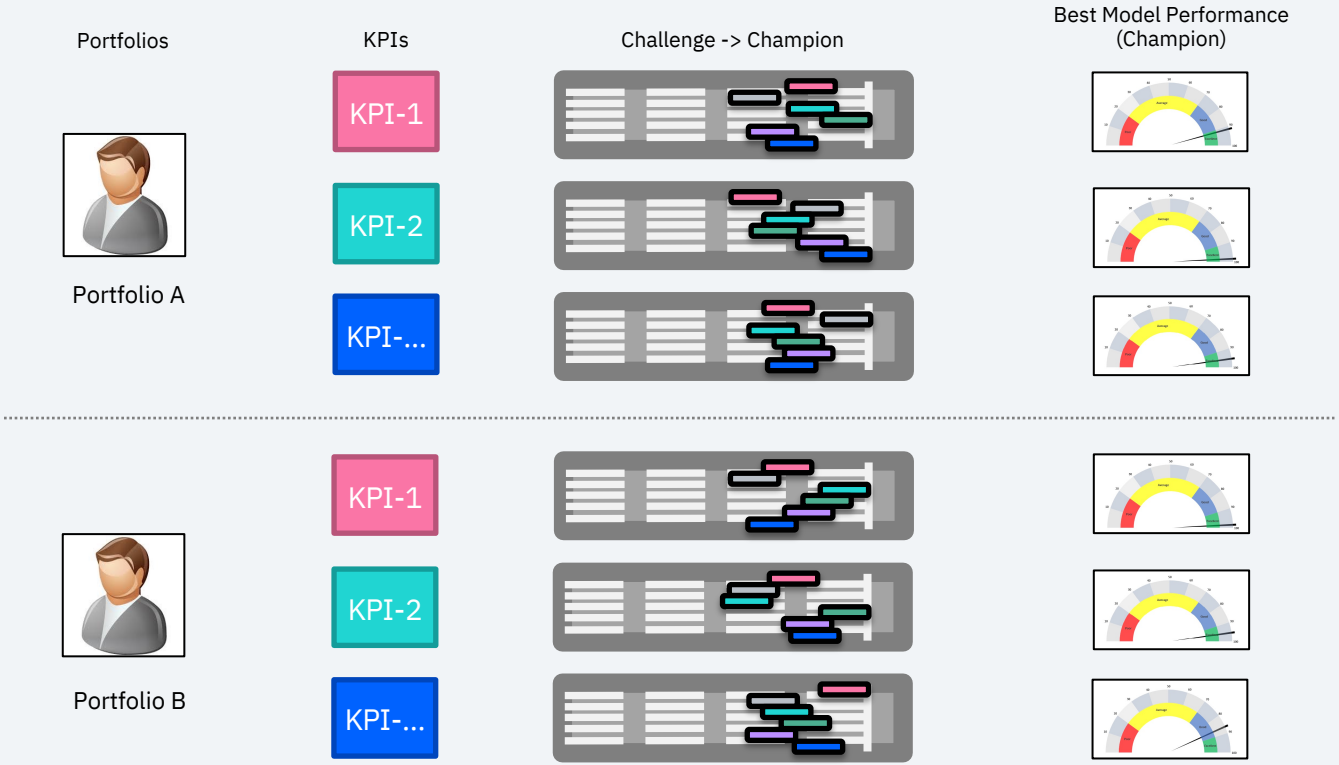


The Model which has the best performance value wins the challenge and assigne as Champion Model for each portfolio and KPI.

Forecasting

Each portfolio & KPI has its own Champion Model. Champion Models are selected for each portfolios & KPI in the system and used as final forecast.



Forecasting

Each portfolio & KPI has its own Champion Model. Champion Models are selected for each portfolios & KPI in the system and used as final forecast.

Training Performance	Hold-out Performance	Monitoring Period Performance
96%	**94%**	**95%**

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Target Optimization

In the segmentation step, portfolios are segmented according to their different characteristics and portfolios with similar characteristics are determined

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In the forecasting step, the KPI values for the future periods are estimated

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The forecasting step makes a prediction based on the portfolio & KPI pattern

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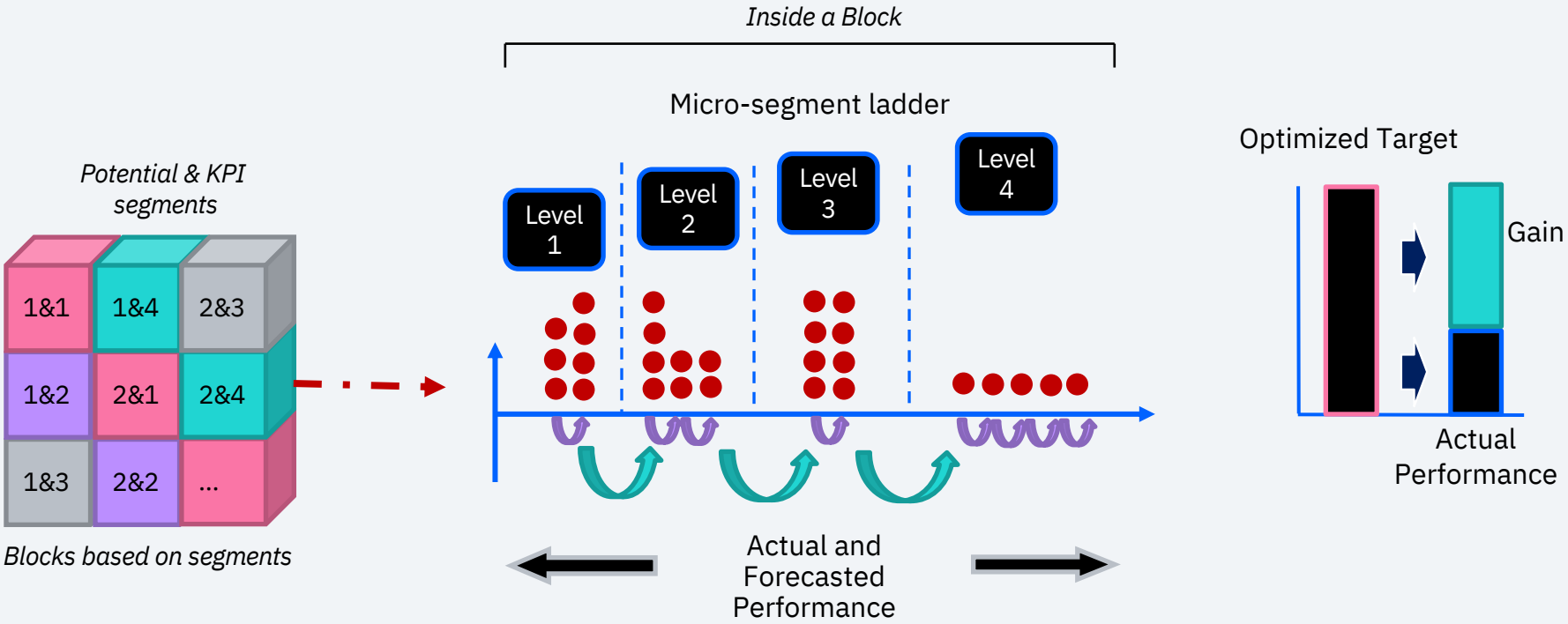
In the Target Optimization step, it is aimed to catch the full potential of the portfolio based on not only using its own past performance values but also similar portfolio performance values

Target Optimization



Combination of similar characteristics and forecasted values

Actual value of Level 2 is defining as target for Level1 and so on..

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Budget Optimization

In the Budget Optimization step, target totals for all portfolios are optimized to give the budget.

Target < Budget

Target > Budget

Budget balance is achieved by optimizing the targets on the basis of the portfolio.

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Thank you.

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