Data warehouse and BI infrastructure design and implementation

Nutritional supplements manufacturer

- Built a scalable enterprise data warehouse on Azure platform to accommodate data from multiple data sources
- Developed reporting suite on Power BI, by migrating existing dashboards from legacy systems (OBIEE), re-factoring the existing dashboards to the new data warehouse and building new dashboards

Nutritional supplements manufacturer needs “new and improved” data warehouse and BI infrastructure

Picture this…

You’re looking to setup an Azure-based Enterprise Datawarehouse and develop automated performance dashboards. The current reporting suite is based on legacy systems (Oracle’s OBIEE as a visualization tool and Informatica as an ETL). There is an opportunity to move to a more efficient, scalable cloud-based environment and cost-effective solution to host data from multiple data sources and build automated self-serve dashboards.

You turn to Accordion.

We partner with your team to built a scalable enterprise data warehouse on Azure platform to accommodate data from multiple data sources, develop a reporting suite on Power BI, including:

1) Building an Enterprise Datawarehouse (on Microsoft Azure platform) connecting different data sources through data pipelines (in Azure Data Factory) and transforming the raw data as per business requirements
2) Conducting an in-depth study of the OBIEE & Informatica environments to determine the underlying logic for the existing dashboards and revamping it to build a more efficient and economical solution
3) Creating tabular data models on Azure Analysis services to create ready-to-serve data marts for analytical and reporting purposes
4) Developing automated Power BI dashboards on top of the Azure Analysis services to analyze the business performance
5) Incorporating automated data validation and reconciliation rules at every step across the entire ETL process to ensure accuracy and consistency in data

Your value is enhanced.

You have an Enterprise Datawarehouse that enables the availability of clean and validated data off the shelf across the company on near real time basis. You have integrated and automated BI reporting process, including performance dashboards, ensuring consistent and accurate performance KPIs across different functions of the business. You also have the azure platform to sunset the Oracle based BI infrastructure environment and save more than $100,000 annually.

DATA WAREHOUSE AND BI INFRASTRUCTURE DESIGN AND IMPLEMENTATION

KEY RESULT

- ~$100,000 annually saved

VALUE LEVERS PULLED

- Data cubes - design and setup
- Data warehouse - design and setup,
- Data Visualization
- Data Architecture
- Integrated BI

Data warehouse and BI infrastructure design and implementation for nutritional supplements provider

DATA WAREHOUSE AND BI INFRASTRUCTURE DESIGN AND IMPLEMENTATION

Situation

- Client's reporting suite was based on legacy systems (Oracle's OBIEE as a visualization tool and Informatica as an ETL). There was an opportunity to move to a more efficient, scalable cloud-based environment and cost-effective solution to host data from multiple data sources and build automated self-serve dashboards
- Partnered with client to set up an Azure-based Enterprise Datawarehouse and develop automated performance dashboards

Accordion Value Add

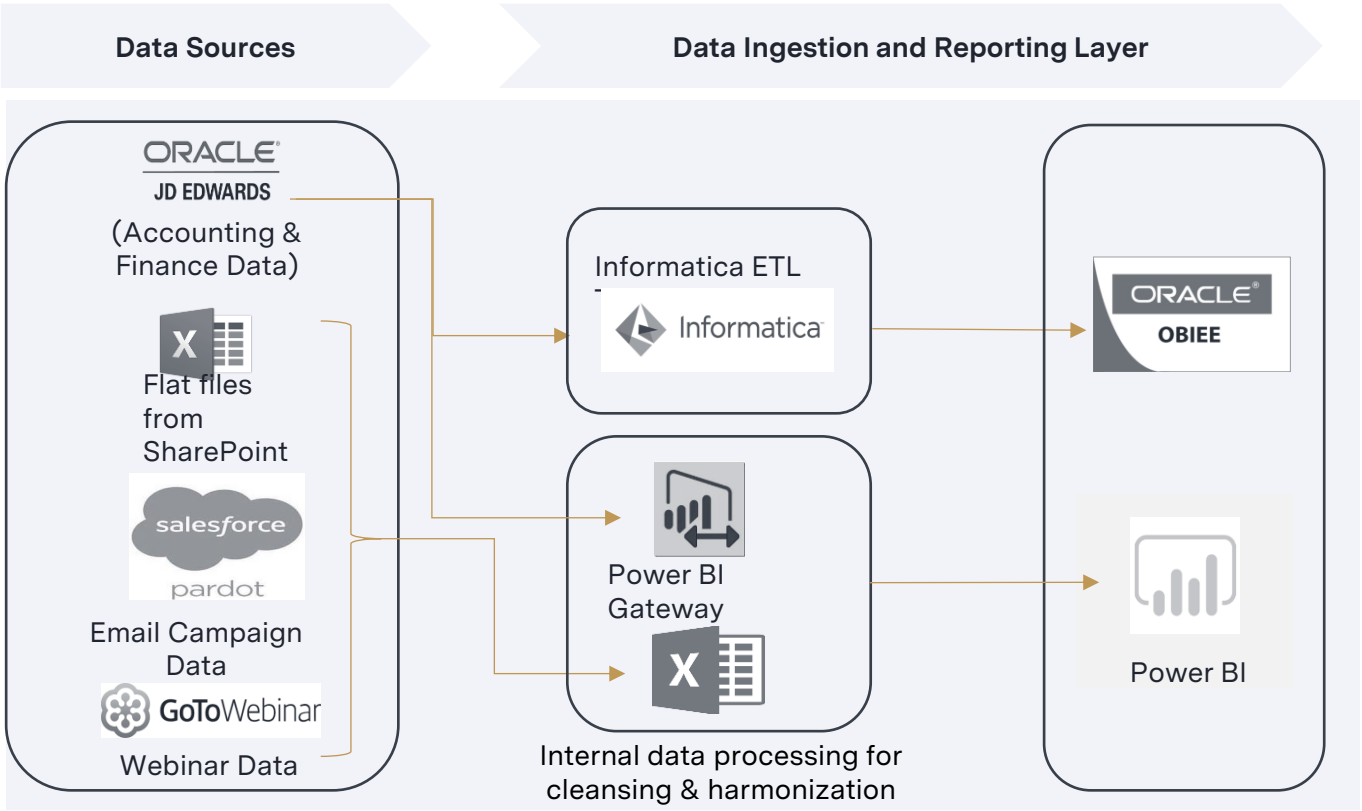
- Built an Enterprise Datawarehouse (on Microsoft Azure platform) connecting different data sources through data pipelines (in Azure Data Factory) and transformed the raw data as per business requirements
- Conducted an in-depth study of the OBIEE & Informatica environments to determine the underlying logic for the existing dashboards, and revamped it to build a more efficient and economical solution
- Created tabular data models on Azure Analysis services to create ready-to-serve data marts for analytical and reporting purposes
- Developed automated Power BI dashboards on top of the Azure Analysis services to analyze the performance of the client's business
- Incorporated automated data validation and reconciliation rules at every step across the entire ETL process to ensure accuracy and consistency in data

Impact

- Implemented an Enterprise Datawarehouse that enabled the availability of clean and validated data off the shelf across the company on near real time basis
- Integrated and automated BI reporting process, including performance dashboards, ensured consistent and accurate performance KPIs across different functions of the business
- The Azure platform helped the client to sunset the Oracle based BI infrastructure environment and save more than $100,000 annually

Prior BI architecture

Data Structures



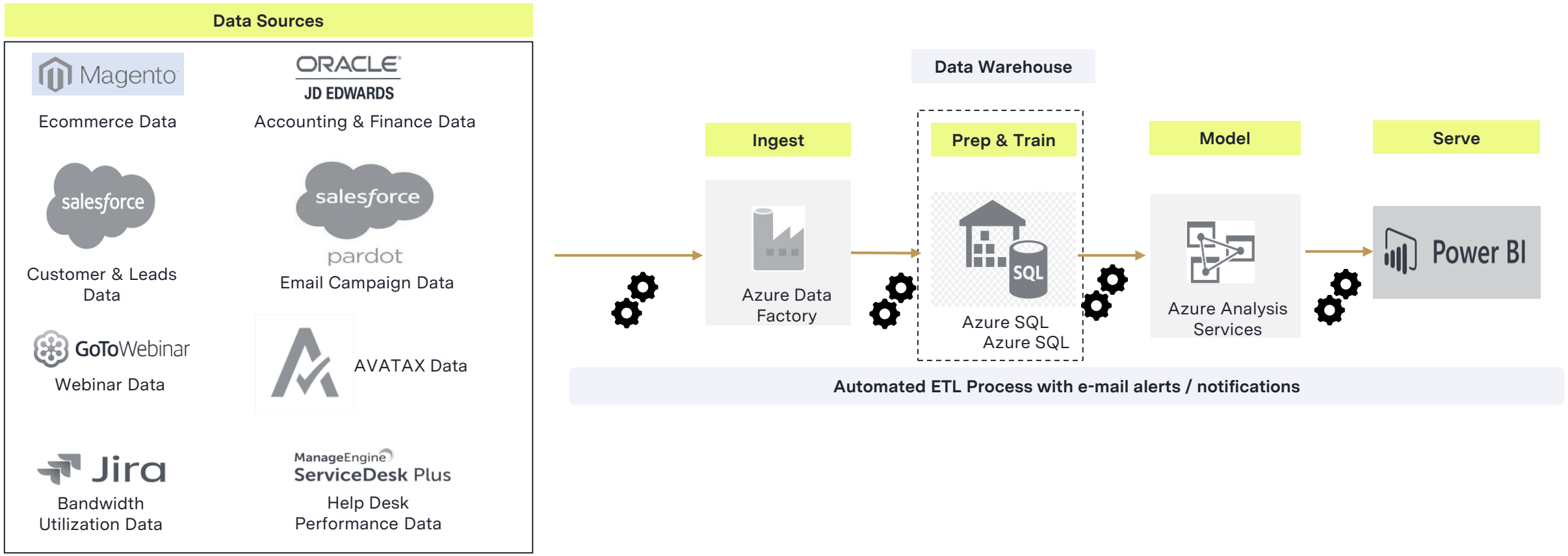
Observations on prior architecture:

- OBIEE dashboards and Informatica ETL process were slow
- Absence of documentation and existing redundant processes made it difficult to make updates
- Frequent failures during weekly refresh of the dashboards
- Architecture made it cumbersome to add a new data source with different data accessibility method

Data, Reporting and Analytics

- **Obsolete OBIEE dashboards** as the reports/ dashboards were not updated to meet business requirements
- **Power BI data models' inability to handle large data sets** impacted the performance of the dashboards
- **Lack of central repository** for storing historical data as some reports are directly generated from source systems
- **Lack of consistency of data being utilized by** various teams
- **Lack of consistency and documentation on KPIs**

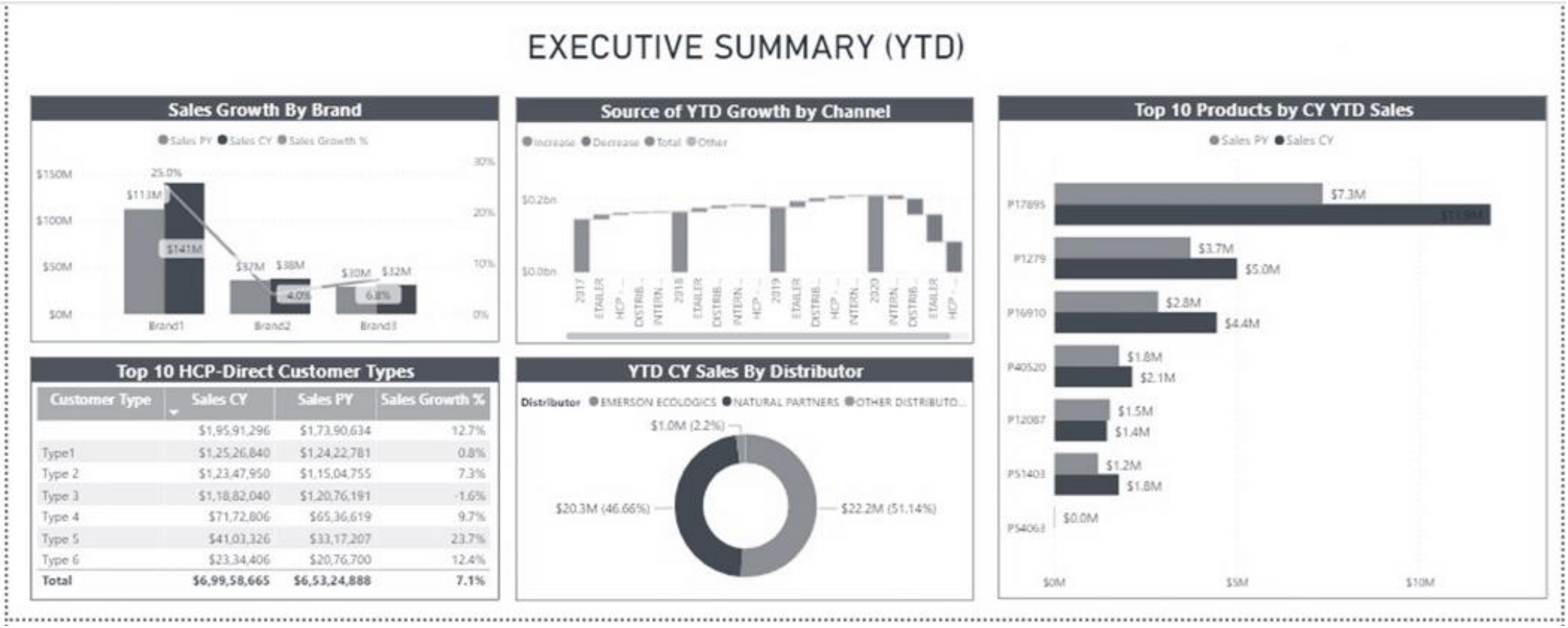
New reporting flow after BI infrastructure implementation



- Built an **Enterprise Datawarehouse** connecting various data sources through data pipelines and transformed raw data as per business requirements
- **Developed an automated ETL process** to load the data into **data warehouse** daily and configured e-mail alerts/notifications to monitor the overall ETL process
- Incorporated **automated data validation** and **reconciliation rules** at every step across the entire ETL process to ensure accuracy and consistency in data
- Created **a Tabular data model on Azure Analysis services** and **developed ready-to-serve data marts for analytical and reporting purposes**.
- **Developed Power BI dashboards** on top of the Analysis services to monitor and track business performance

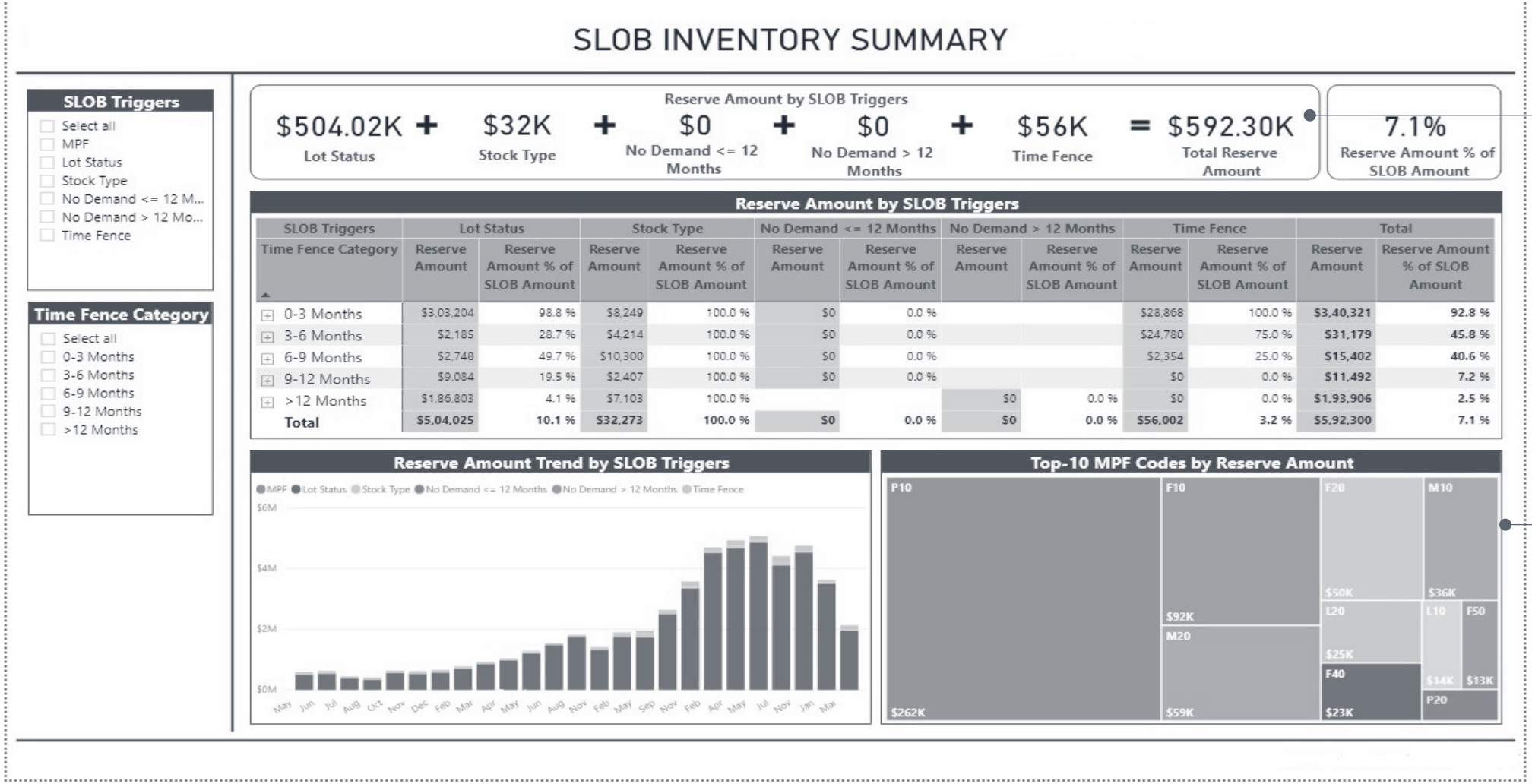
Executive summary

Executive summary dashboard to capture YTD sales by brand, channel, distributor etc. and track current year's performance vs. previous year



Slob summary

SLOB dashboard to capture slow moving and obsolete inventory in order to forecast the reserve amount to be accounted for due to expiry of shelf life of raw material



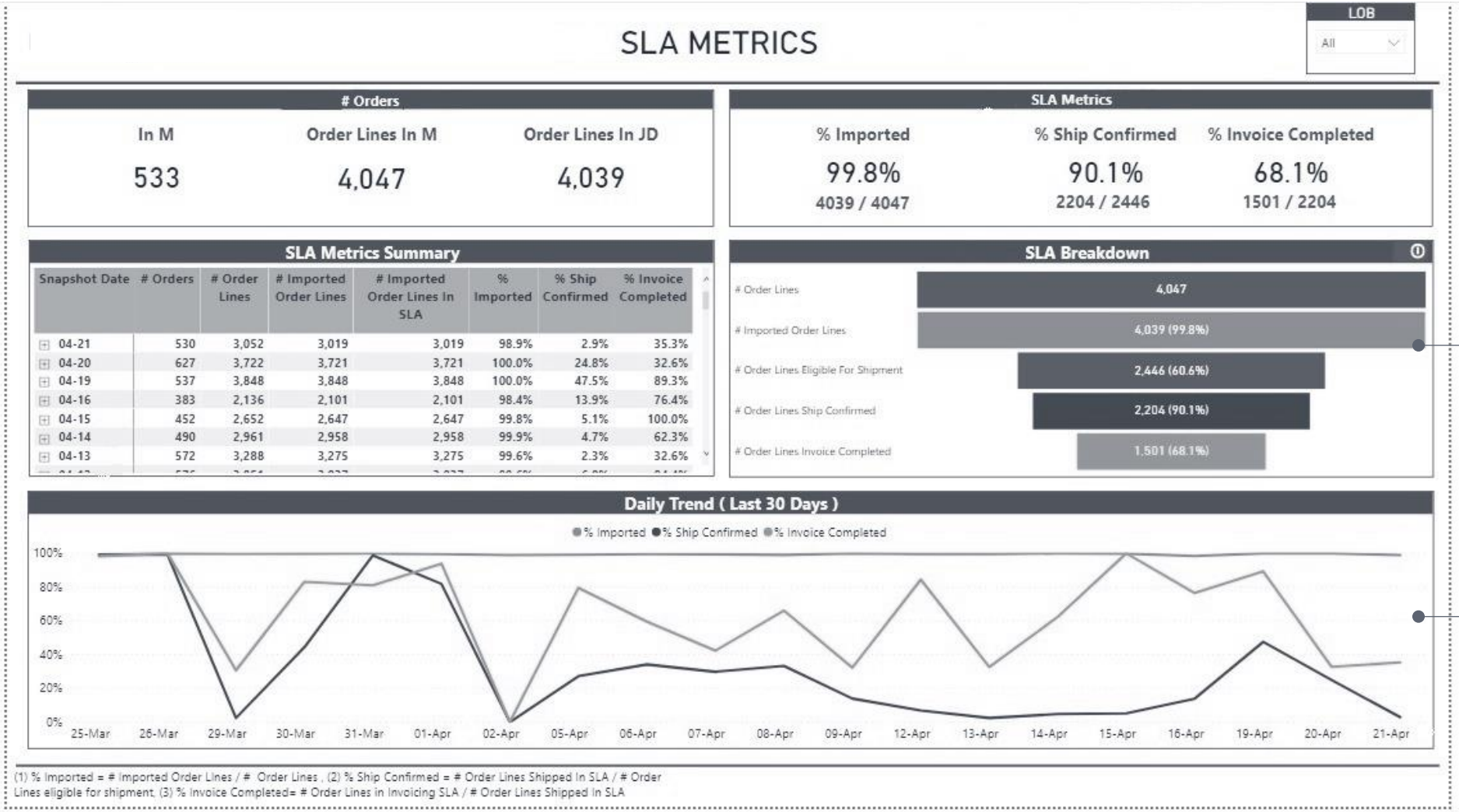
SLOB Triggers	Lot Status		Stock Type		No Demand <= 12 Months		No Demand > 12 Months		Time Fence		Total	
Time Fence Category	Reserve Amount	Reserve Amount % of SLOB Amount	Reserve Amount	Reserve Amount % of SLOB Amount	Reserve Amount	Reserve Amount % of SLOB Amount	Reserve Amount	Reserve Amount % of SLOB Amount	Reserve Amount	Reserve Amount % of SLOB Amount	Reserve Amount	Reserve Amount % of SLOB Amount
0-3 Months	$3,03,204	98.8 %	$8,249	100.0 %	$0	0.0 %			$28,868	100.0 %	$3,40,321	92.8 %
3-6 Months	$2,185	28.7 %	$4,214	100.0 %	$0	0.0 %			$24,780	75.0 %	$31,179	45.8 %
6-9 Months	$2,748	49.7 %	$10,300	100.0 %	$0	0.0 %			$2,354	25.0 %	$15,402	40.6 %
9-12 Months	$9,084	19.5 %	$2,407	100.0 %	$0	0.0 %			$0	0.0 %	$11,492	7.2 %
>12 Months	$1,86,803	4.1 %	$7,103	100.0 %			$0	0.0 %	$0	0.0 %	$1,93,906	2.5 %
Total	**$5,04,025**	**10.1 %**	**$32,273**	**100.0 %**	**$0**	**0.0 %**	**$0**	**0.0 %**	**$56,002**	**3.2 %**	**$5,92,300**	**7.1 %**

KPI Card showing reserve amount by various SLOB triggers

Tree Map showing the Top-10 MPF codes based on reserve amount

Order reconciliation

An order reconciliation dashboard to capture the sla metrics at each stage of order processing from orders created to orders shipped to invoices generated



Funnel chart showing the count and percentage of orders at various stages of order processing

Line chart showing last 30 days trend in order processing