DATA WAREHOUSE IMPLEMENTATION & BI REPORTING

ABOUT THE CLIENT

Client is one of the **fastest growing restaurant chains** in Saudi Arabia, with more than 300 branches

SITUATION

- Client **had information stored in multiple disjoint databases** which made data reconciliation and **reporting very difficult** and tedious
- Client partnered with Merilytics to **create a robust data warehouse** that will be the single source of truth for sales, marketing, and customer data and built dashboards to enable management get a holistic view of the key trends

VALUE ADDITION

- Built a **sustainable and scalable** cloud-based **data infrastructure on Azure** which provides a readily available single source of truth for reporting or analysis
- Performed a **data reconciliation** exercise to understand the current variance and identify reliable sources of data for the data warehouse
- Established a **unique customer identification mechanism** that would help the marketing team understand customer behavior
- Built **self-service dashboards on Tableau** to provide insights into trends in sales performance, marketing spend, and customer engagement

IMPACT

- The consolidated single repository for all sales, marketing, and customer data **enabled the client to have easy access to reliable and reconciled data** for reporting purposes
- The reconciliation exercise helped in providing **accurate and reliable data** for consumption
- The self-service Tableau dashboards **provided quick access to KPI trends** through visualizations for key performance metrics
- Unique customer identification mechanism **helped the marketing team understand customer behavior** and evaluate performance of promotion campaigns

APPROACH & METHODOLOGY

Data Sources

ALOHA | Call Centre (SDM) | SOLO | Adjust | Google Analytics | Marketing data

ELT Process — Daily

Data Storage and Processing

Azure Data lake — Scalable centralized repository is refreshed daily to store data from multiple sources

ELT Process — Daily

Azure Data Warehouse

Azure Data Marts — Store Sales, Marketing and customer information from multiple sources in an easy to retrieve structure

Azure Analysis services — Multi-dimensional data cubes allows users to analyze data in a faster and an effective manner

Connections

Reporting

Online Reporting | On-premise Reporting

Data lake processes

- **Daily ELT processes** to support **multiple data sources and perform data loads on to the data lake**
- **Daily incremental loads** using pipelines in data factories to check last 10 days of data from Aloha & SDM
- **Mobile engagement data** on an hourly basis is accessed from Adjust through Amazon S3 and **website data** is captured daily by Google API

Data warehouse processes

- Daily ELT process to integrate data lake with data warehouse using data factory pipelines. **Data processing to create data marts** with clean fact and dimension level information.
- **Alerts and notifications** over email to check for successful loads for each pipeline and audit checks to ensure accurate data transfer.
- **Customized tabular model** to support the reporting requirements

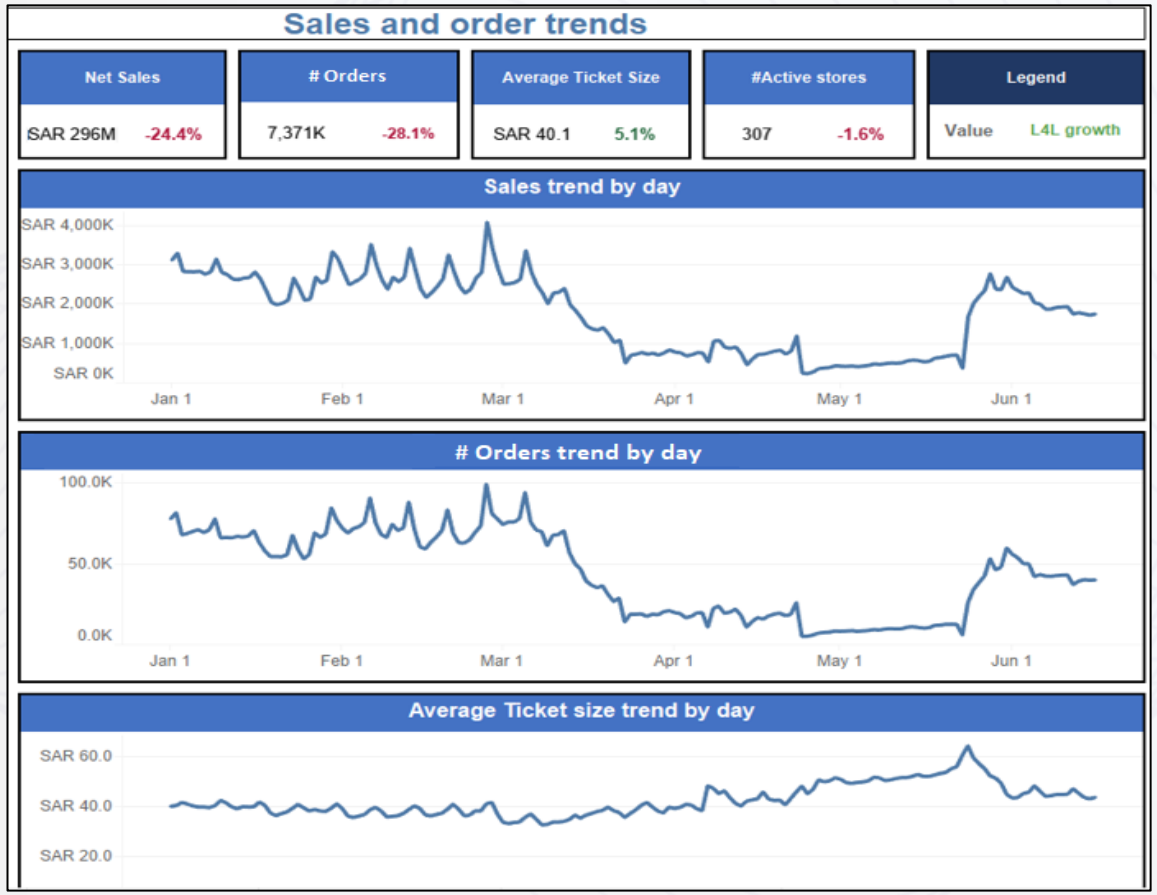
Reporting Processes

- **"Ready-to-serve"** reporting infrastructure for visualization using **Tableau**
- Provide **quick self-serve reporting** and data access to business users

EXHIBIT #1: SALES TRENDS

ILLUSTRATIVE

Sales, # Orders and Average ticket size trends over time



Sales, # Orders and Average ticket size growth trends over time

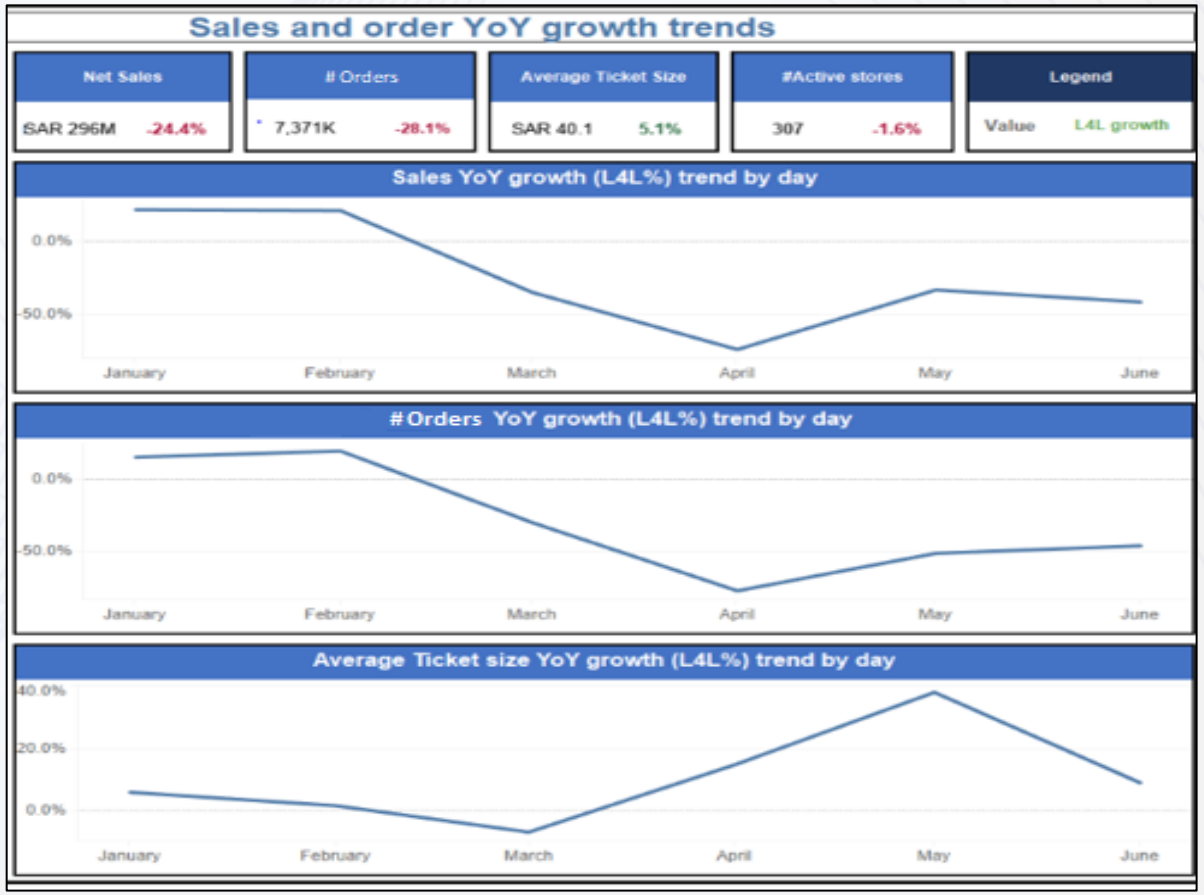


EXHIBIT #2: CUSTOMER RETENTION TRENDS

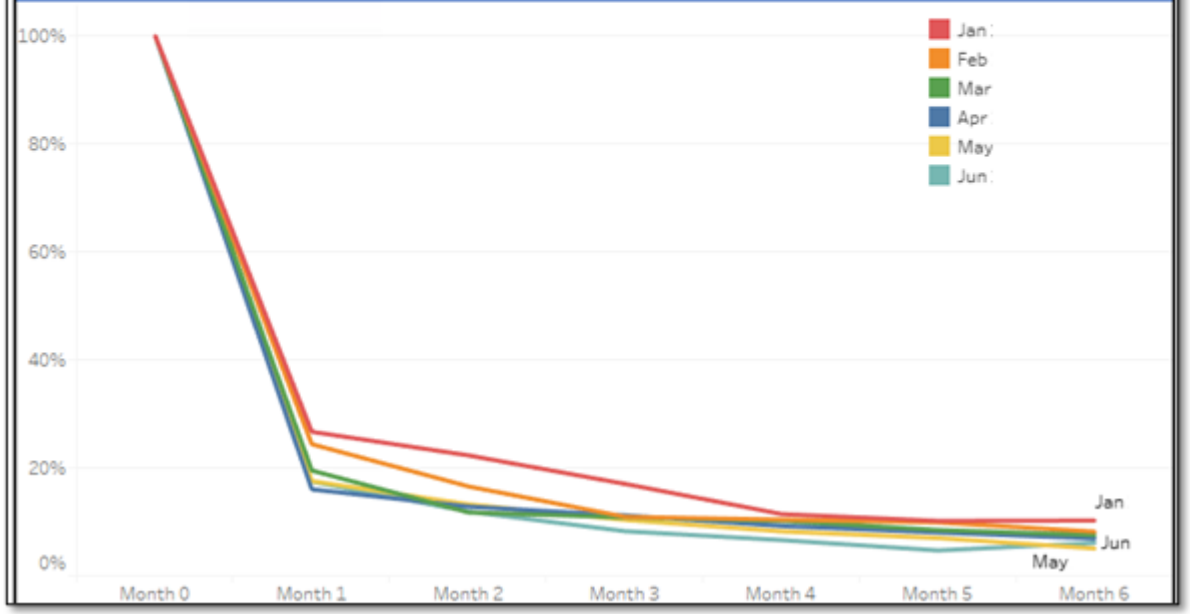
ILLUSTRATIVE

Retention trends by customer cohort

Customer Cohort (1/2)

Sales	# Customers	Average Ticket Size	Avg. # of Monthly Purchases
33,347,980	441,619	358.5	92,733

Customer retention by #months since acquisition for each cohort

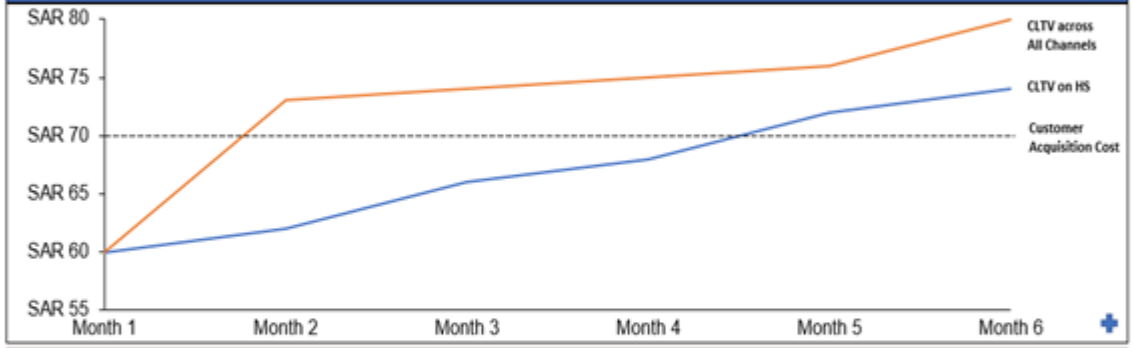


Customer Lifetime Value

Customer Lifetime Value

# Campaigns	# customers acquired	Sales	Avg. # of monthly purchases
45	150K	SAR 45 Mn	6

Customer Value by # months since acquisition for each cohort



Customers Acquired by Campaign

Campaign Name	Channel	Date From	Date Till	Marketing Spend	# Customers acquired[1]	Customer Acquisition Cost
All Campaigns	Hunger Station	1-Mar	30-May	SAR 10,000,000	150,000	SAR 125
Campaign – 1	Hunger Station	1-Mar	30-May	SAR 500,000	4,000	SAR 125
Campaign – 2	Hunger Station	15-Feb	30-Mar	SAR 300,000	2,000	SAR 150

1. In cases where multiple campaigns are active during the same period, # customers acquired by each campaign are estimated by assuming ratio of marketing spend of campaigns.

Activate W
Go to Setting