Operations TV Dashboard for an LTL Logistics Company

ABOUT THE CLIENT

Client is an **LTL (Less-than-Truckload) shipping services company** based in the U.S. serving lanes across ~30 major cities in the country.

SITUATION

- Client **lacked visibility into the company's terminal (service centers) operations performance** due to lack of structured timely reporting and legacy data systems. This made it very difficult to identify poorly performing terminals and to incentivize better performing terminals.
- Merilytics partnered with the client to **build a TV dashboard** with a leaderboard of terminals based on key operations performance metrics

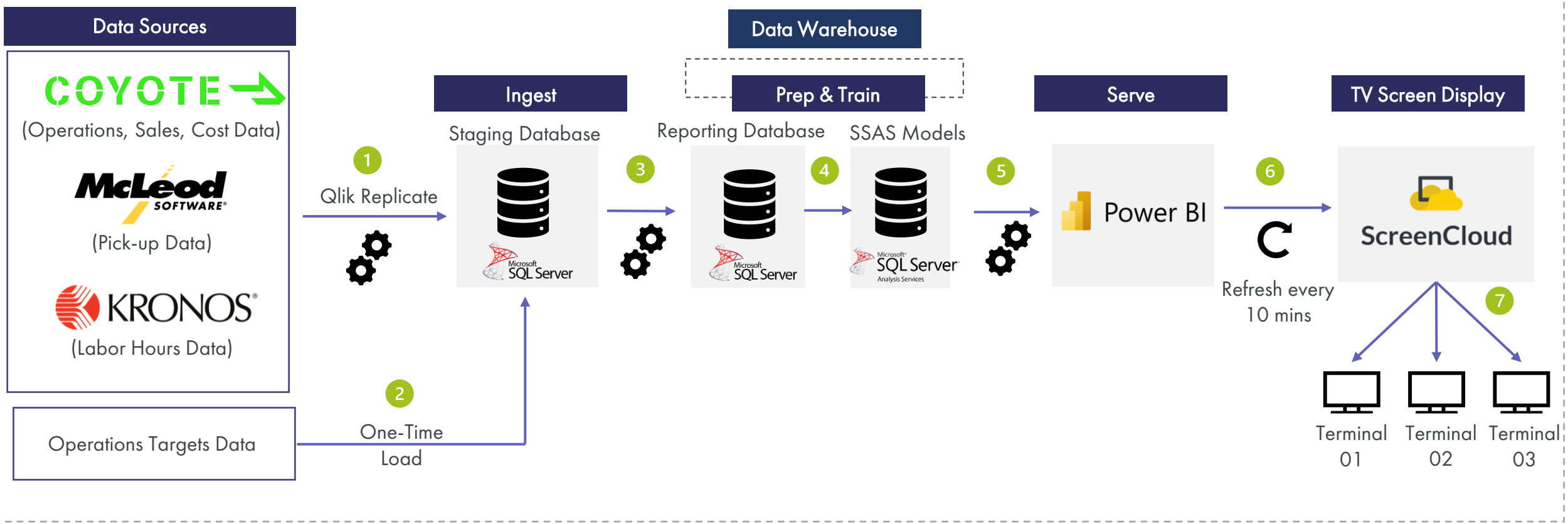
VALUE ADDITION

- **Identified the key operations metrics** (such as Dimming%, Reweigh%, Margin%, Utilization, Service%, Scanning Compliance%, Cost Per Mile (CPM), P&D (Pickup & Delivery) Cost/Shipment, etc.) and their data sources. **Finalized goals for each of the metrics** for all terminals based on historical performance.
- **Connected all data sources** into a robust data warehouse and **built a tabular data model on SSAS** with all the KPIs defined
- **Built a dashboard on Power BI with a leaderboard** for terminals (ranking is based on number of goals hit; and in case of tie, %goal attainment score is considered) to track their performance on a daily, weekly and monthly basis.
- **Integrated this Power BI dashboard with ScreenCloud application** and created different screens for each terminal (using a dynamic filter based on terminal name) that refresh every 10 minutes. **Setup TV screens across offices of all terminals** taking the live feed from ScreenCloud application.

IMPACT

- The TV Dashboard **helped client reward the top 3 terminals every month with incentives** and identify the terminals with poor performance to take necessary actions. Gamification through this league **increased competition among the terminals leading to an overall performance improvement**.
- **Within 3 months** after the launch of TV dashboard –
  - Shipment Dimming (Measuring Dimensions) compliance increased by ~20% (from ~73% to ~93%); equivalent to **~$100K/month savings** from Dimming errors
  - Reweigh compliance increased by ~3% (from ~95% to 98%); equivalent to **~$30K/month savings** from Weighing errors

Methodology/ Approach



1. **Replicated the data from various data sources** (such as Operations, Sales, Cost, Pick-up, Labor data etc.) into a staging database in SQL server using '**Qlik Replicate**'
2. **Loaded the targets** for key operations KPIs defined the business team for each terminal into the staging database. This was a one-time load as the targets are static
3. Built a robust **data warehouse with a reporting database** connecting data sources from the staging database and transformed raw data as per business requirements
4. Developed a **ready-to-serve Tabular data model on SSAS** for analytical and reporting purposes defining all key KPIs and their targets for all terminals
5. **Developed Power BI dashboard** above the data model to track operations performance of terminals against their goals along with a leaderboard based on terminal scores
6. **Connected this Power BI dashboard to ScreenCloud** and setup an **automated refresh of the screens for every 10 minutes** to reflect the latest data
7. Created different screens for all terminals using **dynamic filters based on terminal name**. Setup TV Monitors across all terminals with the live feed from ScreenCloud

Exhibit #1 – Terminal Leaderboard

ILLUSTRATIVE

Operations Performance League

TERMINAL LEADERBOARD

Daily Standings			Weekly Standings			Monthly Standings		
T-03	T-01	T-09	T-03	T-01	T-04	T-01	T-02	T-03
1	2	3	1	2	3	1	2	3

Daily Score for June 30 | from June 26 to June 30 | from June 01 to June 30

Terminal	Captain	Daily Position	Change in Daily Position	#Daily Goals Hit	Daily Score	Weekly Position	Change in Weekly Position	#Weekly Goals Hit	Weekly Score	Monthly Position	Change in Monthly Position	#Monthly Goals Hit	Monthly Score
Terminal-01	Captain-01	2	▲	9	128.1	2	▼	8	128.8	1	–	10	132.5
Terminal-02	Captain-02	8	▼	6	119.2	9	▼	6	118.6	2	–	9	126.2
Terminal-03	Captain-03	1	▲	9	142.4	1	▲	9	128.2	3	▲	8	124.4
Terminal-04	Captain-04	4	▲	8	120.4	3	▲	8	125.8	4	▲	7	126.8
Terminal-05	Captain-05	19	▼	3	99.8	16	▼	5	108.2	5	▲	7	123.0
Terminal-06	Captain-06	7	▲	7	112.5	4	–	8	117.0	6	▲	7	119.0
Terminal-07	Captain-07	6	▲	7	114.2	7	–	7	115.3	7	▼	7	116.0
Terminal-08	Captain-08	10	▼	6	100.9	15	▼	5	112.9	8	▲	7	115.9
Terminal-09	Captain-09	3	▲	8	121.1	6	▲	7	120.2	9	▼	7	112.4
Terminal-10	Captain-10	9	▲	6	111.2	8	▲	7	109.6	10	▲	6	119.4
Terminal-11	Captain-11	13	▼	5	107.4	11	▼	6	110.0	11	▼	6	112.7
Terminal-12	Captain-12	5	▲	7	128.2	5	▲	7	128.2	12	▲	6	111.0
Terminal-13	Captain-13	16	–	5	103.9	17	▼	5	104.6	13	▼	6	111.0
Terminal-14	Captain-14	12	▼	6	91.2	10	▲	6	113.5	14	▲	6	109.7
Terminal-15	Captain-15	20	▼	3	94.4	20	▼	3	95.1	15	▼	5	109.3
Terminal-16	Captain-16	17	▼	5	100.5	18	▼	5	103.4	16	▼	5	103.8
Terminal-17	Captain-17	11	▼	6	96.8	14	▲	6	100.0	17	▲	5	103.0
Terminal-18	Captain-18	14	▲	5	106.3	12	▲	6	108.9	18	▲	5	98.9
Terminal-19	Captain-19	18	▼	4	96.5	19	▼	4	99.8	19	▼	4	106.7
Terminal-20	Captain-20	15	▼	5	105.4	13	▲	6	108.4	20	▼	4	106.4
Terminal-21	Captain-21	21	▼	3	93.8	21	▼	3	93.7	21	▼	4	97.3

Top 3 terminals are rewarded every month

Ranking is based on number of goals hit by the terminal.

In case of tie (#goals hit is same), **%goal attainment score is calculated** for all metrics and this score is used to rank the terminals

Exhibit #2 – KPI Summary

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Operations Performance

KPI Summary

Terminal: Terminal-01

06/30 Daily | 06/26 - 06/30 WTD | 06/01 - 06/30 MTD | 01/01 - 06/30 YTD

KPI Summary (Actuals)

KPIs	Daily	WTD	MTD	YTD	Goal
Profitable Growth					
Dimming % at Origin	96.83%	97.24%	97.67%	95.96%	90.00%
Reweigh % at Origin	98.07%	98.63%	98.90%	98.99%	95.00%
Margin % W Fuel	22.30%	26.45%	26.32%	30.19%	30.00%
Cube Utilization	80.15%	79.74%	80.06%	77.66%	85.00%
Service Quality					
OB On Time Service	89.64%	91.52%	92.41%	86.64%	93.00%
IB On Time Service	84.61%	88.60%	90.00%	78.63%	93.00%
Destination Service	93.75%	96.23%	95.78%	90.45%	97.00%
Appointment Service	98.83%	98.73%	98.39%	88.02%	97.00%
T+3 Days Late	0.97%	6.05%	1.98%	9.34%	5.00%
Exceptions	0.49%	1.06%	1.19%	1.42%	1.00%
Scanning Compliance	98.92%	99.12%	99.12%	99.17%	99.00%
Linehaul Efficiency					
Linehaul CPM	$3.26	$3.01	$3.00	$2.75	$2.64
Labor Management					
P&D Cost/Shipment	$73.65	$74.00	$75.81	$72.25	$66.91
Dock Cost/Shipment	$16.81	$16.49	$16.76	$12.48	$11.35

KPI Summary (% Goal Attained)

KPIs	Daily	WTD	MTD	YTD
Profitable Growth				
Dimming % at Origin	107.59%	108.04%	108.52%	106.63%
Reweigh % at Origin	103.23%	103.82%	104.11%	104.20%
Margin % W Fuel	74.33%	88.19%	87.74%	100.65%
Cube Utilization	94.30%	93.81%	94.19%	91.36%
Service Quality				
OB On Time Service	96.38%	98.41%	99.36%	93.16%
IB On Time Service	90.98%	95.27%	96.77%	84.54%
Destination Service	96.64%	99.20%	98.75%	93.25%
Appointment Service	101.89%	101.79%	101.43%	90.74%
T+3 Days Late	19.24%	120.95%	39.48%	186.72%
Exceptions	48.08%	105.18%	118.43%	141.20%
Scanning Compliance	99.92%	100.12%	100.12%	100.17%
Linehaul Efficiency				
Linehaul CPM	123.32%	113.81%	113.40%	104.19%
Labor Management				
P&D Cost/Shipment	110.06%	110.59%	113.30%	107.97%
Dock Cost/Shipment	148.11%	145.28%	147.67%	109.93%

Terminal can be selected here to see its performance metrics.

% Goal Attained is calculated by comparing Actuals with the goal defined for each metric

The **background color** indicates whether the goal is hit or not. **Green** if it hits the goal, **Yellow** if it hits 95% of goal, else **Red**

Exhibit #3 – Dashboard Displayed On Tv Screens In Terminal Offices

ILLUSTRATIVE

Terminal	Captain	Daily Position	Change in Daily Position	#Daily Goals Hit	Daily Score	Weekly Position	Change in Weekly Position	#Weekly Goals Hit	Weekly Score	Monthly Position	Change in Monthly Position	#Monthly Goals Hit	Monthly Score
Terminal-01	Captain-01	2	▲	9	128.1	2	▼	8	128.8	1	▬	10	132.5
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Terminal-11	Captain-11	13	▼	5	107.4	11	▼	6	110.0	11	▼	6	112.7
Terminal-12	Captain-12	5	▲	7	128.2	5	▲	7	128.2	12	▲	6	111.0
Terminal-13	Captain-13	16	▬	5	103.9	17	▼	5	104.6	13	▼	6	111.0
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Terminal-19	Captain-19	18	▼	4	96.5	19	▼	4	99.8	19	▼	4	106.7
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Terminal-21	Captain-21	21	▼	3	93.8	21	▼	3	93.7	21	▼	4	97.3

Power BI dashboard is **displayed on the TV screens** of terminal offices and warehouses using **ScreenCloud** application