



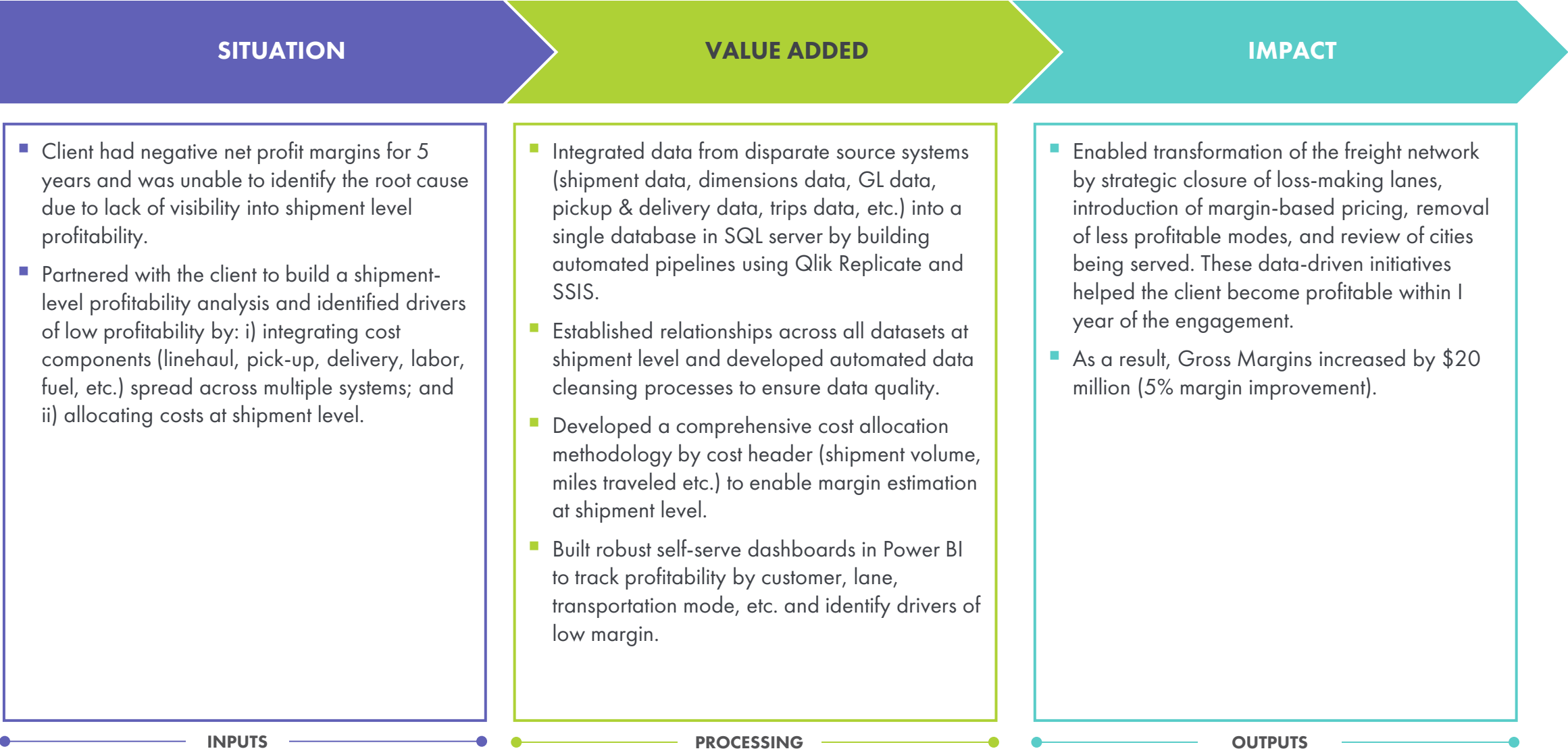
## **LTL Logistics Freight Profitability Analysis**

(Less-than-truckload (LTL) Shipping Services Company)

Root cause analysis of declining profit margin through a robust profitability model that allocated costs at a shipment level

► **Freight Profitability Analysis for an LTL Logistics Company**

**ABOUT THE CLIENT:** Client is an LTL (Less-than-Truckload) shipping services company serving lanes across ~30 major cities.



## ► Value Creation Initiatives

### Value Creation Analytics

#### Revenue Drivers

1. **Sales Analysis** – Analyzed sales data, sales team performance vs targets and key customer accounts to incentivize the sales reps
2. **Missed pickups Analysis** – Developed automated reporting to analyze missed pickups by drivers resulting in lost revenue
3. **Dimming & Reweighing Reporting** – Compared dimensions and weight of shipment provided by customer to actual values to identify shipments that required rebilling. This minimized revenue leakage.
4. **Service Quality Reporting** – Tracked key customer service metrics including on-time delivery, appointment service, scanning compliance, damaged/lost shipments claims, etc.
5. **Operations Reporting & Analysis** – Tracked all operational metrics including on-time dispatch, route compliance, time to load/unload, dock aging, etc.
6. **Pricing Analysis** – Analyzed pricing per volume of shipment against cost and suggested changes in pricing for lanes

#### Cost Drivers

1. **Value Chain Planning Reporting** – Provided visibility into value chain metrics to the executive management and investors
2. **Linehaul Profitability Analysis** – Analyzed profitability at a granular level and identified low profitability lanes to be discontinued
3. **Pickup and Delivery Costs Analysis** – Analyzed various cost components involved in pickup/delivery and identified operational inefficiencies across terminals, customers and drivers
4. **Truck Utilization Analysis** – Analyzed truck utilization (volume) and recommended changes to shipment routes to maximize utilization and reduce costs
5. **Labor Productivity Reporting** – Tracked dock labor productivity metrics including shipments scanned and weight handled per hour, idle time, % rehandles, etc. against targets

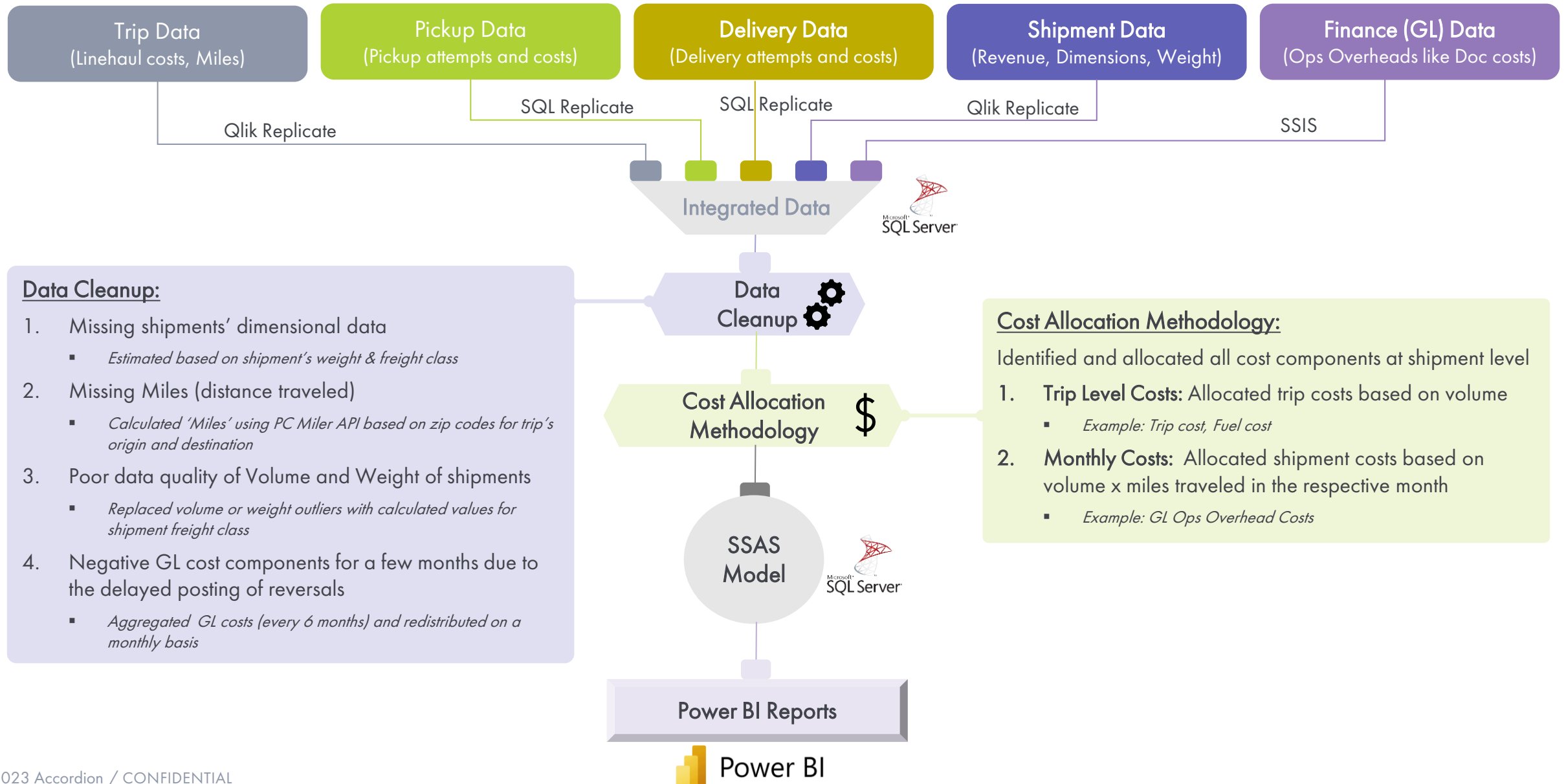
#### Working Capital Drivers

1. **Equipment Reporting** – Provided visibility into service status and location of trailers, trucks and tractors to track damaged/lost equipment
2. **Driver Settlements Reporting** – Tracked settlement and driver payments to reconcile with driven miles
3. **P&L Reporting** – Provided visibility into expenses (COGS, SG&A, overheads, etc.) related to shipments to identify irregular expenses

### Data Management

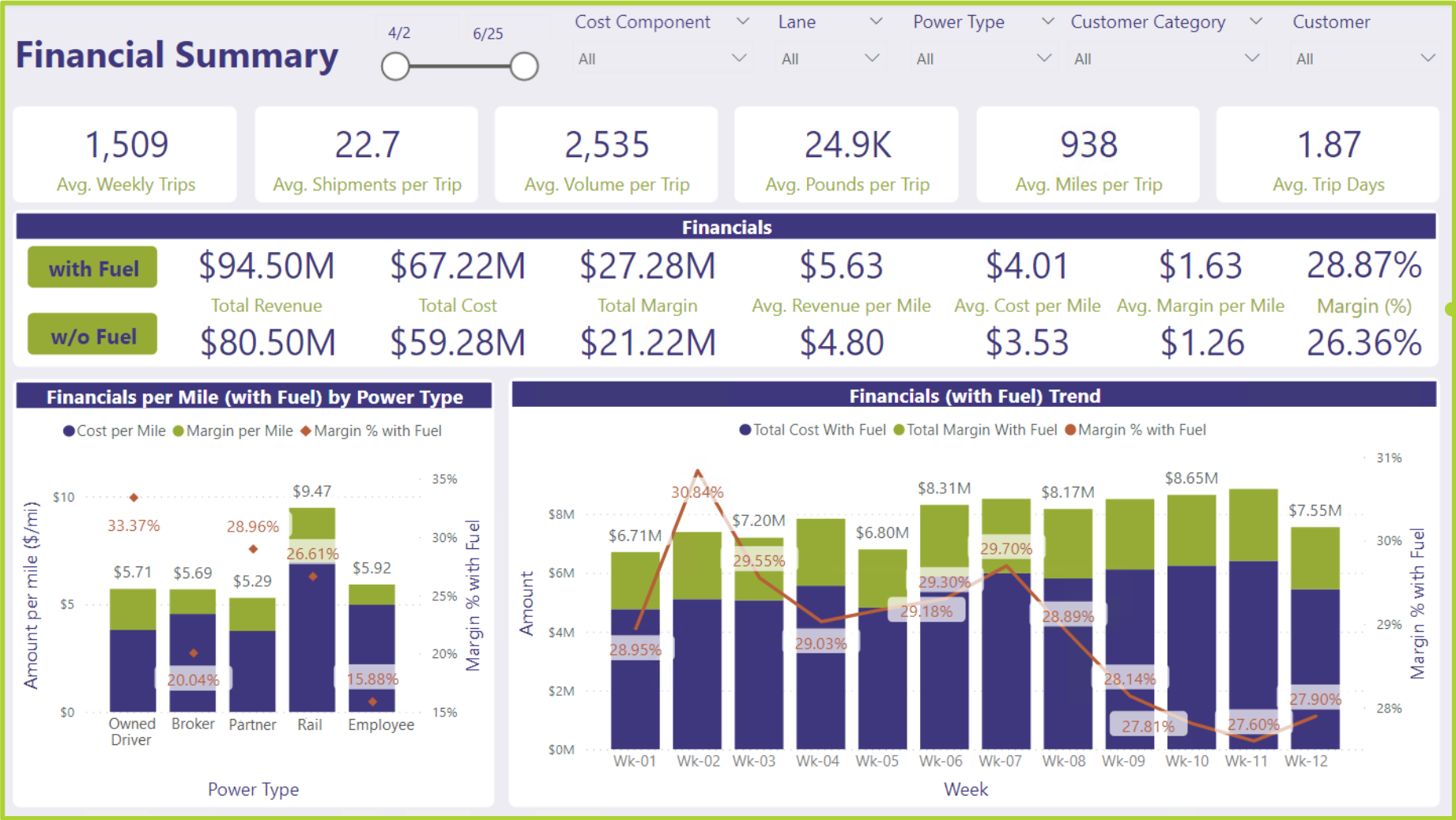
- **Assessed existing data architecture**, built a comprehensive view of systems and data flow, and recommended changes to improve efficiency, scalability and process automation in the architecture
- **Integrated data from disparate source systems** (shipment data, dimensions data, GL (Finance) data, pickup & delivery data, trips data, etc.) **into a single database in SQL server using Qlik Replicate and SSIS**. Established linkages across all datasets at shipment level and added automated data clean-up processes to address data quality & missing data points
- Built a consolidated SQL Server-based Data Warehouse (DW) ensuring a single source of truth for all reporting
- Created seven data cubes on SSAS for the key business functions including operations, drivers, equipment, sales, pricing, partners, and finance
- **Deployed a reporting suite in Power BI** and configured infrastructure to enable automated self-serve reporting and to drive data-driven decision-making across various stakeholder (executives, functional heads, service center managers, operators, and drivers)
- Automated the governance and maintenance of DW with failure notifications, refresh notifications, run time monitoring, etc. to ensure accurate reporting

## ► Approach



► Sample Output: Shipment Profitability Analysis

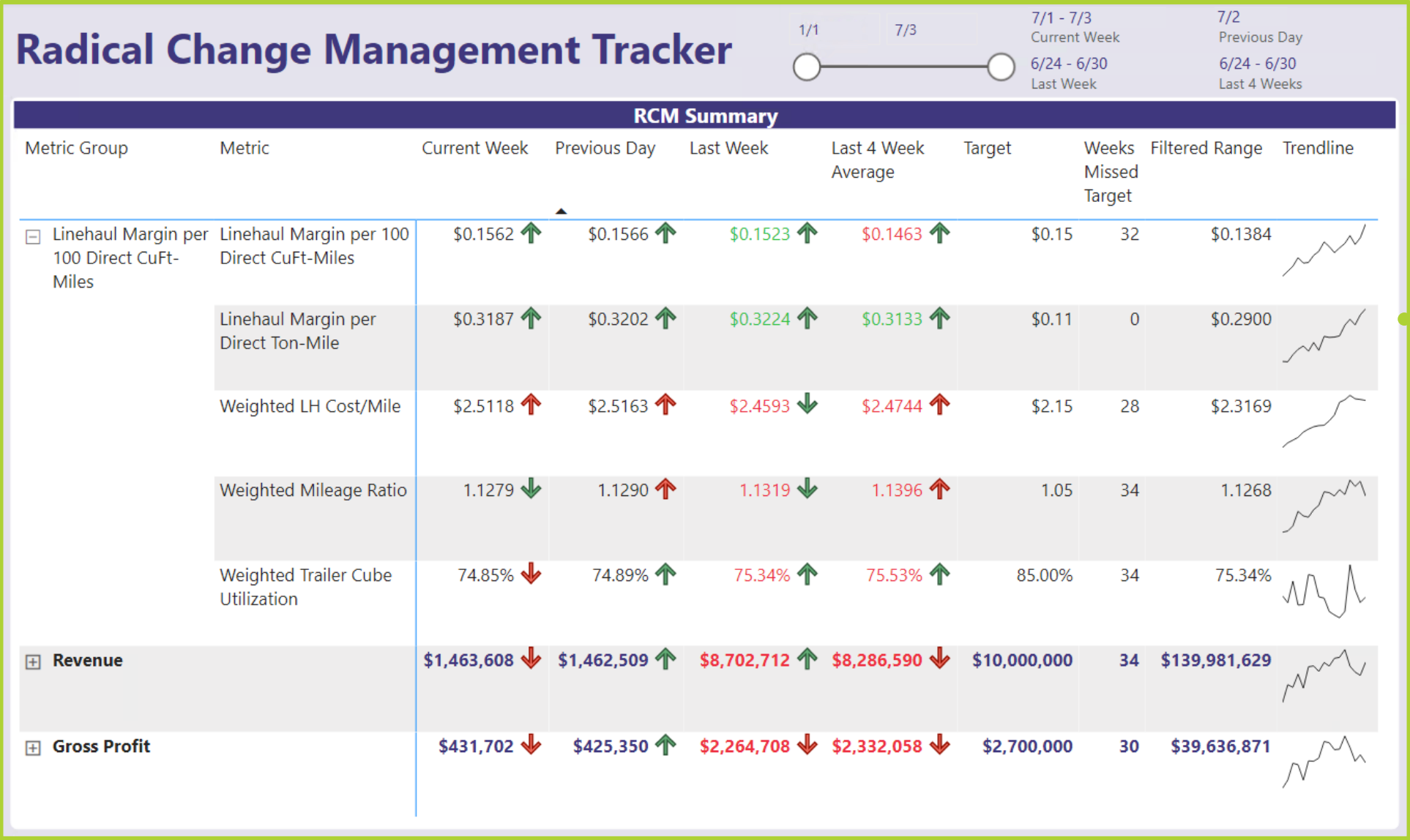
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Summarizes key profitability metrics (Revenue, Cost, Margin)

► Sample Output: Initiatives Tracker

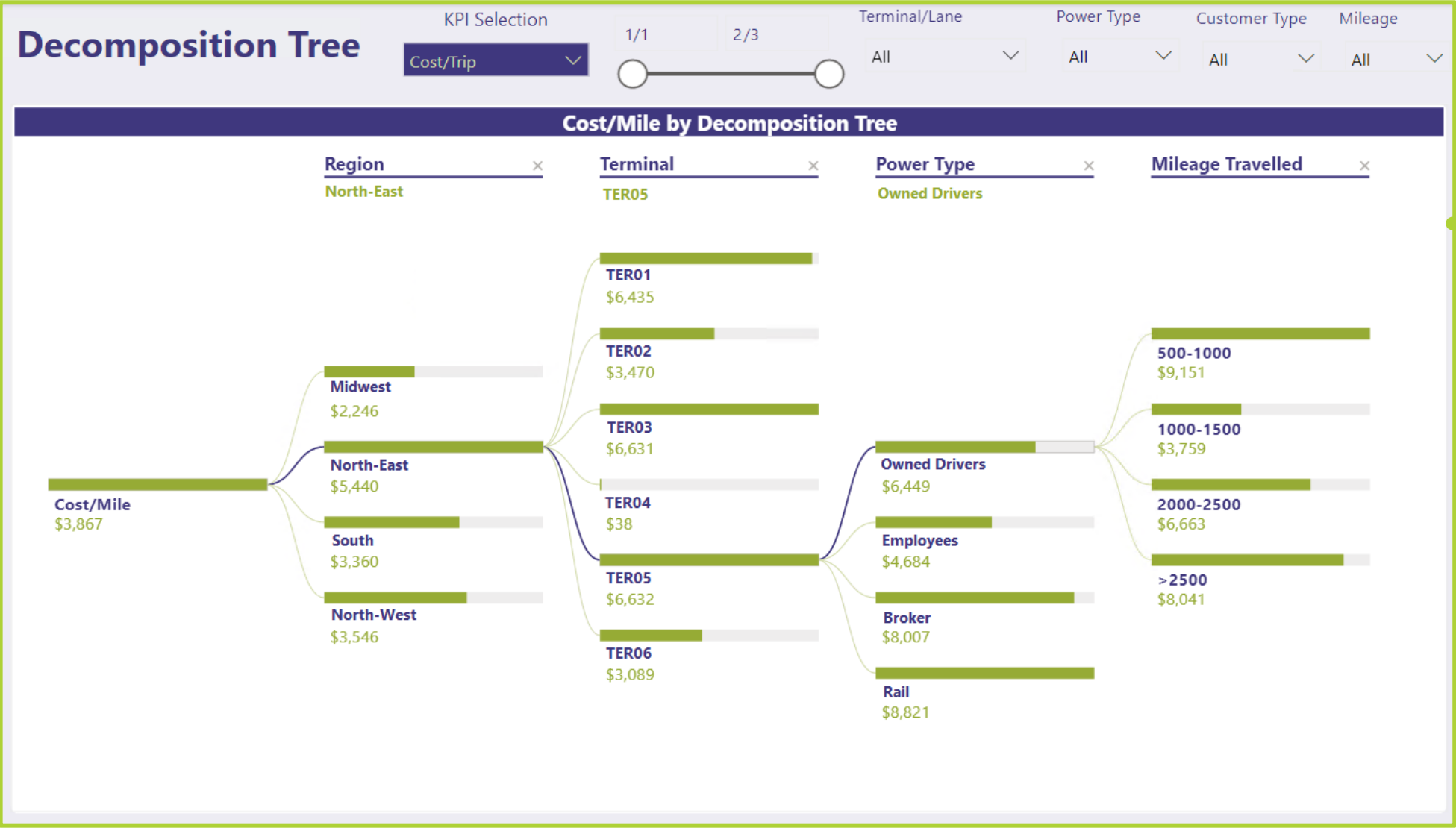
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Change Management Report tracks progress of key initiatives against targets on a daily basis

► Sample Output: Root Cause Analysis to Identify Drivers of Low Profitability

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Decomposition tree identifies the root cause of margin variance by region, terminal, power type, trip miles travelled.

## ► Sample Output: Customer Profitability and Pricing Adjustments

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**Customer Summary** 4/2 7/19

Cost Component: All Lane: All Power Type: All Customer Category: All Customer: All

Customer Details												
Customer	Inactivity period	Share of Revenue (%)	Total Revenue	Total Cost	Total Margin	Margin (%)	#Shipments	Pounds	Revenue per CWT	Revenue per shipment	Revenue per Working Day	
Customer - 001	<1 Week	11.10%	\$10,491,961	\$7,893,861	\$2,598,099	24.8%	23,014	43,518,574	\$24	\$456	\$174,866	
Customer - 002	<1 Week	4.48%	\$4,234,172	\$2,954,743	\$1,279,429	30.2%	10,447	13,350,424	\$32	\$405	\$70,570	
Customer - 003	<1 Week	3.48%	\$3,285,035	\$2,257,935	\$1,027,100	31.3%	7,229	8,855,613	\$37	\$454	\$54,751	
Customer - 004	<1 Week	3.44%	\$3,248,542	\$2,091,587	\$1,156,955	35.6%	8,563	7,793,519	\$42	\$379	\$54,142	
Customer - 005	<1 Week	3.06%	\$2,890,772	\$2,032,576	\$858,195	29.7%	5,645	9,092,910	\$32	\$512	\$48,180	
Customer - 006	<1 Week	3.01%	\$2,843,657	\$1,901,805	\$941,853	33.1%	11,584	4,366,614	\$65	\$245	\$47,394	
Customer - 007	<1 Week	2.70%	\$2,552,688	\$1,728,117	\$824,571	32.3%	6,286	6,554,689	\$39	\$406	\$42,545	
Customer - 008	<1 Week	2.19%	\$2,069,793	\$1,429,344	\$640,450	30.9%	9,157	5,215,578	\$40	\$226	\$34,497	
Customer - 009	<1 Week	1.84%	\$1,743,169	\$1,275,726	\$467,443	26.8%	8,555	3,722,550	\$47	\$204	\$29,053	
Customer - 010	<1 Week	1.71%	\$1,615,713	\$1,315,468	\$300,245	18.6%	10,897	2,748,744	\$59	\$148	\$26,929	
Customer - 011	<1 Week	1.25%	\$1,181,989	\$826,237	\$355,752	30.1%	2,794	3,872,198	\$31	\$423	\$19,700	
Customer - 012	<1 Week	1.21%	\$1,142,114	\$793,965	\$348,149	30.5%	2,794	3,386,012	\$34	\$409	\$19,035	
Customer - 013	<1 Week	1.19%	\$1,119,894	\$594,911	\$524,983	46.9%	3,444	888,051	\$126	\$325	\$18,665	
Customer - 014	<1 Week	1.00%	\$945,950	\$667,258	\$278,692	29.5%	6,060	2,064,440	\$46	\$156	\$15,766	
Customer - 015	<1 Week	0.96%	\$908,003	\$797,164	\$110,840	12.2%	2,358	2,530,978	\$36	\$385	\$15,133	
Customer - 016	<1 Week	0.92%	\$874,121	\$656,015	\$218,106	25.0%	1,143	2,959,916	\$30	\$765	\$14,569	
Customer - 017	<1 Week	0.85%	\$805,659	\$592,550	\$213,109	26.5%	1,356	2,551,836	\$32	\$594	\$13,428	
Customer - 018	<1 Week	0.84%	\$790,399	\$597,292	\$193,107	24.4%	1,895	3,195,469	\$25	\$417	\$13,173	
Customer - 019	<1 Week	0.83%	\$781,850	\$571,916	\$209,934	26.9%	2,826	860,091	\$91	\$277	\$13,031	
Customer - 020	<1 Week	0.79%	\$744,726	\$496,366	\$248,360	33.3%	1,293	2,526,727	\$29	\$576	\$12,412	
Customer - 021	<1 Week	0.76%	\$722,148	\$561,514	\$160,634	22.2%	1,582	984,018	\$73	\$456	\$12,036	
Customer - 022	<1 Week	0.75%	\$707,947	\$364,033	\$343,914	48.6%	2,014	2,094,651	\$34	\$352	\$11,799	
Customer - 023	<1 Week	0.74%	\$695,597	\$579,476	\$116,121	16.7%	2,679	3,642,172	\$19	\$260	\$11,593	
Customer - 024	<1 Week	0.73%	\$686,380	\$610,269	\$76,111	11.1%	2,273	1,756,259	\$39	\$302	\$11,440	
Customer - 025	<1 Week	0.71%	\$669,928	\$428,408	\$241,520	36.1%	1,558	1,683,335	\$40	\$430	\$11,165	
<b>Total</b>		<b>100.00%</b>	<b>\$94,500,227</b>	<b>\$67,217,564</b>	<b>\$27,282,663</b>	<b>28.9%</b>	<b>262,041</b>	<b>299,239,551</b>	<b>\$32</b>	<b>\$361</b>	<b>\$1,575,004</b>	

Identifies customers with low margins to re-evaluate pricing and improve margins