



Delivery Standardization Group 1

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Balancing Cost Efficiency with Growth Potential



Sales Volume

1% Increase



Revenue

-5% Decrease

- 1 Goal:** Transition low-volume customers to ARTM using white truck deliveries
- 2 Risk:** Moving to ARTM prematurely could hinder revenue growth
- 3 Plan:** Use data driven insights to identify customers that should remain on red truck



Descriptive Analytics: Tableau Dashboard



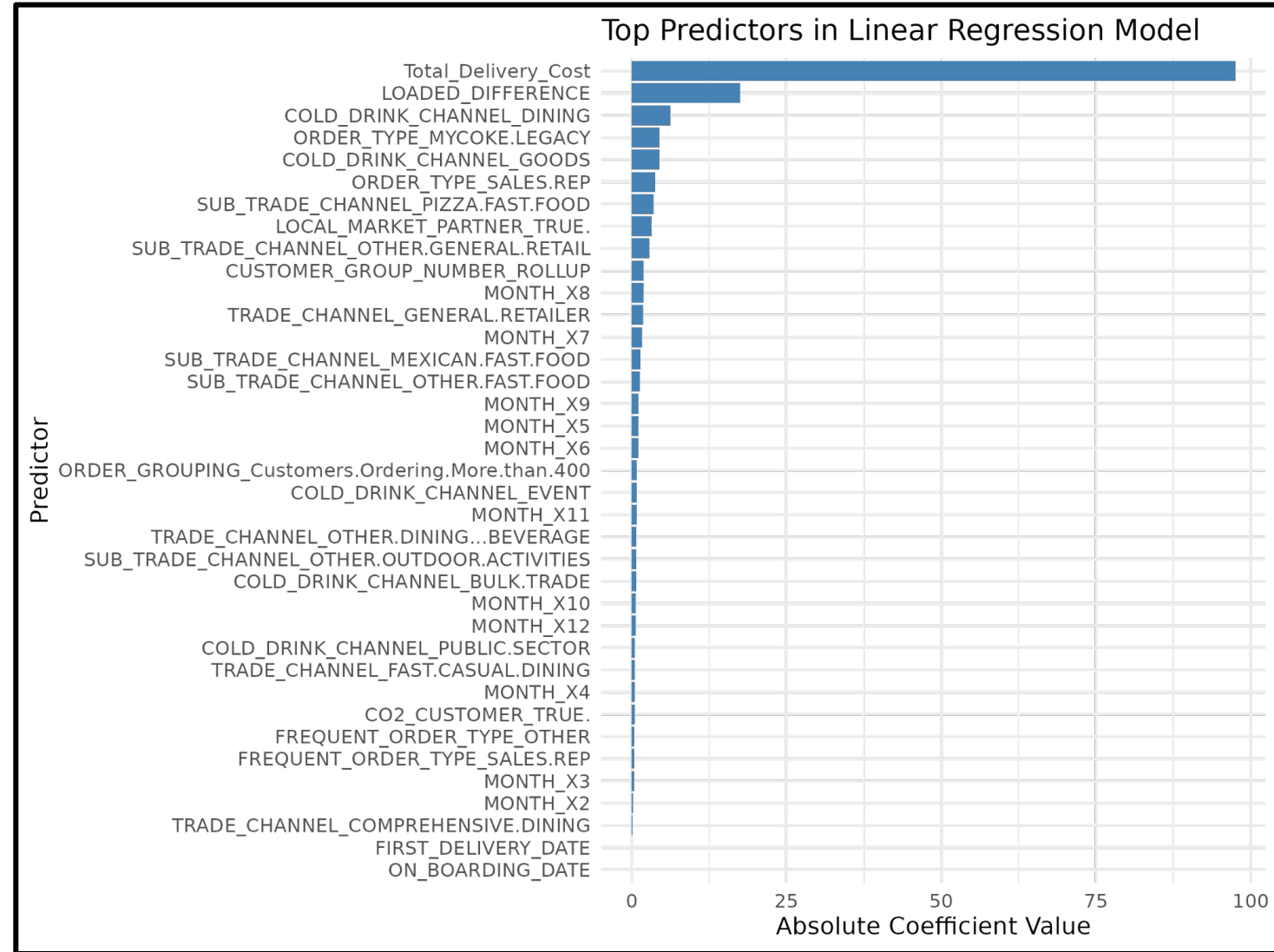
Predictive Analytics: Regression Model

Modeling Approach

- Response Variable: Total Units Ordered
- Multicollinearity present in the data
- Attempted a variety of models
- Decided on linear regression for a balance of performance and interpretability

Regression Insights

- **Runtime**
 - 2.20 hours using full datasets on a high capacity server
- **Test 2023**
 - Adjusted R-squared 0.6
 - R-squared 0.56
 - RMSE is 81.90
- **Test 2024**
 - R-squared 0.57
 - RMSE is 92.6



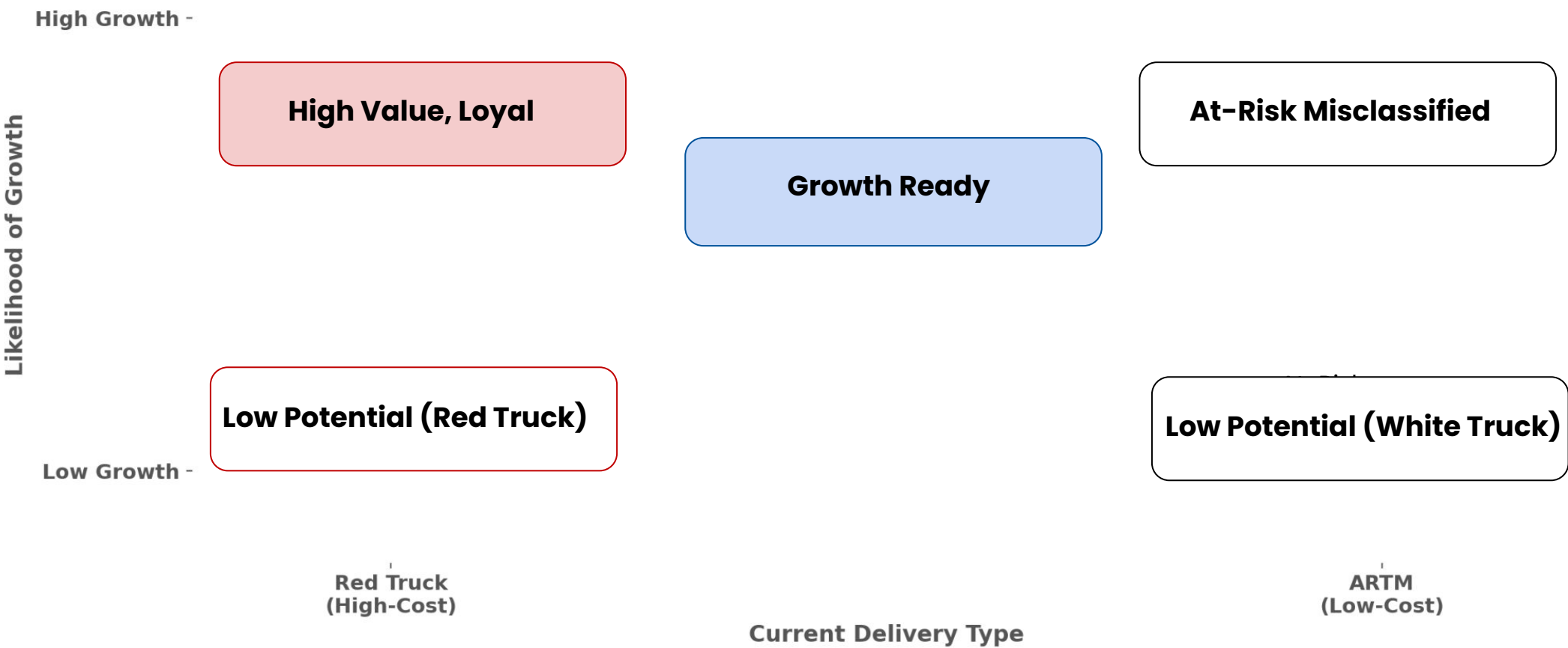


Prescriptive Analytics: Insights

Routing Actions to Maximize Growth



Customer Segmentation Matrix



Routing Actions to Maximize Growth



Recommendation 💡	Insight Source & Next Step 📊
✅ Retain Growth-Ready & At-Risk Misclassified on Red Truck	<ul style="list-style-type: none">• Identified through segmentation matrix & regression trends• Retain red truck access to support volume lift
↔️ Refine White Truck Routing Criteria	<ul style="list-style-type: none">• Tableau dashboard shows sub-400 gal/year accounts trending up• Move beyond fixed threshold — incorporate growth slope
👁️ Monitor Low Potential Accounts on White Truck	<ul style="list-style-type: none">• Regression & dashboard show flat/no growth• Reassess quarterly to validate classification
🚩 Flag Near-Threshold Movers	<ul style="list-style-type: none">• Regression slope > 0 for borderline accounts• Add a flag to Tableau for proactive review



What's Next?



What's Next



Regression
forecasting with
additional data



Tableau
Dashboard



Clustering



Black Box Machine
Learning Models





THANK YOU

Questions?



Appendix

How to access the Tableau Dashboard

- 1 Download & Install
Tableau Reader
<https://www.tableau.com/products/reader>
- 2 Download the packaged
Tableau dashboard
[Packaged Tableau Workbook](#)
- 3 Open the packaged Tableau dashboard
in Tableau Reader

Multicollinearity

Without accounting for multicollinearity:

- we saw inflated results with r-squared values that were unrealistically high.

How we addressed this:

- Checked for aliased coefficients and high variance inflation factors
 - Aliased coefficients removed
 - Predictors with a VIF greater than 10 were removed to improve model stability.

Forecasting

- Predict predictor variables, synthetic