



Manager, Cross Carline Product Line Management | Candidate Assignment

Sangho Lee



About Me

Part 2: Strategic Assessment and Action Plan for Kona ICE Performance

Objective:

To provide data-driven insights and actionable strategies to improve **sales**, **retail share**, and **profitability** for Kona ICE in February 2021 and beyond.

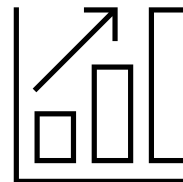
Steps We Will Take:



Analyze Current Performance

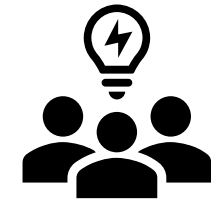
Visualize Kona's sales, inventory, and regional trends.

Highlight challenges: regional imbalances, high-MOS trims, pipeline issues.



Provide Recommendations

Target strategies: optimize inventory, improve high-MOS trims, enhance regional incentives.



Simulate Scenarios (What-If)

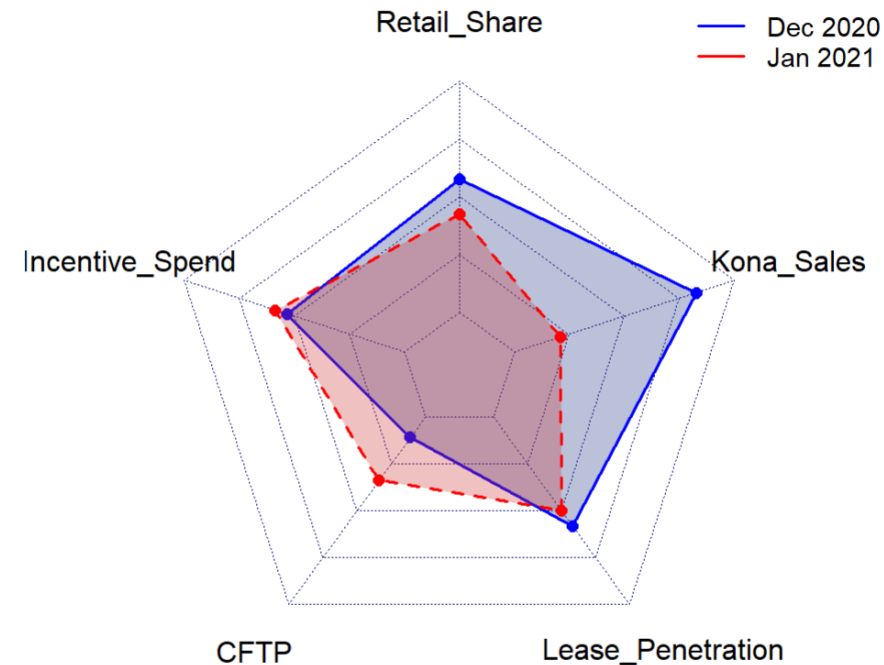
Use optimization technic to test strategies and combinations.

Identify actions for maximum sales impact.

Kona ICE's Indicator

- **Retail Share:** Declined from 7.5% (Dec 2020) to 6.9% (Jan 2021), indicating competitive challenges.
- **Incentive Spend:** Increased by \$57, suggesting an effort to boost demand but with limited effectiveness.
- **CFTP:** Increased from \$22,111 to \$22,338, potentially alienating price-sensitive customers.
- **Lease Penetration:** Dropped by 0.5%.
- **Sales Volume:** Dropped significantly from 5,817 units in Dec 2020 to 4,094 units in Jan 2021 (-29.6%).

Month	Retail Share (%)	Incentive Spend (\$)	CFTP (\$)	Lease Penetration (%)	Dealer Profitability (\$)	Entry CUV Share (%)	Kona Sales (Units)
2020-12	7.5	3386	22111	25.5	3	5.5	5817
2021-01	6.9	3443	22338	25.0	144	6.3	4094



What Does This Mean by a Drastic Increase in Dealer Gross?

	Dealer Gross	
	Jan-21	M/M
Seltos	\$633	-\$73
C-HR	\$548	+\$176
HR-V	\$515	-\$108
CX-30	-\$113	-\$84
Renegade	\$226	+\$9
Encore	\$41	+\$8
Kona	\$144	+\$141
Entry CUV	\$299	+\$25

Month-over-month: 5,817 to 4,094 (-29.6%)

Competitor Sales: Dec 2020 vs. Jan 2021

Month	Seltos (Units)	Crosstrek (Units)	HR-V (Units)
Dec 2020	6107.0	14957.0	8428.0
Jan 2021	4992.0	10431.0	6369.0
Change (%)	-18.3	-30.3	-24.4

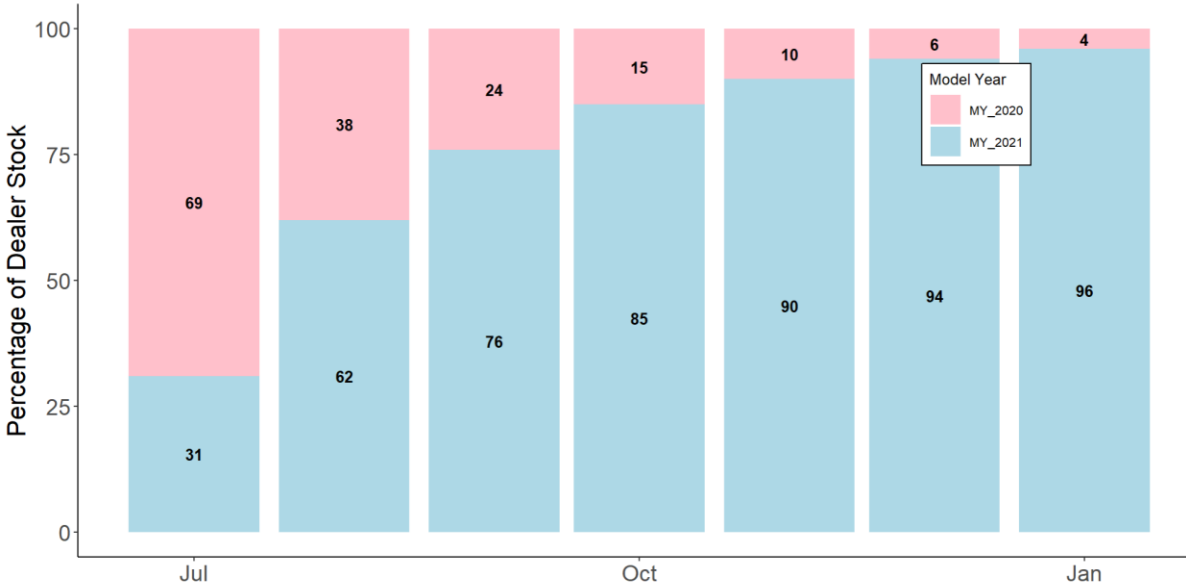
Source: <https://www.conceptcarz.com/monthly-sales>

Year-over-year : 3,736 to 4,094 (+9.6%)

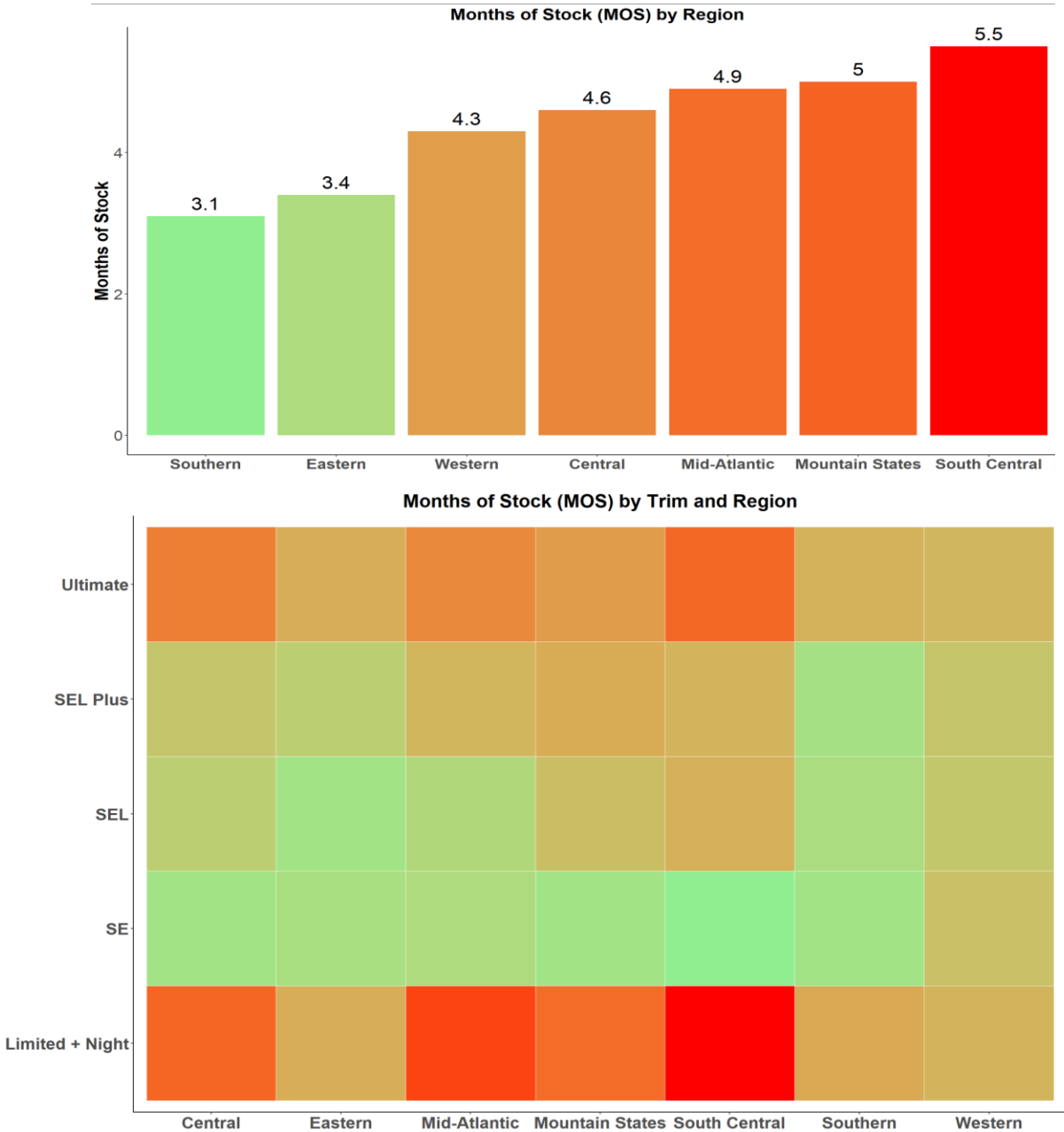
Minimal Loss on:

- **Incentive Spend:** Minimal increase in incentives (+\$57), indicating that dealers relied less on price reductions to move inventory.
- **CFTP Increase:** \$22,111 → \$22,338, showing Hyundai's ability to command higher prices for Kona, reducing the need for deep discounts.
- **Lease penetration:** 25.5% → 25%

Dealer Stock Mix Transition: MY 2020 vs. MY 2021



Recommendation: Focus on Region and Trim



Pipeline Overview

Category	Units
Dealer Stock	19893
In-Transit Vehicles	1326
Port Inventory	1157
Unbuilt Units	8989

Planned Unbuilt Units by Region

Region	Unbuilt Units Planned
Central	1743
Eastern	2707
Mid-Atlantic	676
Mountain States	599
South Central	616
Southern	1538
Western	1110



Focus on high-demand trims and optimize unbuilt unit allocation.

1. Language and Tools used:

- **Language: R**
- **Optimization Package: nloptr**



2. Objective

- **Minimize the average Months of Supply (New MOS)** across all regions and trims by efficiently reallocating unbuilt inventory.
- Incorporate **trim-level priorities**

3. Optimization Process

New Trim-Level Scoring System:

- Lower MOS trims are prioritized with higher weights.
- Allocations guided by region-trim MOS and stock availability.

Process Steps:

- Iteratively adjust Unbuilt Units for each region and trim.
- Evaluate the weighted impact of MOS after every allocation

Constraints Applied

- Total allocation matches the planned unbuilt units
- Regional constraints ensure each region receives the planned

total allocation

- No negative values in allocation

4. Why This Works

- Granular Trim-Level Optimization
 - Addresses inefficiencies at both regional and trim levels
 - Balances inventory allocation to minimize MOS holistically
- Dynamic Weighting
 - Lower MOS trims receive prioritized allocations, ensuring better stock distribution.
- Data-Driven Strategy
 - Uses advanced optimization to handle complex constraints and objectives

5. Results

- Clear visibility into reallocation adjustments for **Unbuilt Units**.

Ctrl + Click below GitHub Icon for the code reference



Final Recommendation on Unbuilt Units



Region	Trim	Allocated Units	MOS
Central	Limited Night	63	8.9
Central	SE	985	2.2
Central	SEL	587	3.5
Central	SEL Plus	199	4.0
Central	Ultimate	56	7.8

Region	Trim	Allocated Units	MOS
Mountain States	Limited Night	25	8.6
Mountain States	SE	134	2.2
Mountain States	SEL	95	4.4
Mountain States	SEL Plus	45	5.5
Mountain States	Ultimate	31	6.3

Region	Trim	Allocated Units	MOS
Western	Limited Night	98	5.0
Western	SE	257	4.3
Western	SEL	211	3.9
Western	SEL Plus	149	4.0
Western	Ultimate	115	4.8

Region	Trim	Allocated Units	MOS
Eastern	Limited Night	118	5.4
Eastern	SE	894	2.5
Eastern	SEL	1485	2.2
Eastern	SEL Plus	325	3.5
Eastern	Ultimate	108	5.4

Region	Trim	Allocated Units	MOS
South Central	Limited Night	20	11.0
South Central	SE	422	1.5
South Central	SEL	90	5.2
South Central	SEL Plus	56	5.0
South Central	Ultimate	21	8.8

Trim	Original Plan	Optimized Suggestion	Variance
Limited + Night	1273	447	-826
SE	2183	3525	1342
SEL	2865	3319	454
SEL Plus	1581	1133	-448
Ultimate	1087	450	-637

Region	Trim	Allocated Units	MOS
Mid-Atlantic	Limited Night	25	10.0
Mid-Atlantic	SE	247	2.7
Mid-Atlantic	SEL	213	2.9
Mid-Atlantic	SEL Plus	68	4.9
Mid-Atlantic	Ultimate	30	7.3

Region	Trim	Allocated Units	MOS
Southern	Limited Night	98	5.6
Southern	SE	586	2.2
Southern	SEL	638	2.6
Southern	SEL Plus	291	2.3
Southern	Ultimate	89	5.1

Region (MOS)	Original Plan	Optimized Suggestion	Variance
Central (4.6)	1743	1890	147
Eastern (3.4)	2707	2930	223
Mid-Atlantic (4.9)	676	583	-93
Mountain States (5.0)	599	330	-269
South Central (5.5)	616	609	-7
Southern (3.1)	1538	1702	164
Western (4.3)	1110	830	-280

** Domain knowledge and input from multiple SMEs must be applied to make the final decision.**

Part 3: Tesla Conquest Strategy – Coefficient Analysis and Action Plan

Objective:

To leverage the given data to uncover key sales drivers and formulate a strategic plan for Hyundai to outperform Tesla in the competitive EV market.

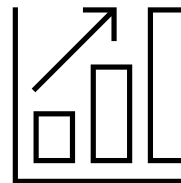
Steps We Will Take:



Perform variables coefficient analysis on sales data

Re-shape the data format to fit the coefficient analysis

Analyze coefficient trends for key variables like models, regions, and segmentation



Compare Hyundai coefficients against Tesla's benchmarks

Visualize the numbers to interpret the performance of each variables for both brands



Formulate a conquer strategy for excelling in the EV market

Leverage insights from coefficient analysis to craft a Tesla conquest strategy

Pivot_Longer

	brands	segmentations	models	region	adi	drive_type	fuel_type	model	model_year	x2023_jul	x2023_aug	x2023_sep	x2023_oct	x2023_nov	x2023_dec	x2024_jan	x2024_feb	x2024_mar	x2024_apr	x2024_may
	<chr>	<chr>	<chr>	<chr>	<chr>	<chr>	<chr>	<chr>	<dbl>	<dbl>	<dbl>	<dbl>	<dbl>	<dbl>	<dbl>	<dbl>	<dbl>	<dbl>	<dbl>	<dbl>
1	INFINITI	Near Luxury	Car Q60	Mid-A...	Balt...	AWD	Gasoline	Q60	2022	0	1	0	2	1	0	0	0	0	0	0
2	INFINITI	Near Luxury	Car Q50	Mid-A...	Balt...	AWD	Gasoline	Q50	2024	0	0	0	0	0	0	0	2	0	3	9



	brands	segmentations	models	region	fuel_type	model_year	date	sales_volume
	<chr>	<chr>	<chr>	<chr>	<chr>	<dbl>	<chr>	<dbl>
1	INFINITI	Near	Luxury	Car Q60	Mid-Atlantic	Gasoline	2022 2023_jul	0
2	INFINITI	Near	Luxury	Car Q60	Mid-Atlantic	Gasoline	2022 2023_aug	1
3	INFINITI	Near	Luxury	Car Q60	Mid-Atlantic	Gasoline	2022 2023_sep	0
4	INFINITI	Near	Luxury	Car Q60	Mid-Atlantic	Gasoline	2022 2023_oct	2
5	INFINITI	Near	Luxury	Car Q60	Mid-Atlantic	Gasoline	2022 2023_nov	1

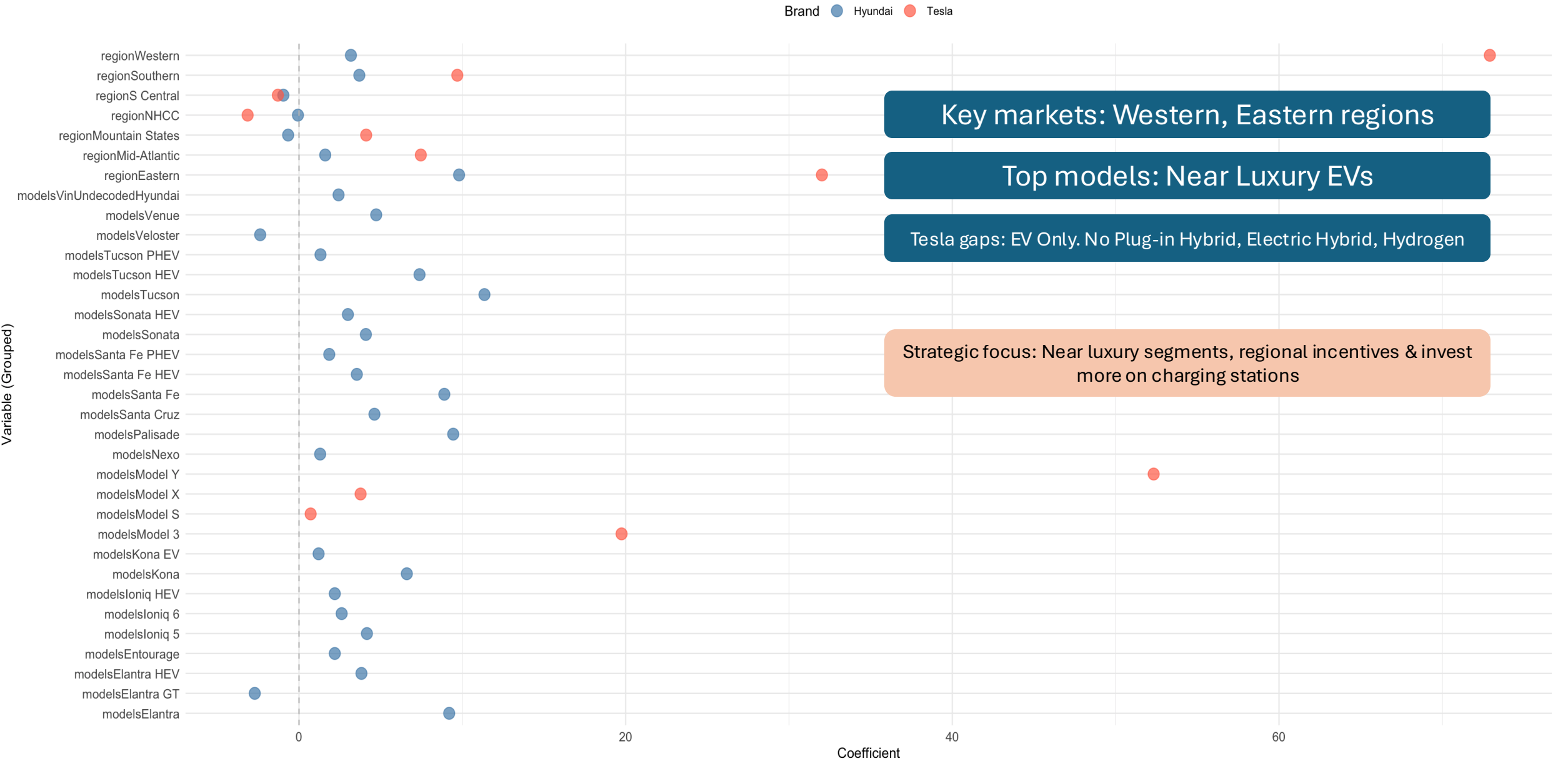
Linear regression -> coefficients

Variable	Estimate	Std..Error	t.value	Pr...t..
(Intercept)	-10.88	4.31	-2.53	0.01
segmentationsNear Luxury EV Car	19.75	4.12	4.79	0.00
segmentationsNear Luxury EV SUV	52.33	4.10	12.76	0.00
segmentationsPremium Luxury EV Car	0.71	4.21	0.17	0.87
segmentationsPremium Luxury EV SUV	3.77	4.18	0.90	0.37
regionEastern	32.02	4.47	7.16	0.00
regionMid-Atlantic	7.46	3.95	1.89	0.06
regionMountain States	4.11	3.48	1.18	0.24
regionNHCC	-3.15	16.18	-0.19	0.85
regionS Central	-1.30	3.23	-0.40	0.69
regionSouthern	9.69	3.60	2.69	0.01
regionWestern	72.91	3.98	18.30	0.00

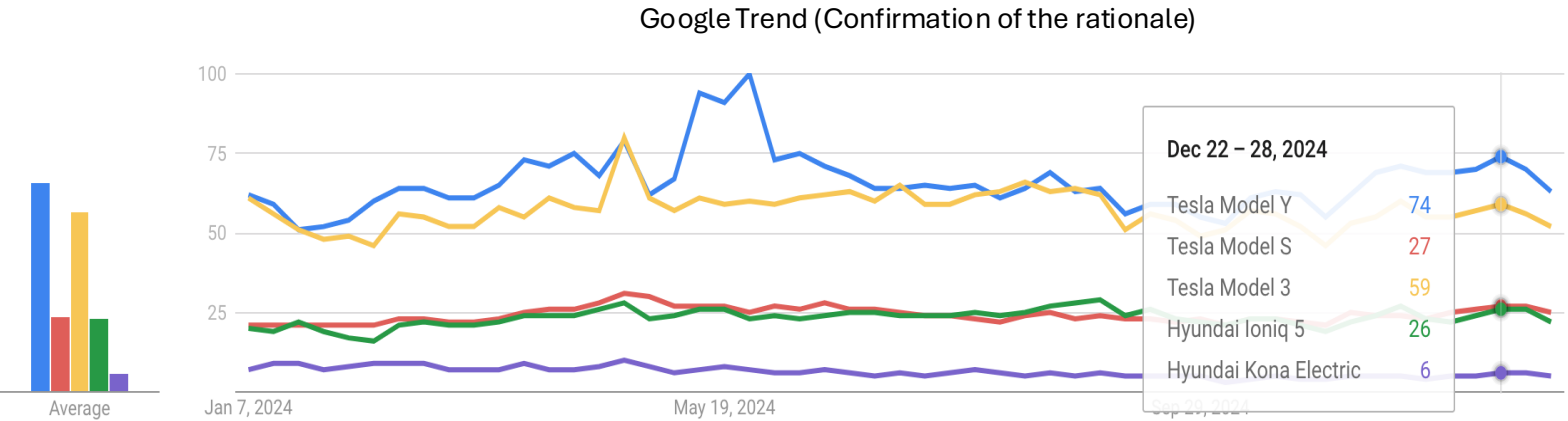
Hyundai vs. Tesla: Coefficient Insights for Strategic Benchmarks



Coefficient Dot Plot: Hyundai vs. Tesla



External Resources



Technology innovation:
EREV
(Extended Range Electric Vehicle)

- During its 2024 CEO Investor Day, Hyundai announced a new powertrain that bridges the difference between hybrid and all-electric setups.
- The automaker will launch new SUVs with this new powertrain for both Hyundai and Genesis brands in the North American market.



To enhance SDV (software-developed vehicles) user experience

Hyundai to develop next-gen infotainment system

Integration with Samsung Electronics' SmartThings Find



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Ioniq5 to be outfitted with Waymo driverless tech

fully autonomous driving technology



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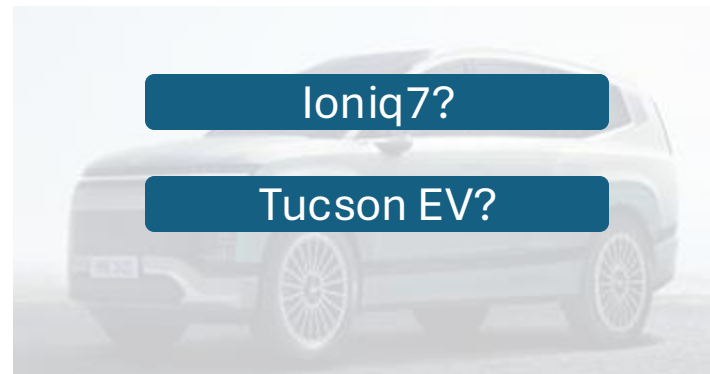
Key Findings & Recommendations



Focus on Key Regions



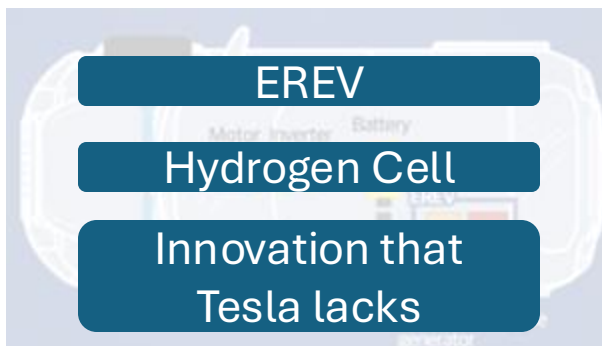
Expand EV SUV Lineup



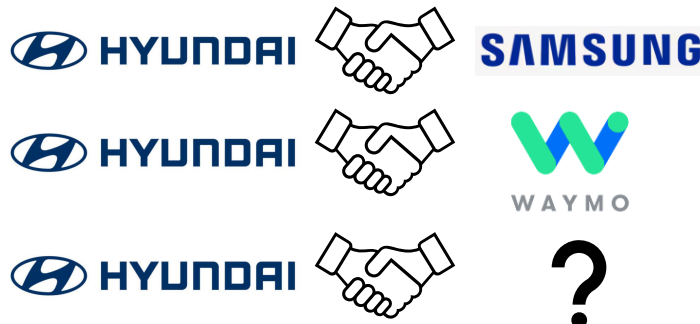
Prioritize Near-Luxury Segments



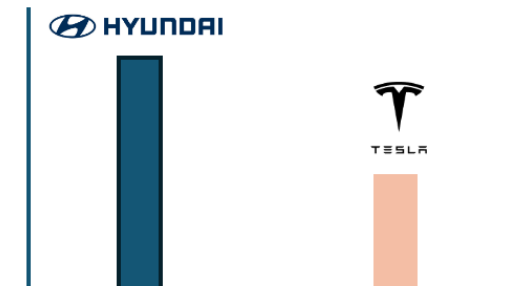
Leverage Technological Innovations



Strengthen Partnerships



Long-Term Vision



Reference & Resources

- **R & R Studio** - [Main Analysis Tool for data cleaning/wrangling/visualization.](#)
- **Github page** - https://github.com/slee8495/hyundai_case_study
- **Google Trends** - https://trends.google.com/trends/explore?cat=47&geo=US&q=%2Fg%2F11gb_4f22x,%2Fm%2F04cylkl,%2Fg%2F11c3x48pb7,%2Fg%2F11kgt7_68,%2Fg%2F11j639xwwv&hl=en
- **EREV News** - <https://www.edmunds.com/car-news/new-hyundai-suv-range-extender-announced.html>
- **Hyundai x Samsung News** - <https://www.autocarpro.in/news-international/hyundai-kia-and-samsung-electronics-join-forces-to-enhance-sdv-user-experience-122738>
- **Hyundai x Waymo News** - <https://www.automotivedive.com/news/hyundais-ioniq-5-to-be-outfitted-with-waymo-driverless-tech/729005/>