

Car Sales Analysis: Market Strategy & Value Retention

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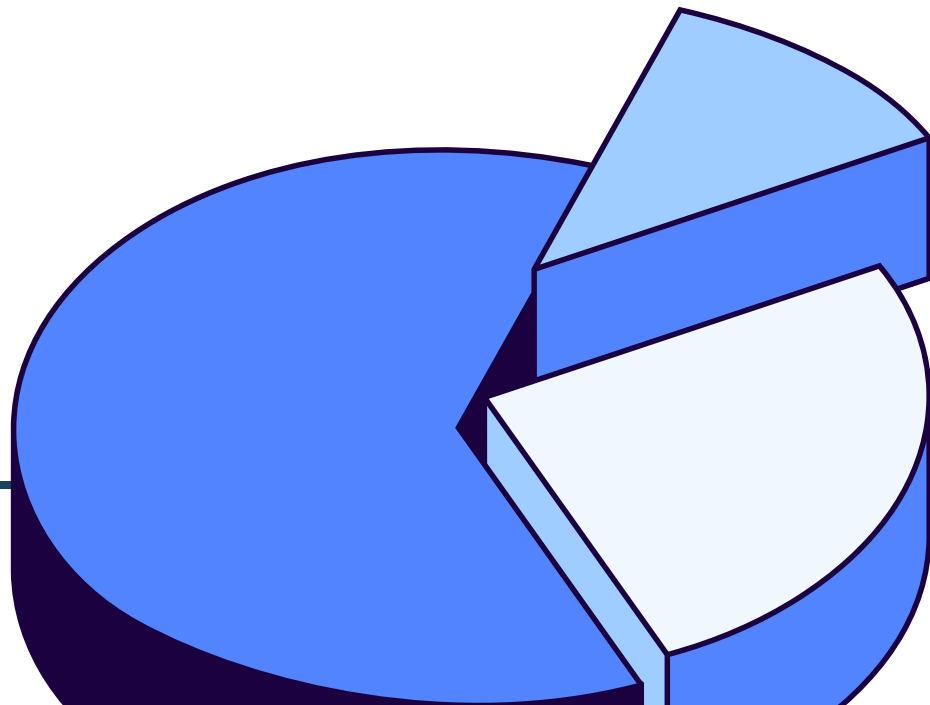
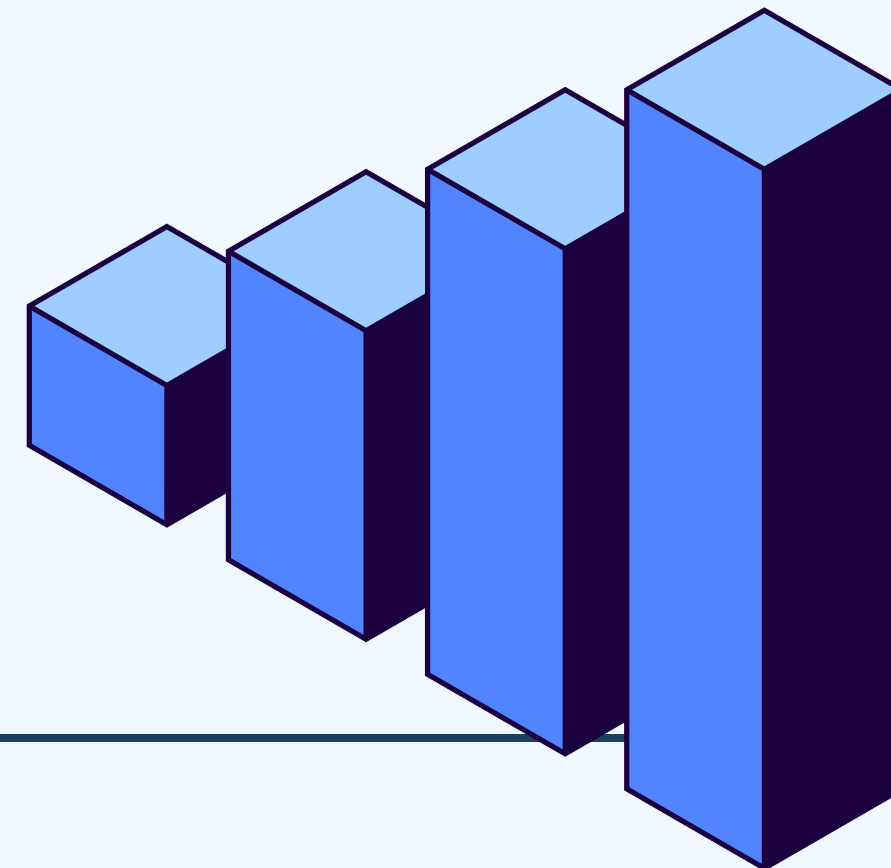


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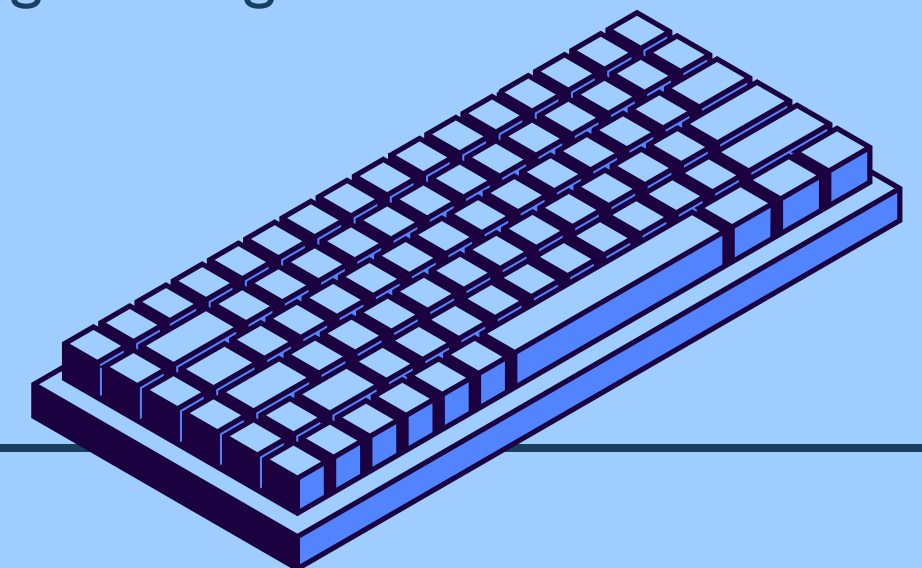
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1- Executive Summary & Business Context

This project utilized a Kaggle dataset to analyze the resale value dynamics within the automotive market. The goal was to identify which manufacturers and vehicle types offer the highest value retention and market stability—a crucial factor for any entrepreneur entering the automotive or FinTech sector.

The analysis, performed using Microsoft Excel for rapid analysis and visualization, confirms that premium European brands, notably BMW, maintain the highest average year resale value retention among the sampled manufacturers, providing actionable intelligence for market segmentation and product pricing strategies. This demonstrates my capacity to translate raw data into verifiable, strategic business insights.



2- Strategic Price vs. Value Analysis

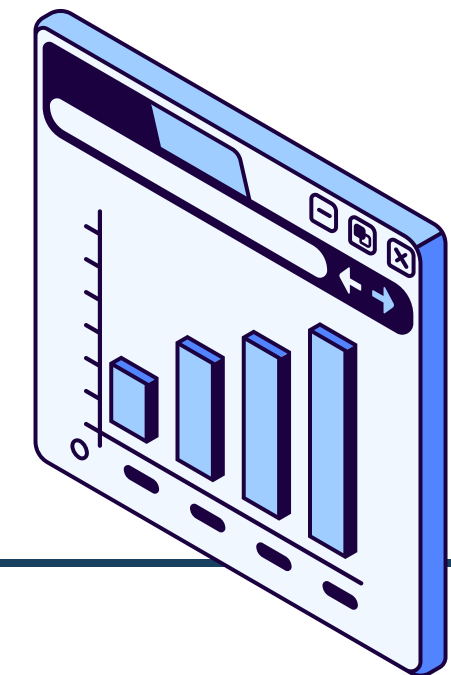


Chart A



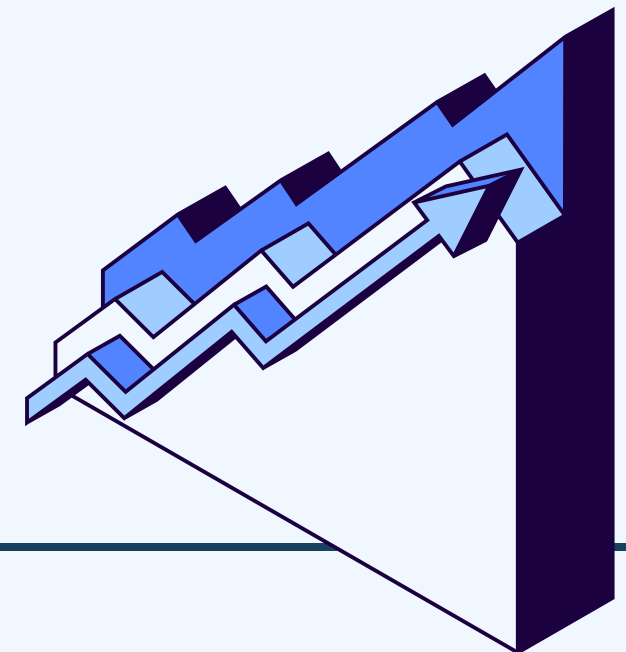
Row Labels	Average of Year Resale Val	Average of Price
⊕ Acura	\$21,986.67	\$30,633.33
⊕ Audi	\$28,270.00	\$39,980.00
⊕ BMW	\$29,766.67	\$33,096.67
⊕ Buick	\$14,941.25	\$26,781.25
Grand Total	\$23,064.23	\$32,173.46

- Observation: BMW has the smallest visual gap, meaning it retains the largest percentage of its initial price after one year. This correlates directly to a high Retention %.
- Strategic Implication: High retention is a key competitive advantage, often signaling strong brand equity and perceived reliability. An entrepreneur entering a related industry (e.g., used car sales, leasing, or FinTech) should prioritize models with high retention, as they represent lower financial risk and greater customer satisfaction.



Risk Assessment (The Depreciation Gap) :

- The size of the gap between the blue and orange bars represents depreciation loss. (chart1)
- Insight: Brands like Buick and Chevrolet show large gaps. If an entrepreneur were starting a rental fleet or financing company, they would face higher financial risk and larger balance sheet losses due to the rapid depreciation of these specific assets compared to the European brands.



3- Market Segmentation & Product Targeting



Strategic Insights: Model Performance and Niche Value

The following visualizations assess the performance metrics of specific, high-volume models (4Runner, Avalon, Camry, Celica) to identify segments that offer unique competitive advantages.

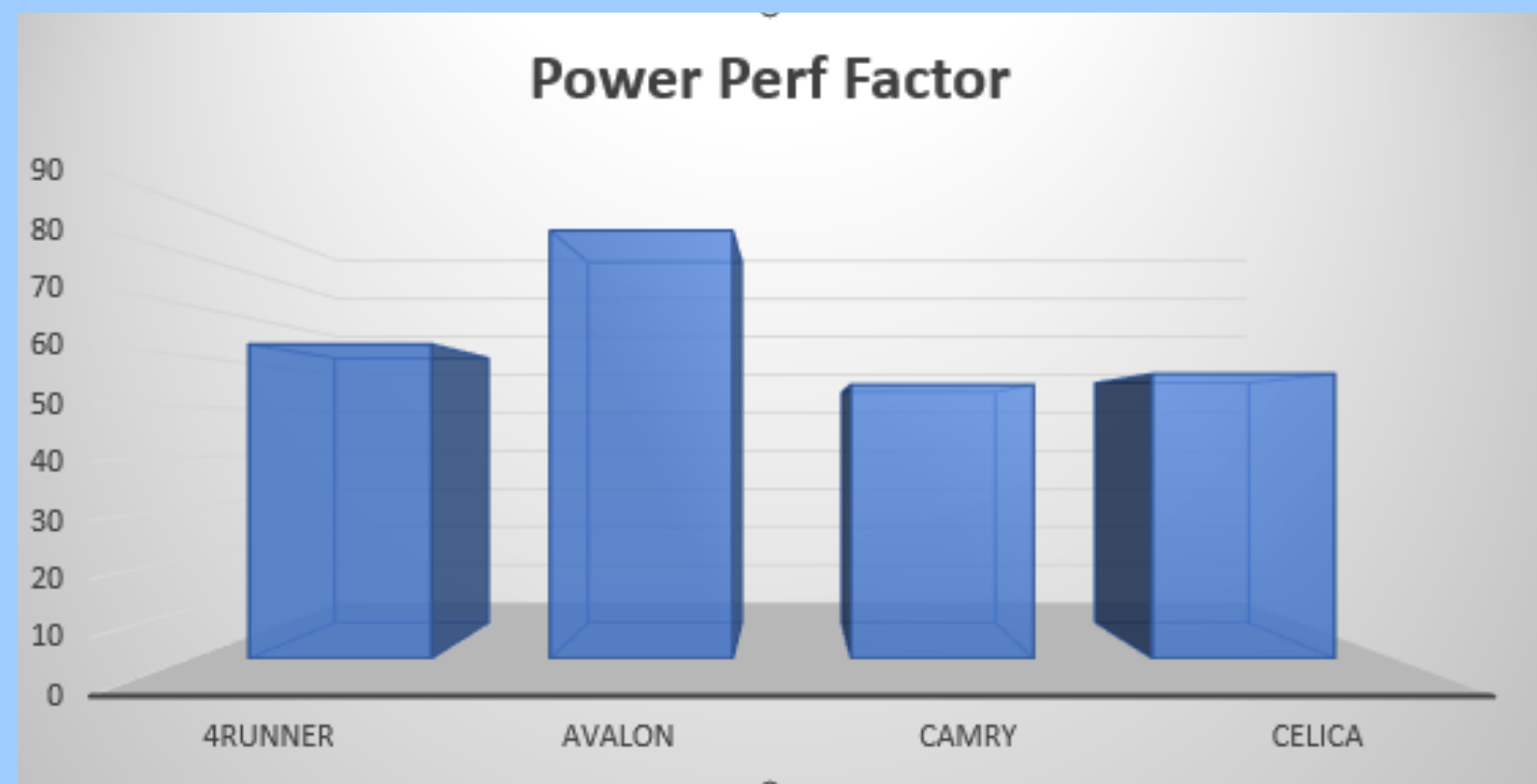
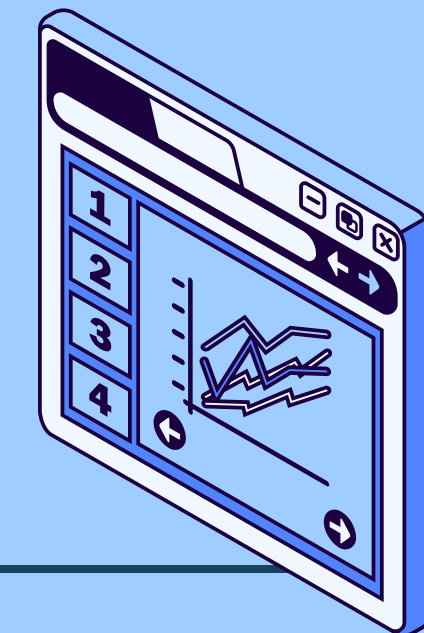


Chart B.1



3- Market Segmentation & Product Targeting

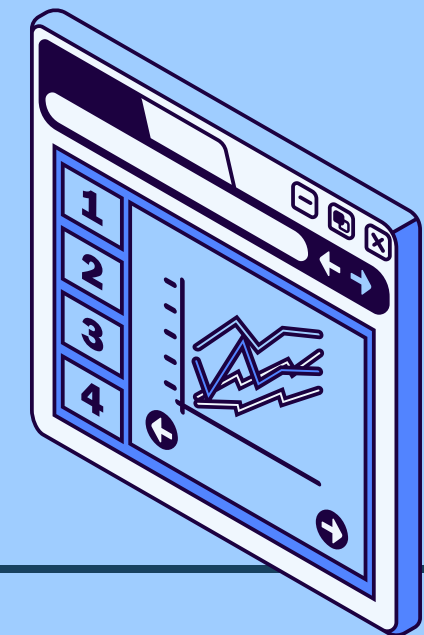


Strategic Insights: Model Performance and Niche Value

The chart highlights “Avalon” as having the highest performance score among this sample. This suggests a concentration of engineering value within this specific model segment.

Strategic Implication :

- For an entrepreneur in the components or service sector, this data identifies high-value models where customers may prioritize **performance and quality** over cost, indicating a willingness to pay a premium for specialized products.



3- Market Segmentation & Product Targeting

Market Dominance and Scale

- Strategic Implication: This is essential for a startup's Go-to-Market Strategy.
 - If a new venture targets the dominant manufacturers, it will face intense competition but has the potential for large-scale contracts or sales.
 - If the venture targets the smaller manufacturers (smallest Units), it may find less competition but also a lower total addressable market (TAM).

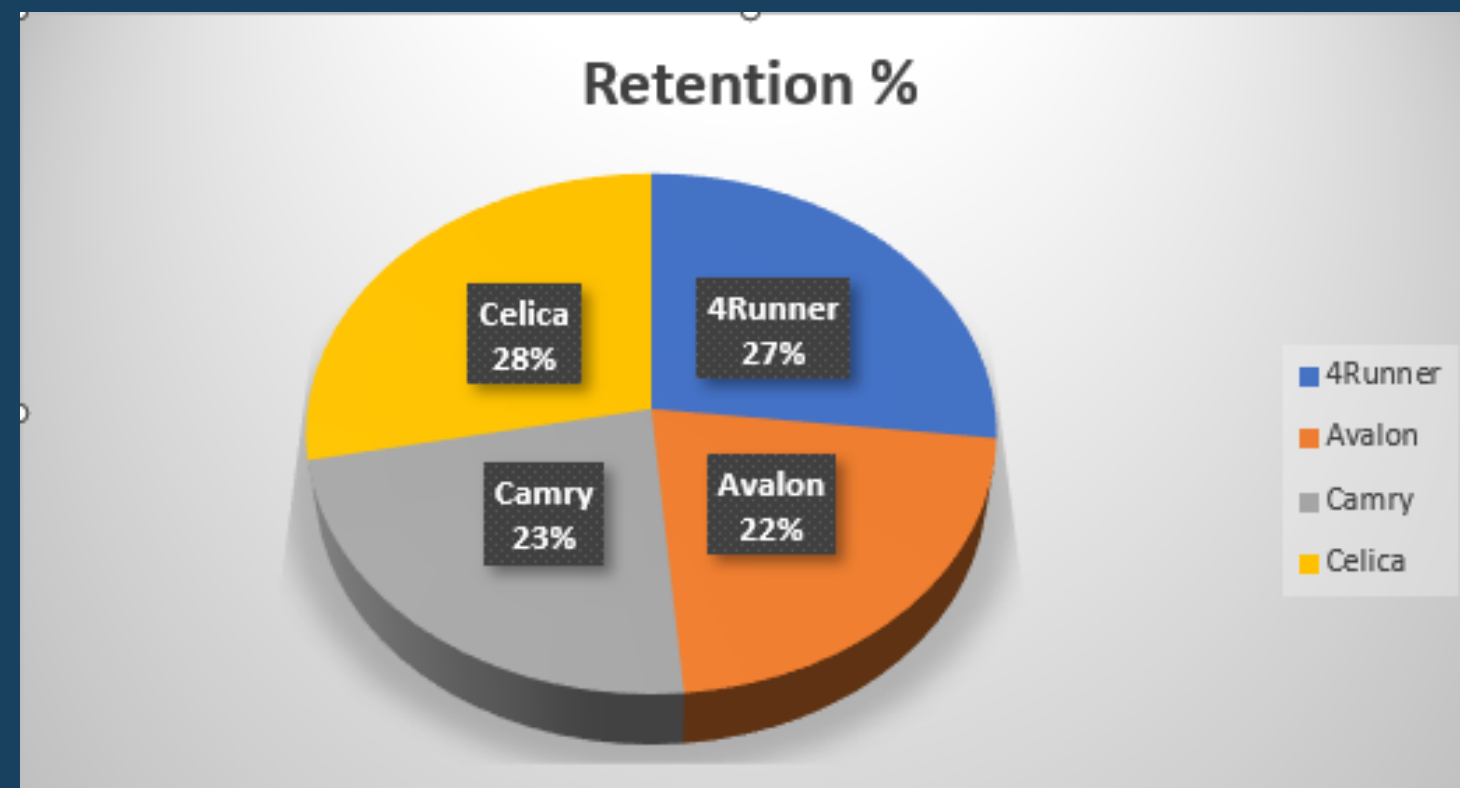
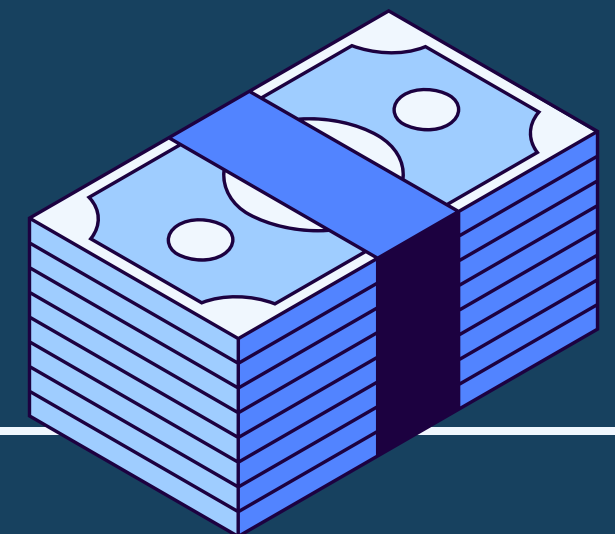


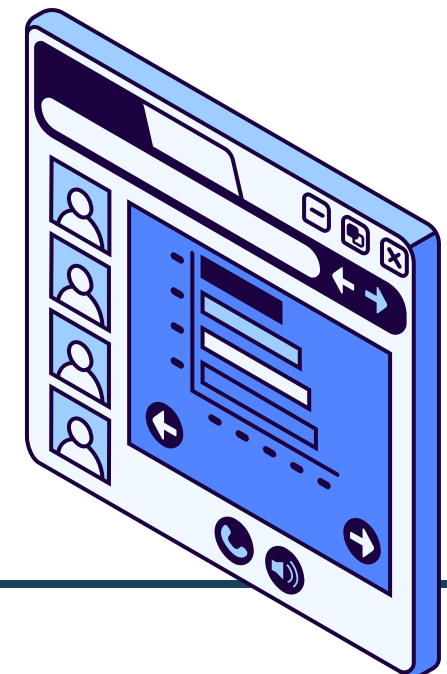
Chart B.2



3- Market Segmentation & Product Targeting

Identifying High-Volume Models

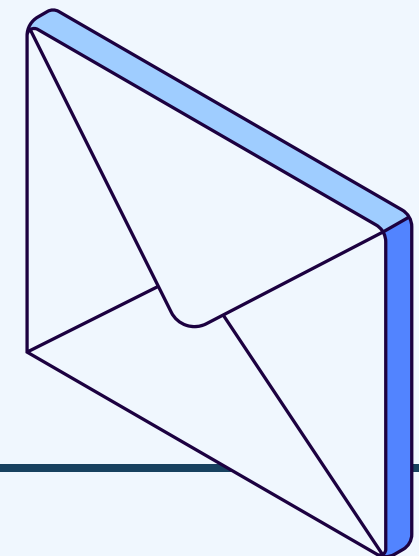
- **Observation (Chart B.2):** The "Retention %" chart shows that the Celica and 4Runner models exhibit the highest percentage of value retention among this group..
- **Strategic Implication:** The superior retention of these models directly translates to **reduced asset risk** and confirms their long-term market desirability. An entrepreneur should prioritize financing or leasing platforms around these high-retention models, as they minimize depreciation losses and attract high-quality, long-term customers. The high-retention segment dictates where limited resources should be focused for maximum return on investment.



4. Conclusion: Strategic Applications

Strategic Applications:

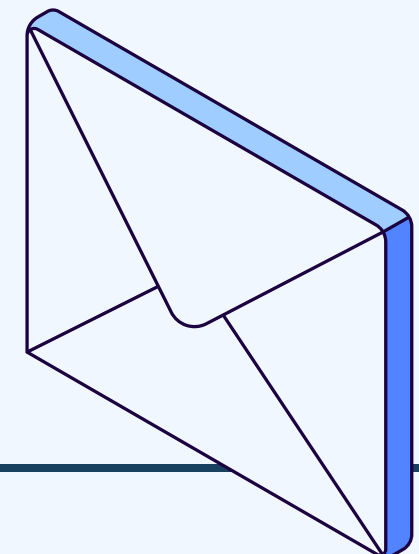
- Risk Mitigation through Value Retention: The ability to quantify and compare Value Retention (as shown in the Price vs. Resale chart A) is crucial for financial planning. An entrepreneur launching a leasing platform or FinTech product can use this analysis to select assets with the lowest depreciation risk, protecting the business's balance sheet.
- Data-Driven Market Positioning: The Sunburst Segmentation Chart and Unit Sales Volume Chart provide a clear, evidence-based map for product development. A new venture can strategically choose to compete in high-volume markets (large segments) or minimize initial capital risk by targeting underserved, high-margin niches (small segments).



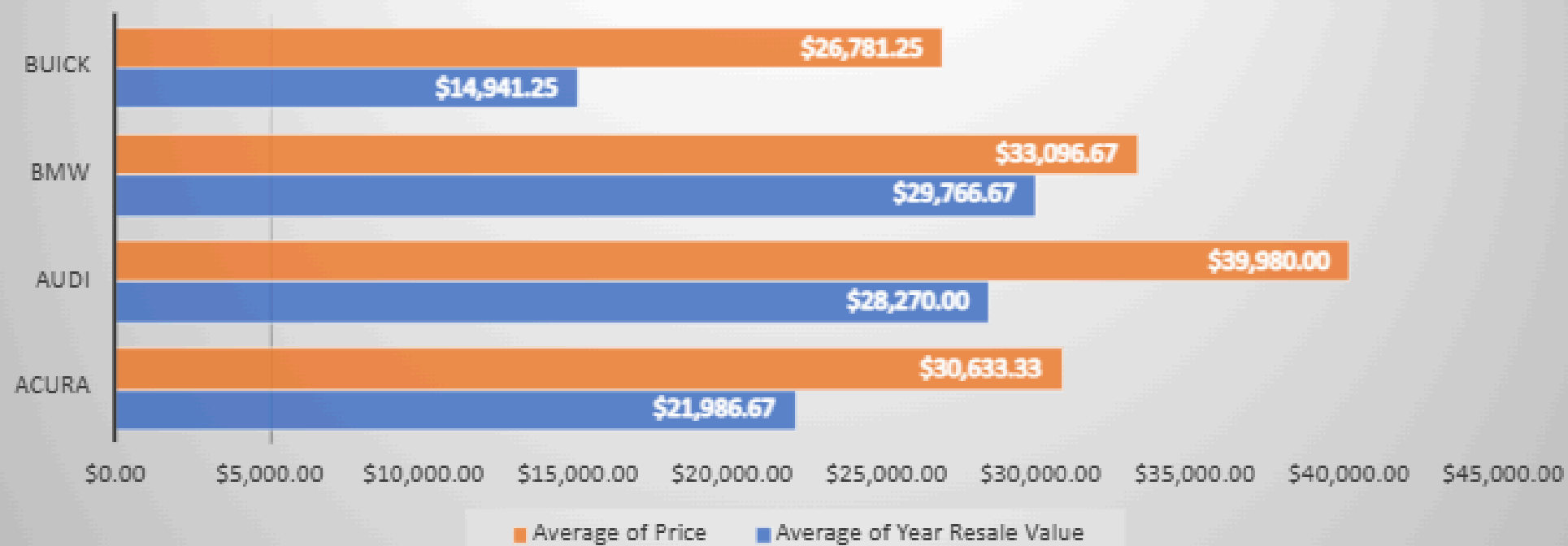
4. Conclusion: Strategic Applications

Strategic Applications:

- Effective Resource Allocation: By identifying the largest market segments (by Unit Sales) and the key value drivers (Resale Retention), an entrepreneur knows precisely where to focus marketing spend and sales efforts for maximum return on investment. This avoids the common startup mistake of guessing the target market.
- Foundational Skill for Scalability: Ultimately, this project demonstrates the core capability needed to build the data-driven business I aim to establish in Germany: the power to transform raw market data into actionable intelligence that drives smart decisions, supports growth strategies, and ensures sustainable competitiveness.



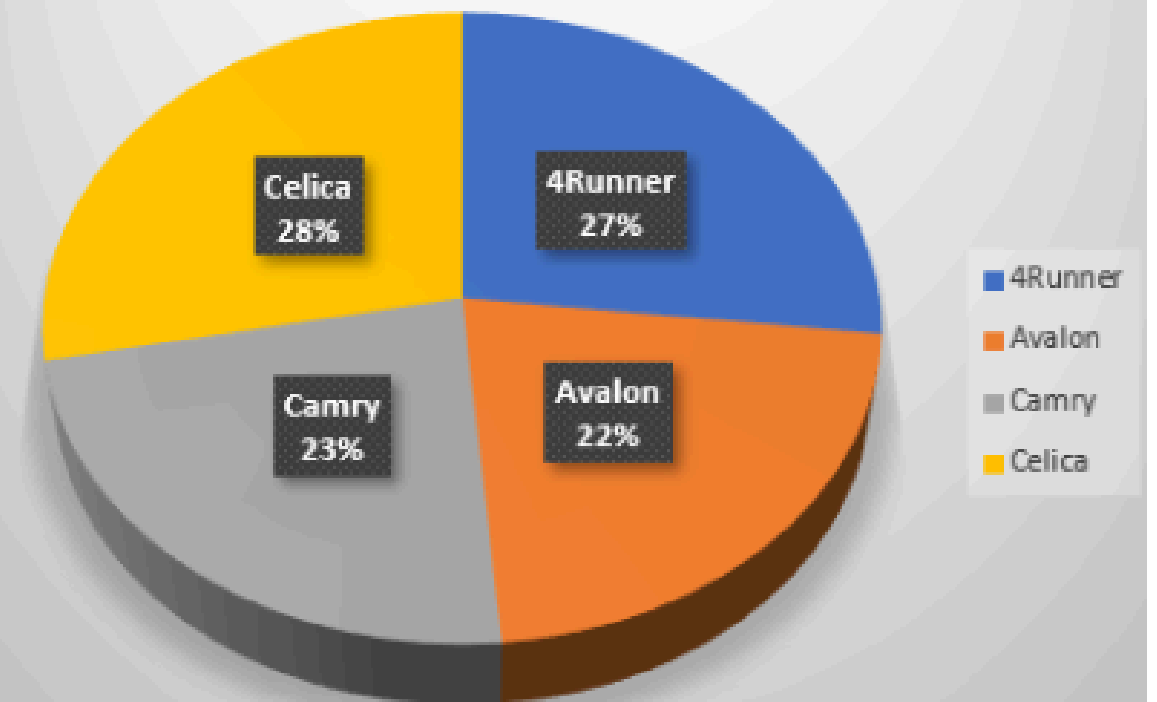
Average Price and Year Resale Value of German Car Models



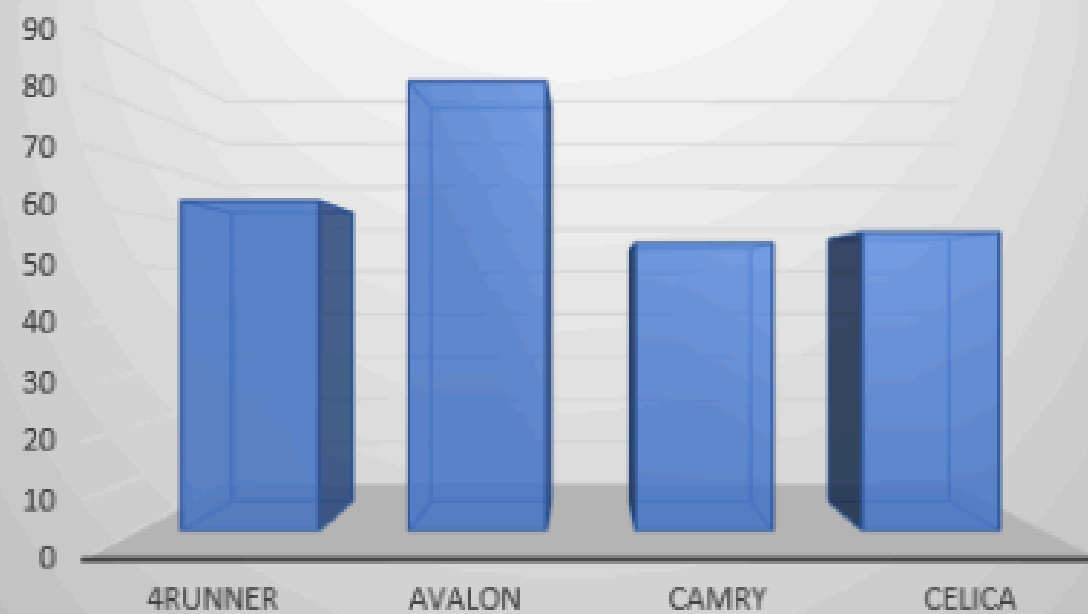
Manufac...

☒ Acura
☒ Audi
☒ BMW
☒ Buick
☐ Cadillac
☐ Chevrolet
☐ Chrysler
☐ Dodge
☐ Ford
☐ Honda
☐ Hyundai
☐ Infiniti

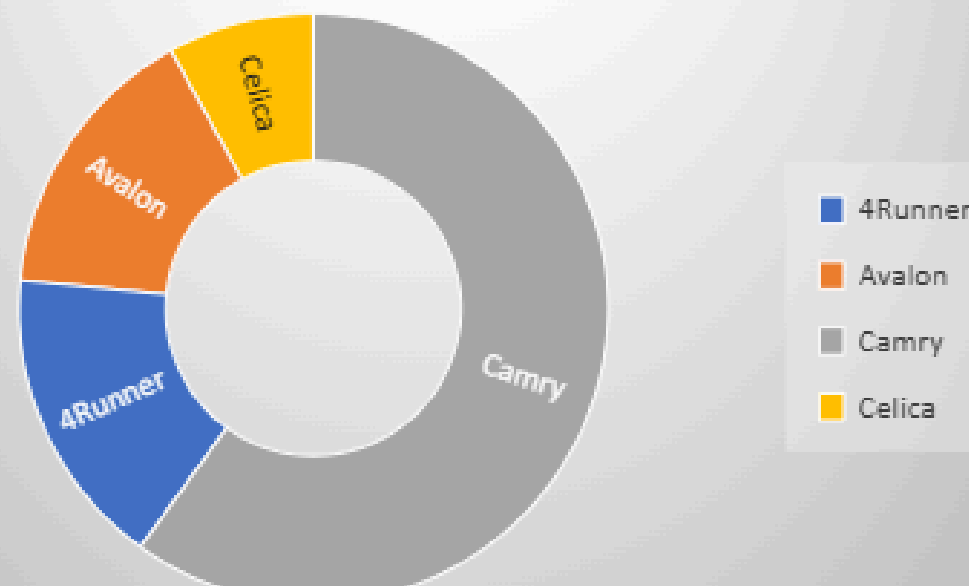
Retention %



Power Perf Factor



Unit Sales



Model

☒ 4Runner
☒ Avalon
☒ Camry
☒ Celica
☐ Corolla
☐ Land Cruiser
☐ RAV4
☐ Sienna
☐ Tacoma
☐ 3000GT

Thank You

