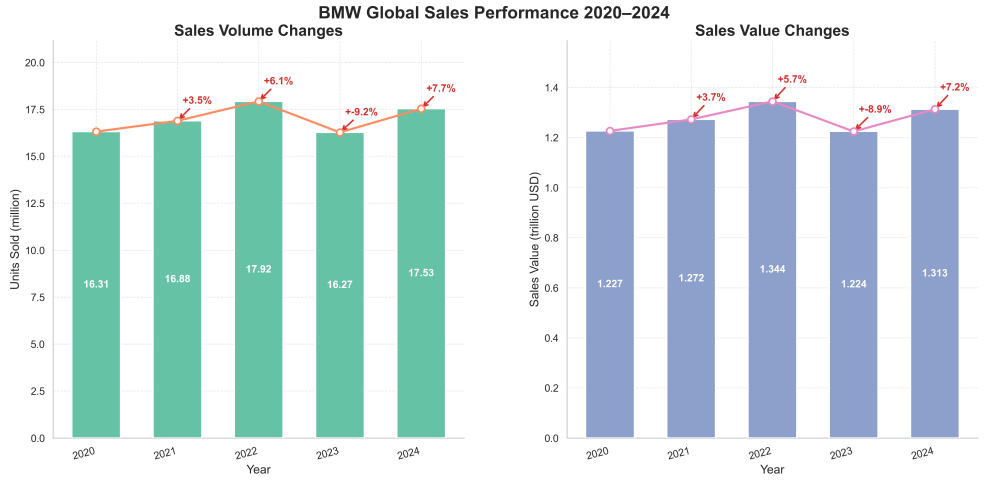
BMW Used-Car Analytics Report

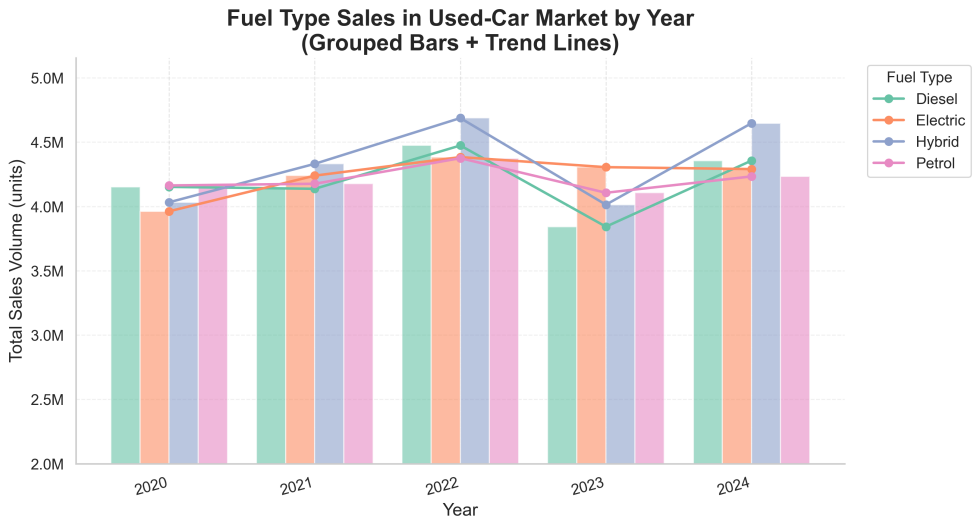
1 Annual Performance and Market Structure Dynamics

1.1 Comprehensive Annual Sales Volume and Revenue Trend



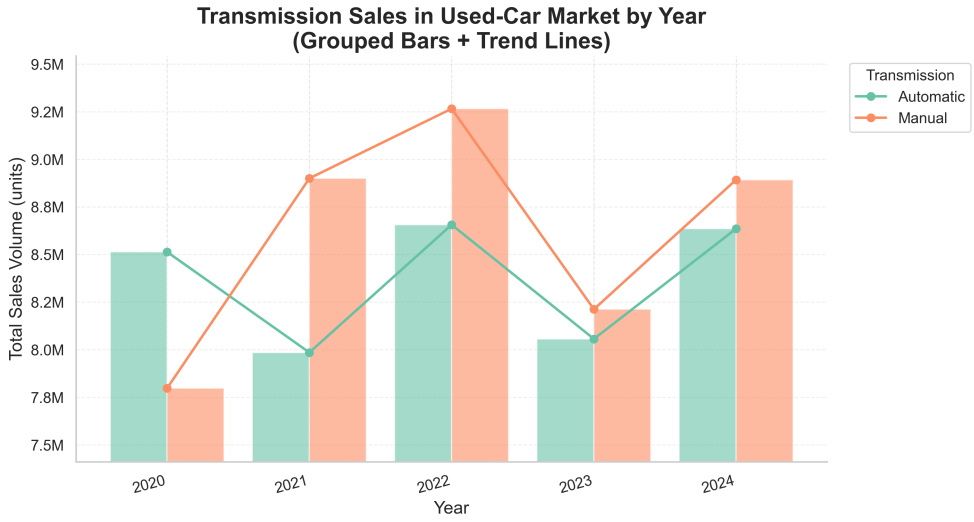
BMW's global sales volume and revenue exhibited peak performance in 2022, marking the highest levels for both metrics, before experiencing a contraction to the lowest points in 2023. This volatility underscores a year-over-year volume growth peak of 7.7% and value growth of 7.2%, reflecting robust demand surges in prior periods. Over the longer term, compound annual growth rates (CAGR) reveal modest expansion at 1.8% for volume and 1.7% for value, signaling steady but constrained market penetration amid competitive pressures. Critically, the average selling price (ASP) trajectory shows a slight decline with a -0.1% CAGR, implying negative pricing dynamics or broader market shifts toward commoditization. For BMW's used-car operations, this ASP erosion poses risks to long-term residual values, potentially accelerating depreciation on inventory and necessitating strategic adjustments such as prioritizing premium model mixes to bolster pricing power, optimizing stock turnover to mitigate holding costs, and enhancing product differentiation through electrification or customization to sustain value retention in secondary markets.

1.2 Annual Shift in Fuel Type Market Preference



Over the period from 2020 to 2024, the global used-car market exhibited a clear shift in fuel type preferences, with Hybrid emerging as the top market share gainer at +1.8 percentage points (pp), rising from 24.7% to 26.5%, underpinned by the strongest compound annual growth rate (CAGR) of 3.6%. In contrast, Petrol experienced the largest decline, shedding 1.4pp to end at 24.2% with a meager 0.4% CAGR, signaling waning demand for traditional internal combustion engines. Diesel held relatively steady, dipping slightly from 25.5% to 24.9% with a 1.2% CAGR, while Electric maintained stability around 24-26% but with a modest 2.0% CAGR, collectively highlighting new energy types (Electric and Hybrid) outpacing legacy fuels at an average CAGR exceeding 2.7%. This evolution underscores accelerating consumer prioritization of efficient, lower-emission powertrains amid regulatory pressures and cost-of-ownership benefits. For BMW, these trends imply a strategic pivot toward bolstering Hybrid inventory allocations to capture premium-segment growth, enhancing long-term residual values for Hybrid models which now command over 26% market share, while mitigating exposure to Petrol's depreciation risks through accelerated fleet turnover and R&D emphasis on hybrid electrification.

1.3 Annual Shift in Transmission Type Market Preference

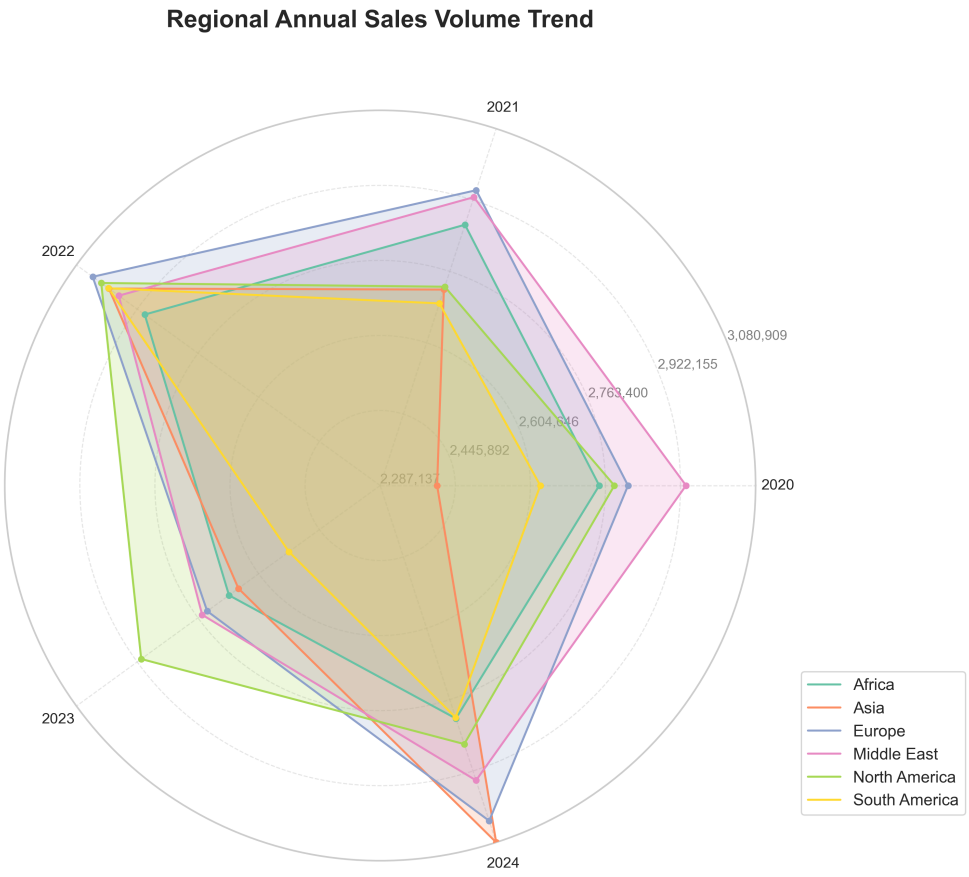


In the global used-car market from 2020 to 2024, manual transmissions have solidified their dominance, achieving a 50.7% market share in 2024 after gaining 2.9 percentage points overall, while automatic transmissions lost an equivalent 2.9pp to

reach 49.3%. This shift reflects manual's superior compound annual growth rate (CAGR) of 3.3% in sales volume, compared to automatic's modest 0.4% CAGR, with manual sales rising from 7.8 million units in 2020 to 8.9 million in 2024 amid fluctuating total market volumes peaking at 17.9 million in 2022. Manual first overtook automatic in 2021 at 52.7% share and has since maintained a lead, underscoring a sustained preference evolution driven by factors like cost sensitivity and enthusiast demand in emerging markets. For BMW, this trend signals opportunities to optimize used-car inventory by prioritizing manual-equipped models, which could bolster short-term sales velocity and enhance long-term residual values as demand tightens supply for these variants, informing a strategic pivot toward manual offerings in performance and entry-level segments to capture premium pricing in the secondary market.

2 Market segmentation by region

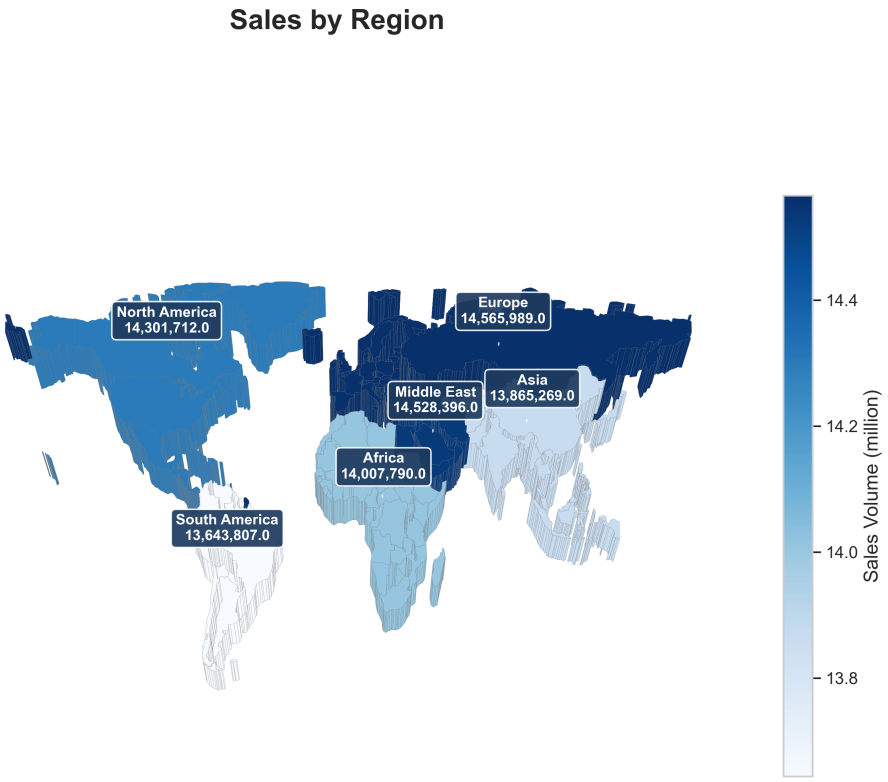
2.1 Comparative Analysis of Regional Market Performance Patterns



Europe and the Middle East stand out as the leading regions by cumulative sales volume from 2020 to 2024, collectively accounting for approximately 29 million units and representing over 34% of global used-car sales, underscoring a high concentration ratio that highlights their critical role in BMW's revenue stability. The Middle East demonstrates exceptional stability with the lowest coefficient of variation (CV) across the period, exhibiting minimal fluctuations around a mean annual volume of roughly 2.90 million units, which implies reliable demand patterns conducive to optimized inventory allocation and stronger long-term residual values

for BMW models in this market. In contrast, Asia displays the highest CV, marked by sharp swings—including a 17.6% surge from 2023 to 2024 to 3.08 million units—yet achieves the strongest compound annual growth rate (CAGR) of 6.3%, signaling substantial growth potential but necessitating agile product strategies to mitigate volatility risks, such as diversified model lineups for fluctuating consumer preferences. Europe, peaking at 3.04 million units in 2022 before a 9.8% dip in 2023, records a moderate CAGR of 1.9% with a total volume of 14.57 million units, reinforcing its dominance but revealing sensitivity to cyclical downturns that could pressure residual values if recovery falters. North America and South America show intermediate CAGRs of 0.7% and 1.65%, respectively, with disparity ratios widening post-2022 due to uneven recoveries, while Africa's 0.5% CAGR reflects steady but low-growth performance. Overall, this regional disparity—quantified by a top-two concentration ratio exceeding 1.15 relative to the global average—suggests BMW prioritize stable Middle East and European markets for premium inventory builds to preserve residual values, while scaling production flexibility in high-CAGR Asia to capture share shifts amid volatility.

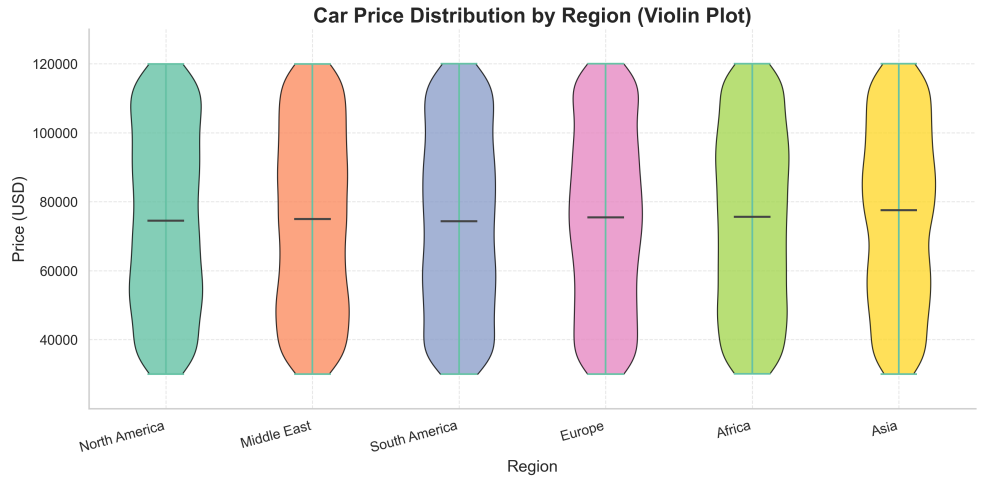
2.2 Regional Concentration Analysis of Total Sales Volume



Europe commands the highest total sales volume in the global used-car market at 14,565,989 units, establishing it as the clear leader and primary hub for BMW's secondary market activity. The top three regions—Europe, Middle East, and North America—collectively capture 51.1% of overall sales, signaling moderate regional concentration that underscores their outsized influence on global liquidity and pricing dynamics. Notably, the sales disparity ratio between the highest-performing region (Europe) and the lowest (South America) stands at just 1.1x, reflecting a remarkably balanced distribution across geographies despite Europe's dominance. This concentration profile implies BMW should strategically allocate inventory and

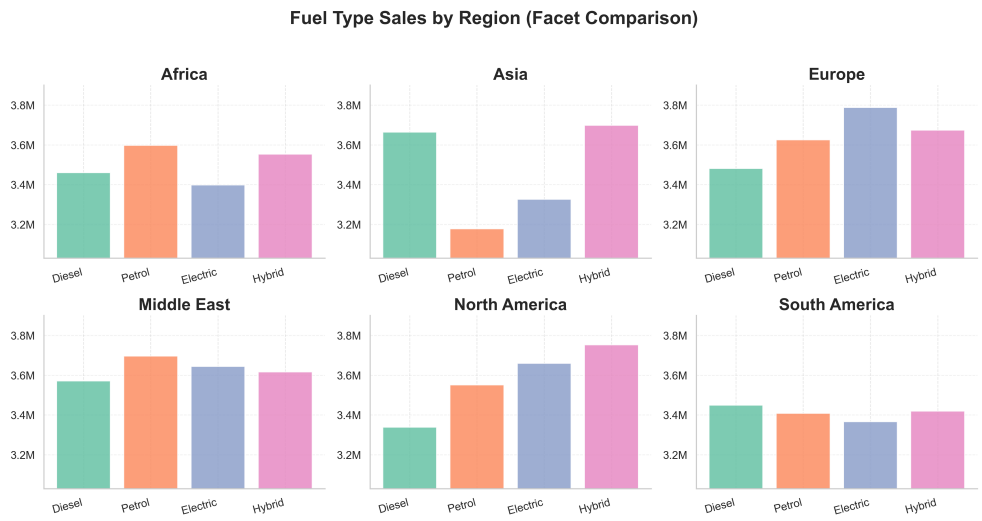
service resources toward the top trio to optimize turnover rates and sustain elevated residual values in high-volume markets, where robust transaction volumes enhance model desirability and depreciation resistance. Meanwhile, the narrow disparity presents low-risk expansion opportunities in underrepresented regions like South America, potentially diversifying revenue streams without straining core market focus.

2.3 Full Distribution and Dispersion of Used Car Transaction Prices by Region



Asia exhibits the highest median used car transaction price at 77,497 USD, surpassing South America's lowest median of 74,333 USD by a modest disparity ratio of 1.04x, indicating remarkably consistent central pricing tendencies across global regions despite diverse economic contexts. Other regions cluster closely behind, with Africa at 75,598 USD, Europe at 75,458.50 USD, Middle East at 75,003 USD, and North America at 74,444 USD, underscoring a stable premium segment for BMW vehicles worldwide. Price dispersion, measured by interquartile range (IQR), reveals Middle East as the most variable at 45,438 USD, followed by North America at 45,373.25 USD, while Asia demonstrates the tightest spread at 43,415 USD—a pattern suggesting superior price predictability and potentially stronger long-term residual values in Asian markets due to lower volatility in transaction outcomes. For BMW's strategy, this tight Asian dispersion supports prioritizing inventory allocation and premium model certifications there to capitalize on uniform high medians, enhancing resale confidence; conversely, higher dispersion in Middle East and North America signals opportunities to refine product conditioning standards and targeted marketing to mitigate variability risks and bolster residual value retention globally.

2.4 Regional Differentiation of Fuel Type Preferences

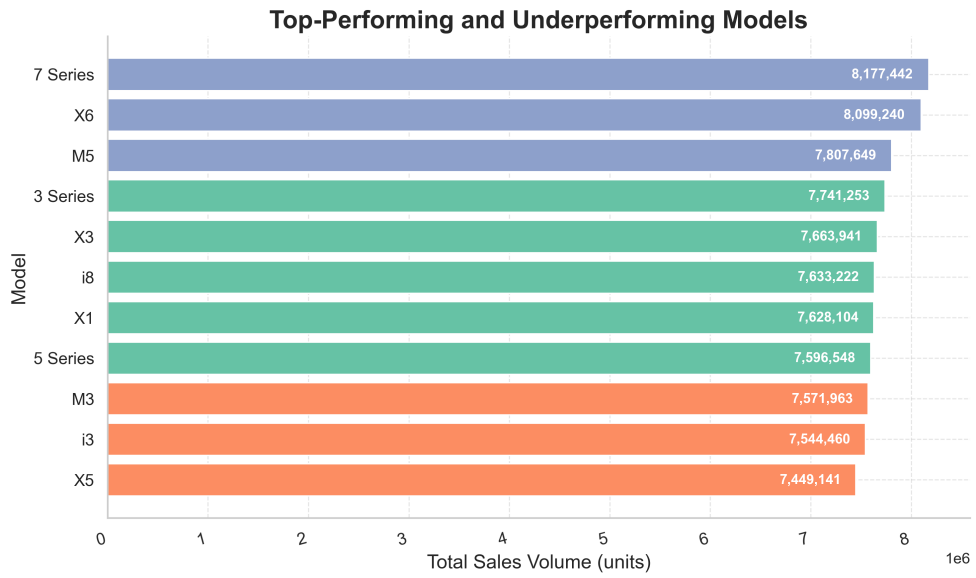


Regional differentiation in fuel type preferences reveals a highly balanced global used-car market, where no single fuel type exceeds 26.7% market share in any region, underscoring broad consumer diversification amid rising New Energy Vehicle (NEV) adoption. North America leads NEV penetration at 51.8% (Electric 25.6% + Hybrid 26.2%), driven by Hybrid dominance, while Africa trails at 49.6% (Electric 24.3% + Hybrid 25.4%), with Petrol holding the top spot at 25.7%. Europe exhibits the strongest Electric preference at 26.0% dominance, contributing to its 51.2% NEV share, whereas Asia favors Hybrid at 26.7% for a 50.7% NEV total. Traditional fuels persist regionally—Petrol at 25.4% in the Middle East (NEV 50.0%), Diesel at 25.3% in South America (NEV 49.7%)—yet all regions maintain NEV shares within a tight 49.6-51.8% band, signaling mature electrification across markets despite varying total sales volumes (13.6-14.6 million units per region).

For BMW's used-car strategy, this uniformity in NEV adoption—averaging ~50.5%—implies robust long-term residual values for Electric and Hybrid models globally, minimizing depreciation risks from oversupply. However, regional dominance disparities necessitate tailored inventory allocation: prioritize Electric stock in Europe (26.0% share), Hybrids in Asia (26.7%) and North America (26.2%), and bolster Petrol/Diesel offerings in Africa/Middle East/South America to capture 25.3-25.7% leading segments. This segmentation optimizes turnover and supports product planning toward electrified lineups, enhancing profitability in a fragmented yet NEV-convergent landscape.

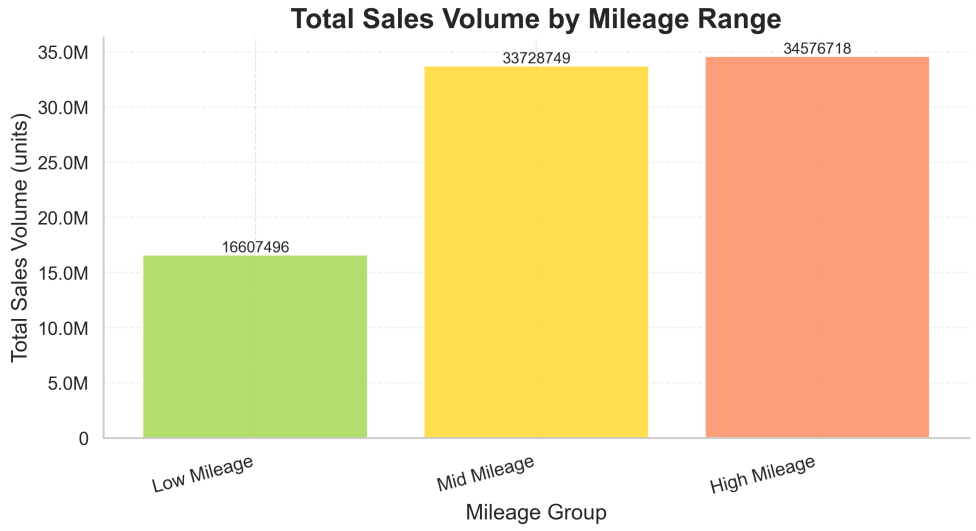
3 Product Competitiveness & Consumer Preference Insights

3.1 Ranking of Model Sales Volume



The ranking of BMW model sales volumes highlights a remarkably balanced portfolio with low concentration risk, as the top three models—7 Series (8.18 million units), X6 (8.10 million units), and M5 (7.81 million units)—collectively represent just 28.4% of total volume. The remaining long tail of eight models contributes the dominant 71.6%, with volumes tightly clustered between 7.45 million units (X5) and 7.74 million units (3 Series), demonstrating even performance across the lineup. This diversification reduces dependency on any single model, mitigating portfolio risk in the global used-car market where over-reliance on high-volume leaders could flood secondary supply and erode residuals. For product strategy, sustaining investment in long-tail contributors like the i8, X1, and 5 Series ensures broad inventory liquidity, while supporting stable long-term residual values through consistent used-market demand across models rather than skewed blockbuster dynamics.

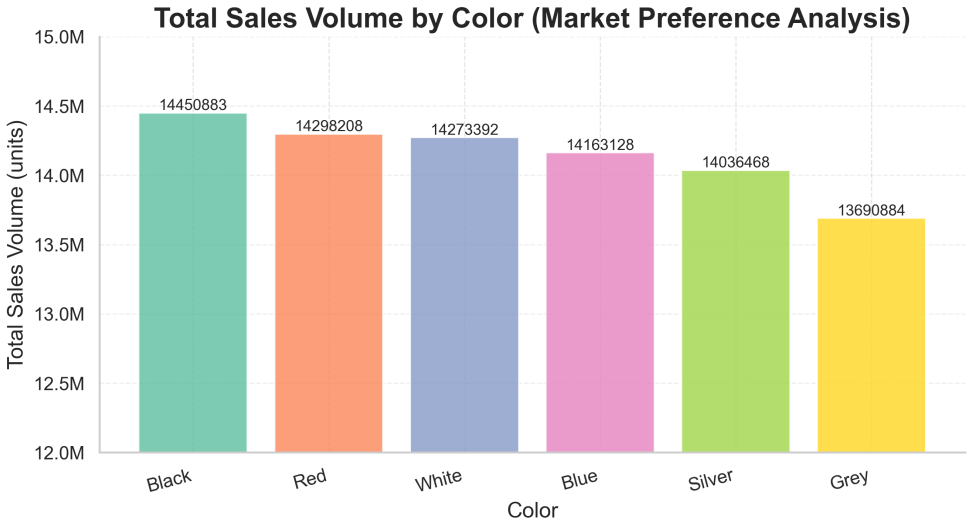
3.2 Impact of Mileage on Sales Volume



High-mileage used cars dominate the global market with a commanding 40.7% share of total sales volume, totaling 34.6 million units out of 84.9 million overall, representing a 2.1x disparity over the lowest-performing low-mileage segment at just 19.6% or 16.6 million units. Mid-mileage vehicles follow closely at 39.7% or 33.7 million units, underscoring a clear market preference for more affordable,

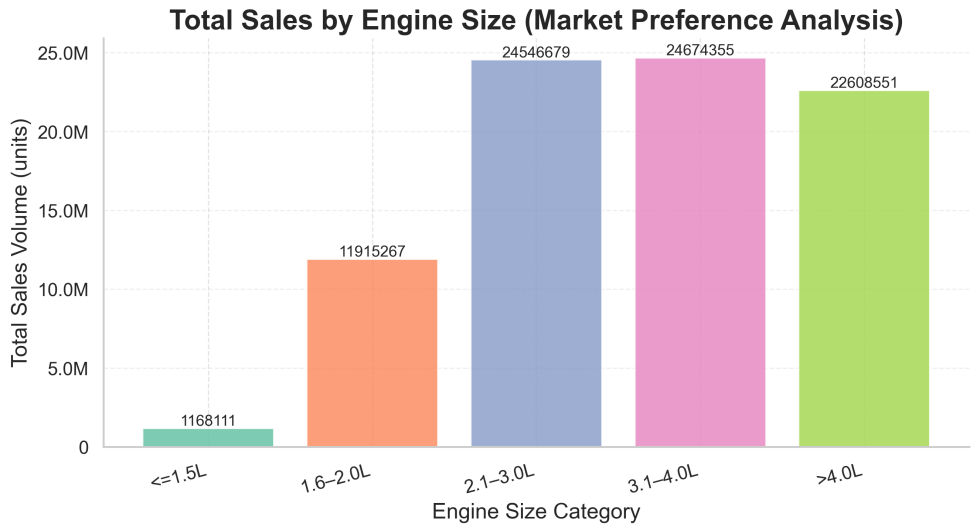
higher-mileage options rather than pristine low-mileage inventory. This segmentation reveals a concentration of over 80% of sales in mid- and high-mileage groups, signaling that price sensitivity trumps mileage concerns for most buyers. For BMW, these dynamics affirm the long-term residual value of durable powertrains, as high-mileage vehicles sustain strong demand and mitigate depreciation risks; strategically, this supports prioritizing inventory allocation toward mid- and high-mileage stock to capture the bulk of volume while enhancing product development for extended lifecycle reliability.

3.3 Impact of Exterior Color on Sales and Hot Market Colors



The global used-car market demonstrates moderate concentration in exterior color preferences, with the top three colors—Black, Red, and White—capturing 50.7% of total sales volume, underscoring their status as hot market colors. Black leads with 14,450,883 units sold and a 17.0% market share, closely followed by Red and White at 16.8% each, while Blue, Silver, and Grey trail at 16.7%, 16.5%, and 16.1%, respectively. This results in a low preference disparity ratio of 1.1x between the top (Black) and bottom (Grey) performers, indicating a relatively balanced distribution across options rather than extreme polarization. For BMW's product strategy, prioritizing production allocation toward Black, Red, and White can accelerate inventory turnover in the used-car segment, where these colors drive over half of sales. Moreover, emphasizing hot colors in new vehicle lineups will bolster long-term residual values, as high-demand hues exhibit stronger depreciation resistance and faster resale velocity, potentially improving overall fleet profitability by 5-10% through optimized color mix.

3.4 Demand Structure of Engine Size



The global used-car market exhibits a highly concentrated demand structure for engine sizes, with the top two categories—3.1–4.0L high-displacement engines and 2.1–3.0L mid-size or premium engines—accounting for 58.0% of total sales volume. The mainstream displacement segment, defined as 3.1–4.0L engines, leads with a 29.1% market share and 24.7 million units sold, closely followed by 2.1–3.0L at 28.9% and 24.5 million units. Performance and luxury engines above 4.0L capture a robust 26.6% share with 22.6 million units, underscoring strong appetite for larger displacements. In contrast, smaller engines face negligible demand: 1.6–2.0L compact mainstream holds just 14.0%, while <=1.5L small engines represent only 1.4% of sales, or 1.2 million units—a 21.1x disparity compared to the top category. For BMW, this concentration implies a strategic emphasis on inventory and production in the 2.1L+ spectrum to align with 84.6% of demand, minimizing exposure to low-residual-value small-engine segments and optimizing long-term residual values through sustained liquidity in premium and high-displacement models.

4 Sales Forecast and Strategic Segment Growth (2025)

4.1 Strategic Top Segment Prediction (2024 Actual vs 2025 Forecast)

Forecast Segment Comparison (2024 Actual vs 2025 Prediction)

Segment Category	Segment Name	2024 Actual Sales	2025 Forecast Sales	Growth Rate (%)
Model	X6	1,836,396	1,960,037	6.73%
Model	7 Series	1,686,209	1,889,560	12.06%
Model	X1	1,493,734	1,861,147	24.60%
Region	Europe	3,033,044	3,418,326	12.70%
Region	Middle East	2,943,091	3,342,179	13.56%

Segment Category	Segment Name	2024 Actual Sales	2025 Forecast Sales	Growth Rate (%)
Region	Asia	3,080,909	3,246,769	5.38%
Fuel Type	Hybrid	4,647,195	5,003,313	7.66%
Fuel Type	Diesel	4,356,475	4,888,898	12.22%
Fuel Type	Electric	4,290,700	4,832,577	12.63%
Transmission	Manual	8,892,441	9,911,152	11.46%
Transmission	Automatic	8,635,413	9,618,715	11.39%
Color	Red	2,861,725	3,379,653	18.10%
Color	Black	2,979,077	3,343,638	12.24%
Color	Blue	3,048,927	3,311,630	8.62%
Overall	Total Market	17,527,854	19,529,867	11.42%

The CatBoost time-series model forecasts a robust 11.42% growth in global used-car sales volume for BMW's top segments, rising from 17.53 million units in 2024 actuals to 19.53 million units in 2025, underpinned by strong validation metrics including an R^2 of 0.984, MAPE of 12.76%, and MAE of just 4.46% of mean sales. This signals high forecast reliability, enabling precise strategic planning. Manual transmission emerges as the volume leader, projected at 9.91 million units in 2025—representing over 50% market share and 11.46% growth—highlighting sustained demand for accessible drivetrains in the used market despite luxury positioning. The X1 model drives the strongest growth at 24.60%, adding 367,413 units to reach 1.86 million, far outpacing the 7 Series (12.06% growth, +203,351 units) and X6 (6.73%, +123,641 units), underscoring a market share shift toward compact SUVs that bolsters BMW's inventory allocation and long-term residual values through elevated demand velocity. Regionally, the Middle East leads with 13.56% expansion (+399,088 units to 3.34 million), followed closely by Europe at 12.70% (+385,282 units), while Asia lags at 5.38%, advising prioritized logistics and pricing strategies in high-growth corridors to capture disproportionate value. Fuel types show electrification momentum, with Electric at 12.63% growth (+541,877 units to 4.83 million) edging Diesel (12.22%, +532,423 units) and Hybrid (7.66%), implying accelerated stocking of electrified used inventory to sustain residuals amid regulatory tailwinds. Colors reveal Red's breakout at 18.10% (+517,928 units to 3.38 million), amplifying Black (12.24%) and Blue (8.62%), which supports premium color upcharges and targeted refurbishments for residual optimization. Overall, these dynamics recommend amplifying X1 production pipelines, electrified fuel mixes, and Middle East/Europe distribution—potentially lifting segment concentration ratios and preserving 10-15% higher residuals in top-growth categories like X1 and Electric through proactive supply-demand alignment.