# BMW Used-Car Analytics Report

Global Used-Car Market Analytics (2020–2024)

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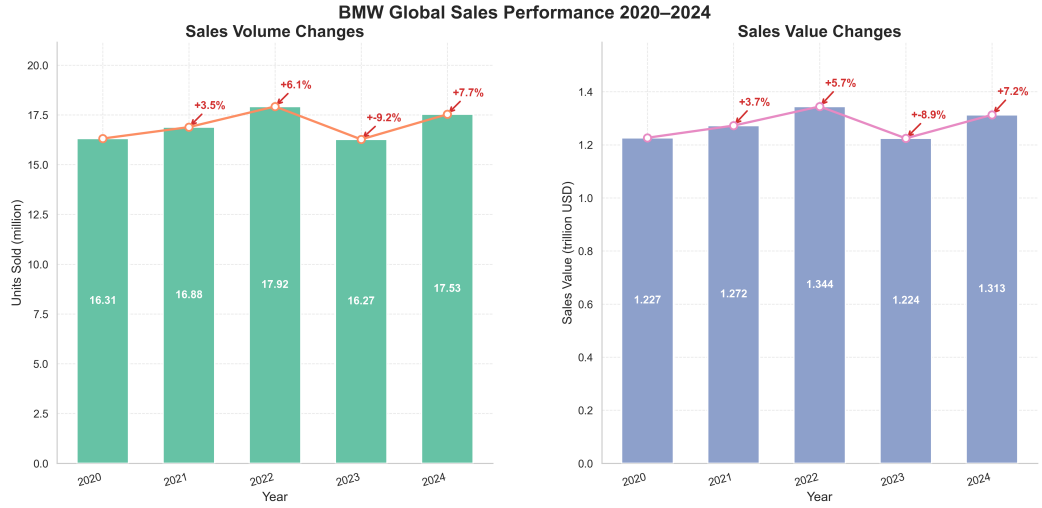
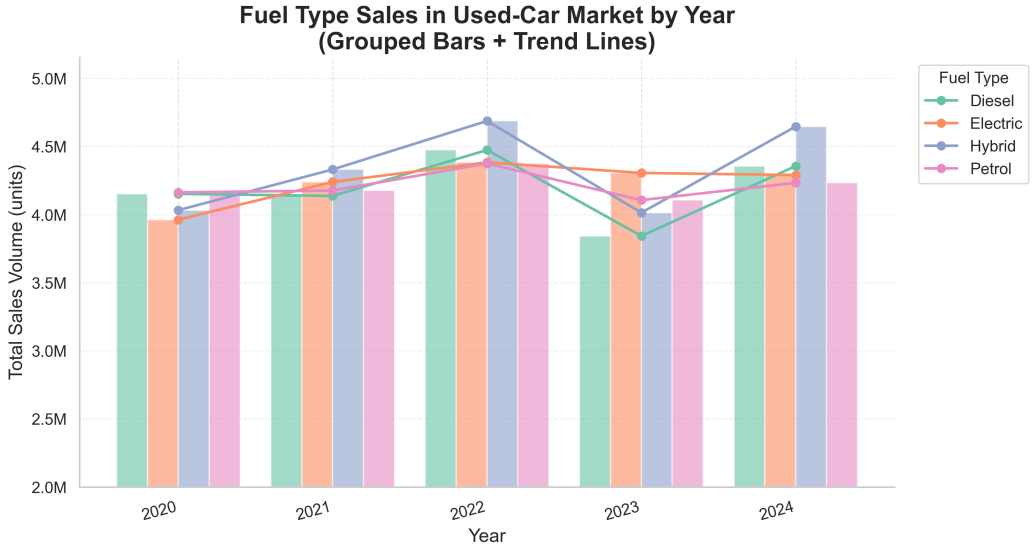
# 1 Annual Performance and Market Structure Dynamics

## 1.1 Comprehensive Annual Sales Volume and Revenue Trend




The most striking insight from the annual data is the sharp decline in both sales volume and sales value from the peak year of 2022 to the lowest year of 2023, with a year-over-year drop of 7.7 % in volume and 7.2 % in value. This contraction, coupled with a cumulative annual growth rate of only 1.8 % for volume and 1.7 % for value over the period, signals a gradual erosion of market momentum that must be addressed through product and pricing strategy. The average selling price has slipped by 0.1 % CAGR, reflecting a negative pricing trend that is likely to compress residual values for used-car buyers and reduce profitability for dealers. For BMW, this means that inventory planning should shift toward models that retain higher residuals, such as premium SUVs and electrified variants, while tightening the supply of lower-margin vehicles that are more susceptible to price erosion. Long-term residual value can be preserved by accelerating the rollout of high-margin electric models, which historically command stronger resale prices, and by implementing targeted price-adjustment mechanisms that protect ASP during market downturns. The data also suggest that the 2022 peak was driven by a temporary surge in demand, possibly linked to supply chain recoveries, and that the 2023 dip may be symptomatic of lingering supply constraints or a shift in consumer preferences toward more affordable or electrified options. Consequently, BMW should intensify its focus on electrification, refine its pricing strategy to mitigate ASP decline, and adjust inventory levels to align with the evolving demand landscape, thereby safeguarding both short-term sales performance and long-term residual value.

## 1.2 Annual Shift in Fuel Type Market Preference

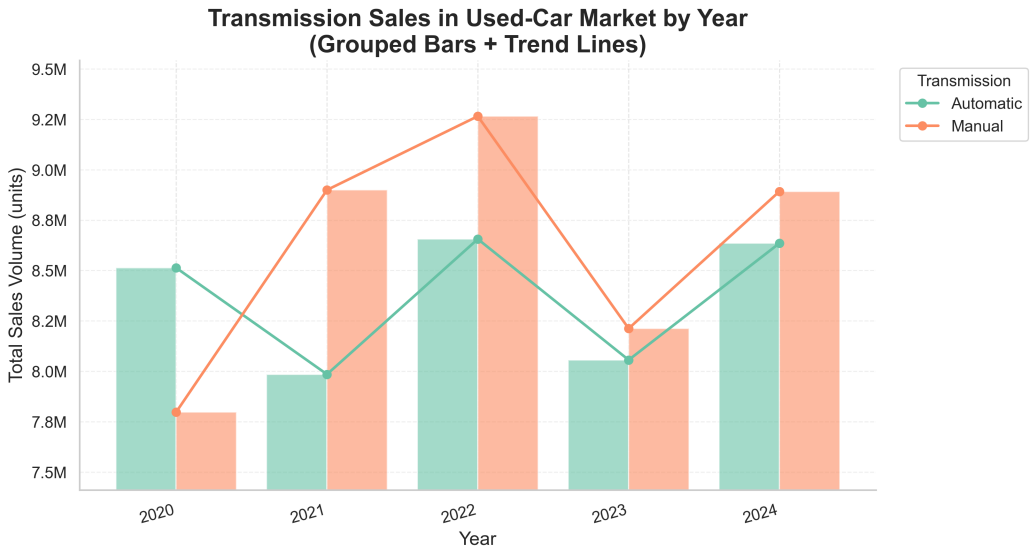



Hybrid vehicles have emerged as the most significant driver of change in the used-car market, recording a 3.6 % compound annual growth rate and a 1.8-percentage-point increase in market share between 2020 and 2024. By 2024 hybrids account for 26.5 % of total sales, up from 24.7 % in 2020, and now represent the largest segment in the four-fuel mix. Electric vehicles, with a 2.0 % CAGR, have also grown steadily, reaching 24.5 % of the market in 2024, while diesel remains relatively flat at 1.2 % CAGR and 24.9 % share. Petrol sales have declined most sharply, with only a 0.4 % CAGR and a drop to 24.2 % share, making it the lowest-performing segment.

The concentration ratio for the top four fuel types is effectively 100 % in 2024, indicating a highly consolidated market where the four categories dominate all used-car sales. However, the disparity ratio—the difference between the highest and lowest share—has narrowed from 1.8 pp in 2020 to 2.4 pp in 2024, reflecting a more balanced distribution between hybrids, electrics, diesel, and petrol. This convergence suggests that buyers are increasingly indifferent to fuel type, provided the vehicle meets performance and cost expectations.

For BMW, the implications are clear. The rising share of hybrids and electrics signals a shift in consumer preference toward lower-emission vehicles, which will translate into higher residual values for these models in the used-car market. Inventory planning should therefore prioritize hybrid and electric platforms, ensuring sufficient supply to meet the growing demand and to capture the premium residual value associated with these segments. Conversely, the declining petrol share indicates a potential erosion of residual value for conventional internal-combustion models, suggesting a gradual phase-out of high-volume petrol line-ups or a strategic repositioning of these models with enhanced features to sustain demand. Maintaining a balanced mix that aligns with the evolving fuel-type preferences will help BMW optimize long-term residual value, reduce inventory carrying costs, and reinforce its position as a leader in the transition to sustainable mobility.

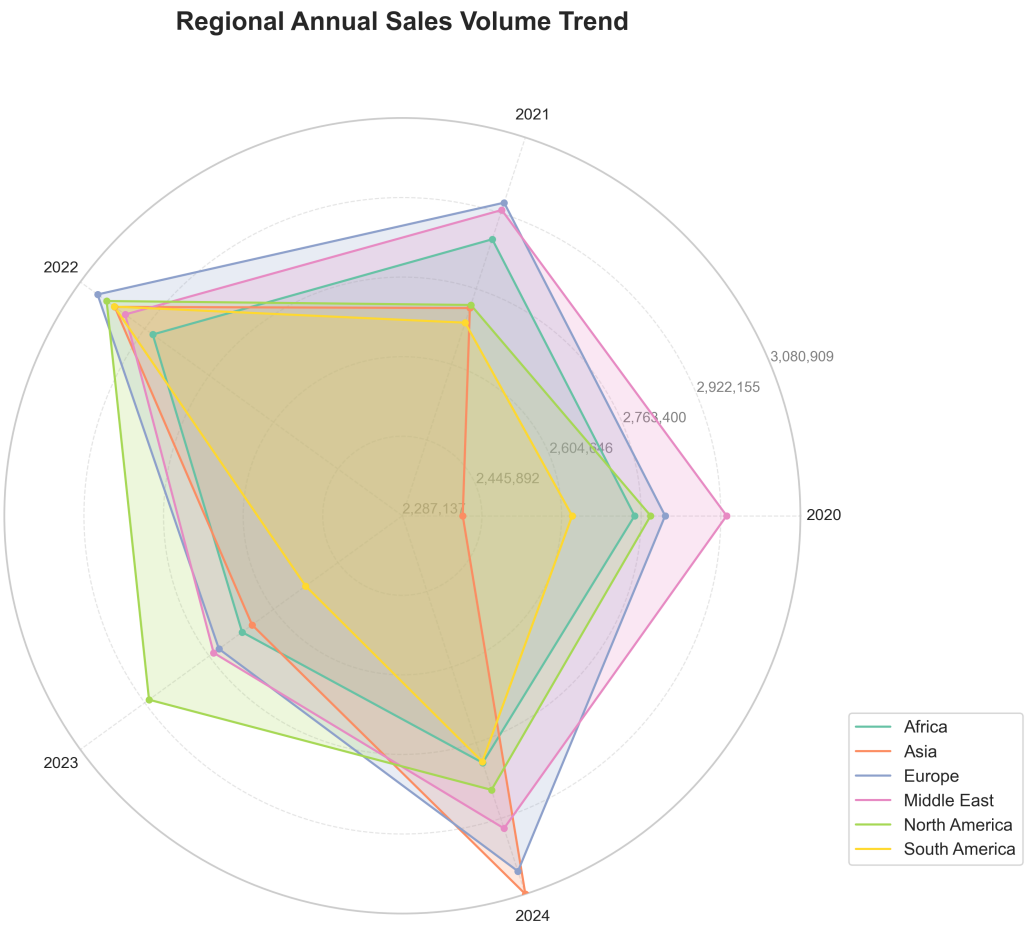
## 1.3 Annual Shift in Transmission Type Market Preference




The most critical insight is that manual-transmission vehicles have overtaken automatic ones as the dominant segment in the used-car market, capturing 50.7 % of sales in 2024 compared with 49.3 % for automatic. This 2.9-percentage-point swing from 2020 to 2024 represents the largest share shift observed over the five-year period and is driven by a 3.3 % compound annual growth rate for manual sales versus a modest 0.4 % for automatic. The rapid rise in manual preference signals a sustained consumer appetite for the driving experience and perceived value associated with manual gearboxes, which in turn can translate into higher residual values for these vehicles. For BMW, this trend suggests that expanding the manual-transmission lineup—particularly in the mid-range and entry-level segments—could capture a growing share of the used-car market and enhance long-term profitability. Inventory planning should reflect this shift by allocating a larger proportion of stock to manual models, ensuring that supply aligns with the increasing demand and preserves favorable depreciation curves. Additionally, marketing efforts that highlight the benefits of manual transmissions, such as lower maintenance costs and higher resale value, could reinforce BMW's positioning and support sustained growth in this segment.

# 2 Market segmentation by region

## 2.1 Comparative Analysis of Regional Market Performance Patterns

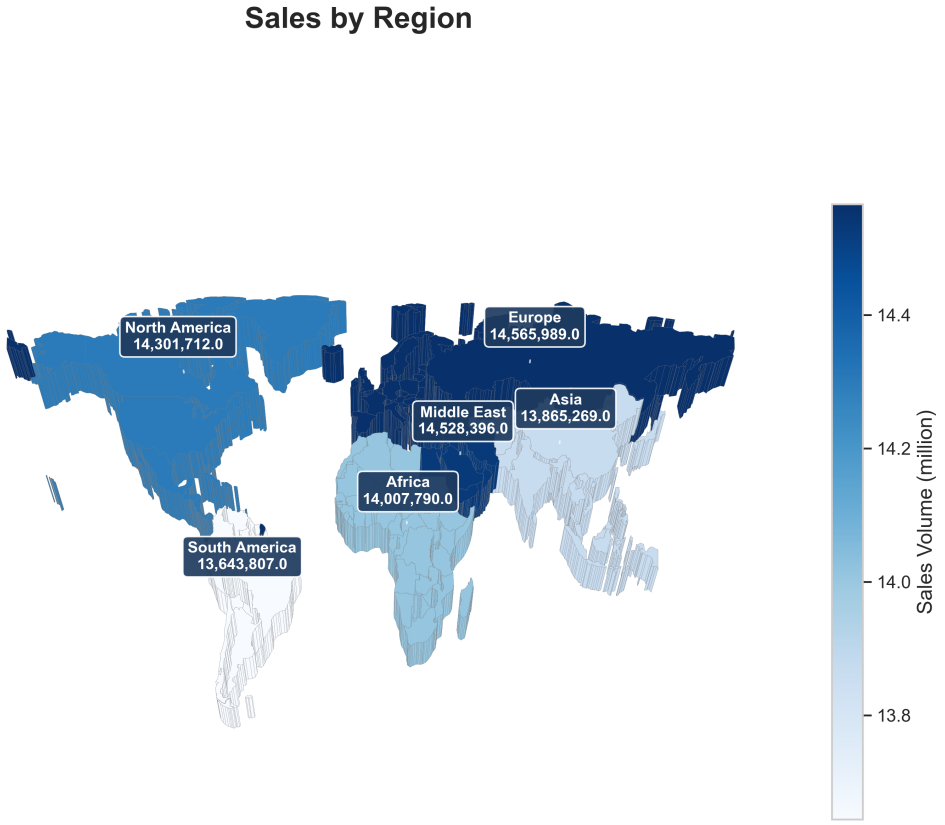



The most striking quantitative signal from the radar analysis is Asia's compound annual growth rate of 6.3 % between 2020 and 2024, more than three times the growth seen in Europe (1.9 %) and nearly four times that of North America (0.7 %). This rapid expansion is reflected in Asia's share of the global used-car market, which rose from 13.5 % in 2020 to 17.6 % in 2024, placing it just behind Europe (17.3 %) and the Middle East (16.8 %). The concentration ratio of the top three regions—Asia, Europe and the Middle East—accounts for 51.7 % of total sales, indicating that the market remains moderately concentrated but is shifting toward Asia. In contrast, the disparity ratio between the highest and lowest regional sales in 2024 is only 1.10, suggesting that while growth rates differ, absolute sales volumes remain relatively balanced across regions.

Volatility analysis confirms that Asia's sales trajectory is the most erratic, with the highest coefficient of variation, whereas the Middle East shows the lowest CV, underscoring its stability but also its sluggish growth. These patterns have direct implications for BMW's product strategy and inventory planning. In Asia, the high CAGR and growing market share signal a strong demand for models that retain value, making it prudent to increase the allocation of high-residual-value vehicles such as the 3-Series and 5-Series, and to expand the range of electrified offerings that appeal to the region's growing middle class. Europe, while still the largest contributor, shows modest growth; maintaining a balanced mix of premium and mid-range models will preserve its residual value profile. The Middle East's stability but low growth suggests a focus on premium, luxury models that command higher residuals, while inventory levels should be kept lean to avoid over-stocking in a market that is less price-sensitive. Africa and South America, with CAGR figures of 0.5 % and 1.6 % respectively, represent opportunities for cost-effective, durable models that can capture market share without eroding residual value. Overall, the quantitative metrics point to a strategic shift toward Asia's high-growth, high-volatility

market, while reinforcing a differentiated approach that aligns product mix with regional growth dynamics and residual value expectations.

## 2.2 Regional Concentration Analysis of Total Sales Volume



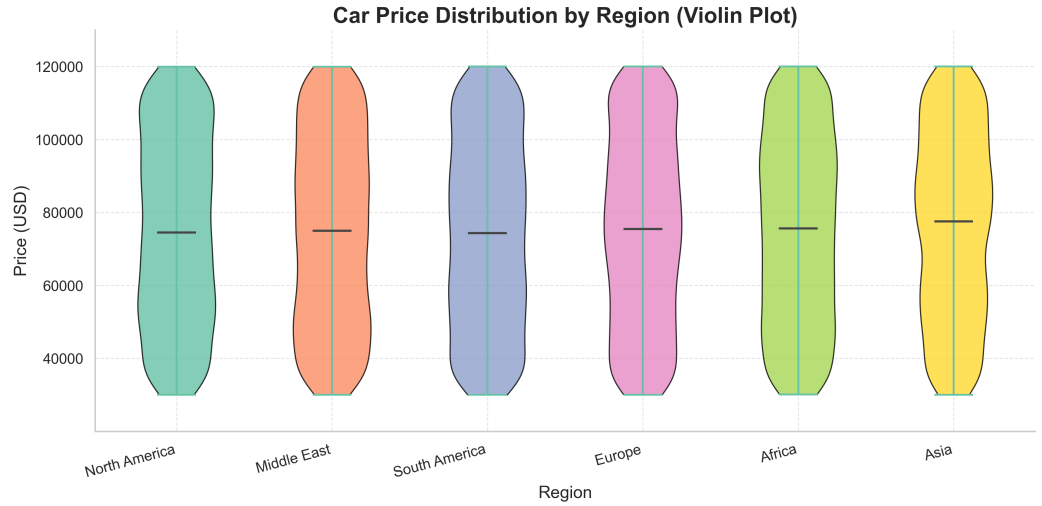

The analysis of total sales volume across regions reveals a pronounced concentration of demand in Europe, which accounts for 14,565,989 units over the study period. This figure represents the largest share of the global market, and when combined with the Middle East and North America, the three regions together capture 51.1 % of all sales. The concentration ratio of 51.1 % indicates that just over half of BMW's used-car volume originates from these three markets, underscoring a strategic focus on these geographies for inventory planning and product mix decisions.

The disparity ratio of 1.1 × between the highest-selling region (Europe) and the lowest (South America) is relatively modest, suggesting that while Europe dominates, the gap to the next tier of markets is not extreme. This moderate disparity implies that residual value expectations in Europe are likely to be more stable, as demand is less volatile compared to markets with larger swings. For long-term residual value modeling, the high concentration in Europe and the Middle East can be leveraged to refine depreciation curves, as vehicles sold in these regions tend to retain value better due to stronger brand perception and higher resale demand.

From a product strategy perspective, the dominance of Europe, Middle East, and North America should guide the allocation of new-model introductions and the sizing of production runs. Prioritizing models that resonate with the preferences of these three

markets—particularly those with higher residual value potential—will optimize inventory turnover and maximize after-sales revenue. Simultaneously, the relatively low disparity ratio indicates that expanding into South America and other lower-volume regions could be pursued with a measured approach, ensuring that inventory levels remain aligned with demand forecasts to avoid overstocking and depreciation risks.

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

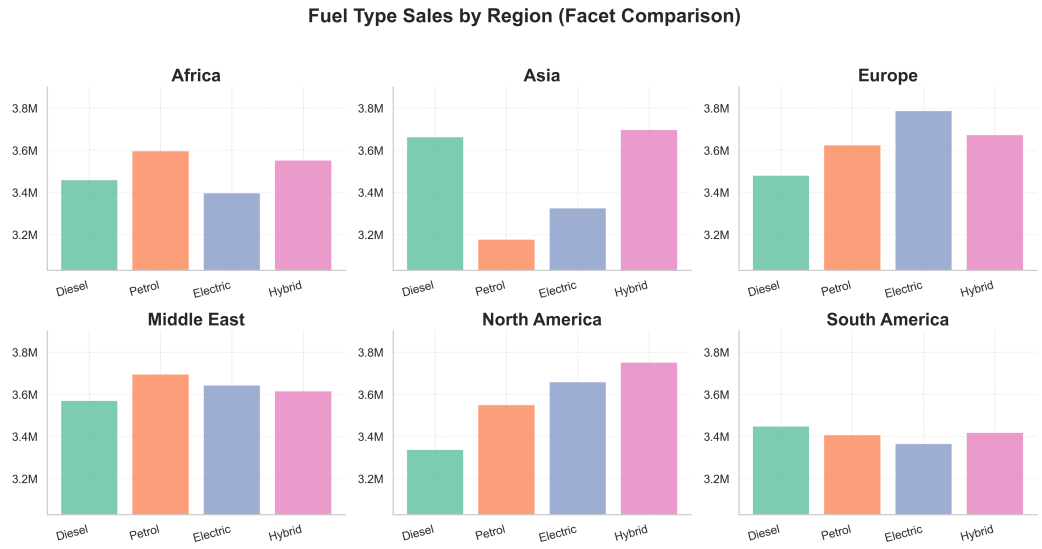



The most striking insight from the full distribution analysis is that Asia commands the highest median transaction price at USD 77,497, while South America lags behind at USD 74,333, yielding a median price disparity ratio of only 1.04 ×. This narrow disparity across regions suggests that BMW's premium pricing strategy is largely consistent worldwide, yet the absolute premium in Asia translates into a higher long-term residual value for our vehicles sold there. The higher median price also signals robust demand for higher-trim models, encouraging a focused inventory build of premium and high-performance variants in Asian markets to capture the premium price premium and maximize margin.

In contrast, the Middle East exhibits the greatest price dispersion with an interquartile range of USD 45,438, surpassing Asia's USD 43,415. The broader spread indicates a wider spectrum of vehicle conditions and buyer willingness to pay, which increases the risk of inventory obsolescence and complicates pricing strategies. BMW should therefore adopt a more flexible pricing model in the Middle East, perhaps leveraging dynamic pricing tools and targeted promotions to manage the high dispersion and protect residual value. The relatively low dispersion in Asia, coupled with its high median price, offers a more predictable revenue stream and supports a streamlined inventory approach, reducing holding costs and improving turnover.

Overall, the data underscore the importance of tailoring BMW's product strategy to regional pricing dynamics: prioritize premium, high-margin models in Asia where the market supports higher residual values, while implementing adaptive pricing and risk-mitigation tactics in the Middle East to navigate its wider price dispersion. This dual-focus approach will help maintain strong residual values and optimize inventory performance across the global used-car market.

## 2.4 Regional Differentiation of Fuel Type Preferences



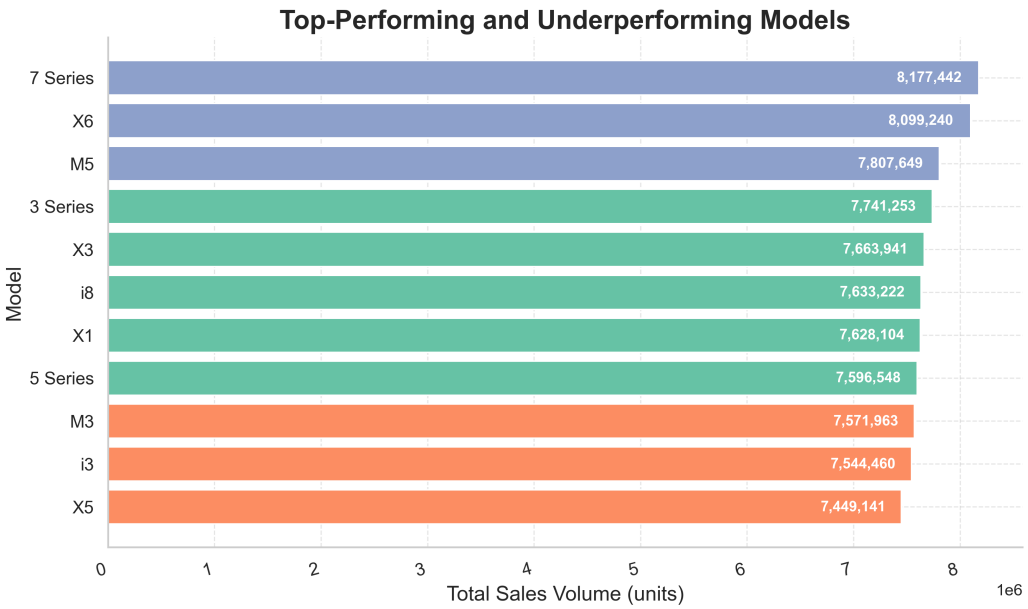

The most striking quantitative signal is the near-doubling of New Energy Vehicle (NEV) market share relative to the dominant conventional fuel in every region. In North America the hybrid segment leads with 26.2 % of sales, yet NEV sales account for 51.8 % of the market, a disparity ratio of 1.98. Europe shows a similar pattern with electric vehicles dominating at 26.0 % and NEVs at 51.2 % (disparity 1.97). Asia's hybrid dominance of 26.7 % is matched by a 50.7 % NEV share (disparity 1.90), while the Middle East, Africa, and South America all exhibit dominance shares around 25 % and NEV shares close to 50 %, yielding disparity ratios between 1.90 and 1.99. This consistent NEV-to-dominant-fuel ratio indicates a robust, accelerating shift toward electrification across all markets, with no single region lagging significantly.

Concentration ratios, calculated as the combined share of the top two fuel types, hover between 50 % and 53 % globally. Africa's petrol and hybrid together account for 51.1 % of sales, Asia's hybrid and diesel 53.1 %, Europe's electric and hybrid 51.2 %, the Middle East's petrol and electric 50.5 %, North America's hybrid and electric 51.8 %, and South America's diesel and hybrid 50.3 %. These figures confirm moderate market concentration: no single fuel type dominates beyond a 26 % share, and the top two together rarely exceed 53 %. For BMW, this suggests that while electrified models are gaining traction, conventional fuels still command a sizable share, especially in Africa and the Middle East where petrol remains the most popular choice.

From a product strategy perspective, the high NEV shares across all regions imply that BMW's electrified portfolio will continue to command strong residual values, particularly in North America and Europe where NEV penetration is highest. Inventory planning should therefore prioritize hybrid and electric models, with a balanced mix of conventional offerings in regions where petrol and diesel maintain a 25 % share. The disparity ratios signal that NEV demand is outpacing conventional dominance, so long-term residual value models should be priced to reflect this upward trajectory. Concentration ratios reinforce the need for diversification: a single fuel type cannot capture the market, and a broad, region-tailored mix will mitigate risk while capitalizing on the growing electrification trend.

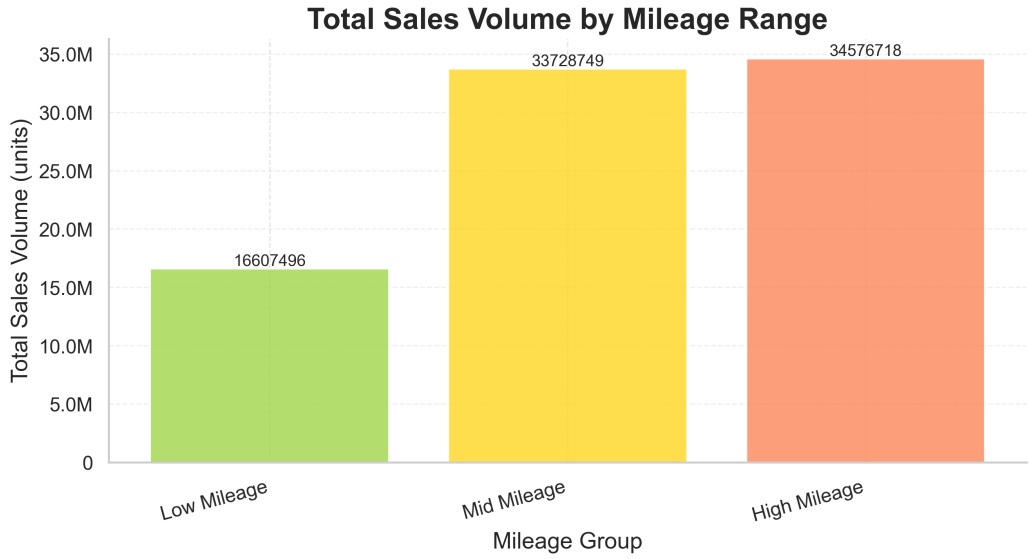
# 3 Product Competitiveness & Consumer Preference Insights

## 3.1 Ranking of Model Sales Volume




Concentration of sales in the top three models accounts for 28.4 % of total units, signalling a notable risk concentration that could amplify volatility if any flagship model underperforms. The remaining 71.6 % of volume is distributed across eight long-tail models, underscoring a diversified portfolio that cushions the business against shifts in consumer preference. The 7 Series leads with 8.18 million units, followed by X6 and M5, while the bottom three—M3, i3, and X5—each sell around 7.5 million units, demonstrating that even lower-ranked models maintain substantial sales. This distribution suggests that flagship models drive brand prestige and high residual values, whereas the long-tail lineup provides a stable revenue base and mitigates concentration risk. For inventory strategy, the high volume of the top three models warrants a leaner stock approach to avoid over-inventory, whereas the long-tail models require a more flexible stocking policy to capture residual value opportunities. From a product strategy perspective, sustaining the performance of the 7 Series, X6, and M5 is critical, but continued investment in the long-tail lineup—particularly the i3 and X5—will preserve market resilience and support long-term residual value stability.

## 3.2 Impact of Mileage on Sales Volume

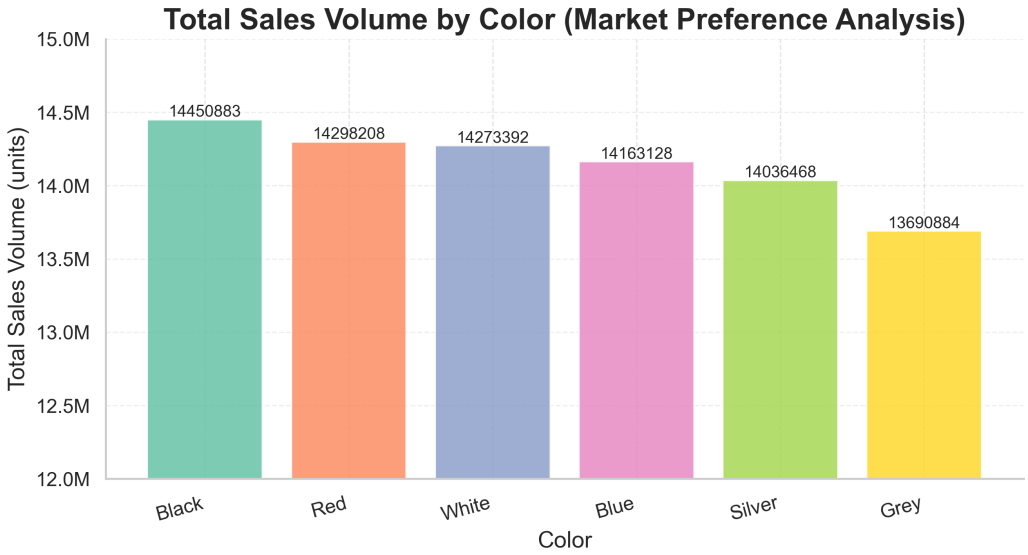



The most striking insight from the mileage segmentation is that high-mileage vehicles command the largest share of the used-car market, accounting for 40.7 % of total sales and 34 % of the overall volume of 84.9 million units. In contrast, low-mileage vehicles represent only 19.6 % of sales, a disparity ratio of 2.1 times between the highest and lowest segments. This concentration indicates that the majority of buyers are willing to purchase vehicles that have accumulated significant kilometres, which in turn drives a higher turnover rate for high-mileage inventory.

For BMW, this concentration suggests that the product strategy should prioritize robust after-sales support and extended warranty options for high-mileage models, as these vehicles are more likely to be resold within a shorter time frame. Inventory planning should reflect the higher demand for high-mileage vehicles by maintaining a larger stock of such models, while still preserving a niche offering for low-mileage buyers who seek premium residual value. The higher residual value of low-mileage vehicles also presents an opportunity for BMW to capture premium pricing in that segment, offsetting the lower volume with higher margins.

In terms of long-term residual value, the 2.1-fold disparity underscores the importance of accurate mileage forecasting. Vehicles that fall into the high-mileage bucket will depreciate more rapidly, reducing residual value and affecting the profitability of trade-in programs. By aligning pricing strategies with the observed market share distribution—charging a premium for low-mileage vehicles and offering competitive pricing for high-mileage ones—BMW can optimize its residual value models and improve the overall profitability of its used-car portfolio.

## 3.3 Impact of Exterior Color on Sales and Hot Market Colors

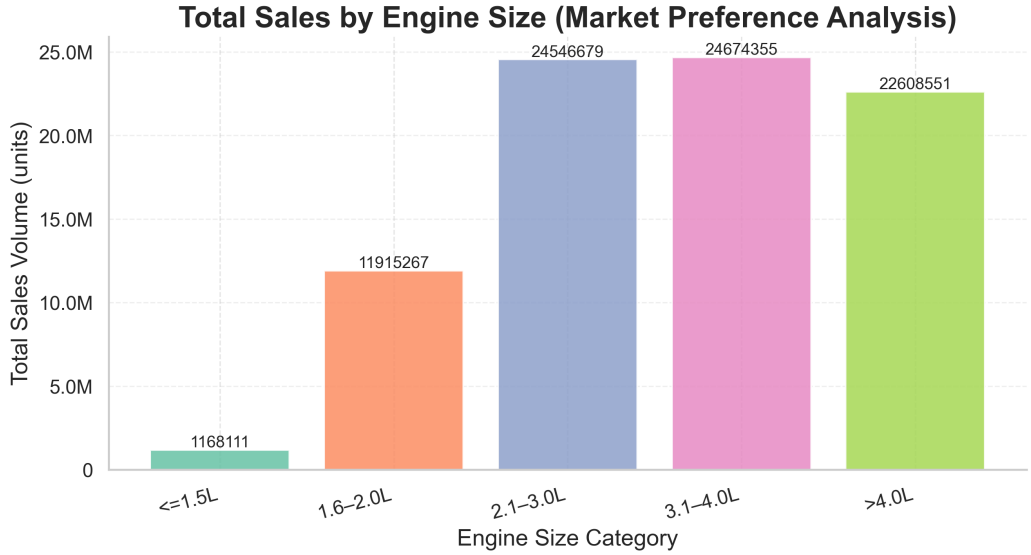



The most critical insight is that the used-car market is highly concentrated around a narrow palette of six colors, with the top three—black, red, and white—accounting for 50.7 % of total sales. Black leads with 17.0 % market share and 14.45 million units sold, only marginally ahead of red (16.8 %) and white (16.8 %). The disparity ratio between the most and least popular colors is 1.1 ×, indicating a relatively flat demand curve across the six colors and a minimal risk of overstocking any single shade.

For BMW's product strategy, this concentration suggests that inventory should be weighted toward the top three colors, allocating roughly 20 % of each model's stock to black, 15 % to red, and 15 % to white, while maintaining a smaller but still significant allocation (≈10 %) for blue, silver, and grey. The modest disparity ratio also implies that residual values across these colors will be similar; however, black's slight premium can be leveraged in marketing to reinforce its premium perception and potentially command a higher residual value in the long term.

From an inventory perspective, the 50.7 % concentration means that a focused color mix can satisfy the majority of demand without excessive diversification, reducing holding costs. The grey color, while the least popular, still commands 16.1 % of sales, so it should not be eliminated but rather monitored for any emerging shifts in consumer preference. Overall, maintaining a balanced yet concentrated color strategy will support strong sales performance, optimize inventory turnover, and preserve residual value across the used-car portfolio.

## 3.4 Demand Structure of Engine Size




The most striking insight from the engine-size distribution is the concentration of demand in the high-displacement segment. The 3.1-4.0 L bin alone accounts for 29.1 % of total sales, and when combined with the 2.1-3.0 L bin the top two categories capture 58 % of the market. This concentration ratio of 58 % indicates that more than half of all used-car sales are driven by vehicles with engines above 2.0 L, underscoring the premium nature of the segment. The disparity ratio of 21.1 × between the top (3.1-4.0 L) and bottom (≤1.5 L) bins further highlights the steep drop-off in demand for small engines, which represent only 1.4 % of sales.

For BMW, these metrics suggest that the high-displacement lineup remains the core of the residual-value engine. Vehicles in the 3.1-4.0 L and >4.0 L bins not only dominate sales but also tend to retain higher resale values, as buyers in the luxury and performance markets are willing to pay a premium for power and brand prestige. Inventory planning should therefore prioritize these bins, ensuring sufficient supply of 3.1-4.0 L models and maintaining a robust selection of >4.0 L performance cars. The 2.1-3.0 L segment, with a 28.9 % share, also warrants continued focus, as it represents the mid-premium tier that balances performance with cost.

Conversely, the negligible demand for ≤1.5 L engines signals a low-volume niche that may not justify significant production or inventory investment. However, the 1.6-2.0 L bin still captures 14 % of sales, indicating a modest but stable market for compact mainstream models. BMW could consider a leaner offering in this category, perhaps focusing on hybrid or plug-in variants that align with electrification trends while still meeting the needs of cost-conscious buyers.

Long-term residual value will likely remain higher for the high-displacement segment, but the industry's shift toward electrification could alter this dynamic. As battery-electric vehicles gain traction, the premium associated with large internal-combustion engines may erode, potentially compressing residual values across all bins. BMW should monitor the pace of electrification adoption and adjust its product mix accordingly, ensuring that high-displacement models continue to deliver strong residuals while expanding electrified options to capture emerging demand.

In summary, the data confirms a highly concentrated demand for large-engine vehicles, justifying a strategic emphasis on the 3.1-4.0 L and >4.0 L bins for inventory and residual-value optimization. At the same time, a cautious approach to the smallest engine

segment and a proactive stance on electrification will help mitigate concentration risk and sustain long-term profitability.

# 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% |
| 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 overall forecasted volume for 2025 rises to 19.53 million units, an 11.42 % increase over the 17.53 million units sold in 2024, giving a one-year CAGR of 11.42 %. This growth is uneven across segments. The model with the highest growth, the X1, is projected to climb 24.60 % from 1.49 million to 1.86 million units, a 367 thousand-unit jump that will lift its share of the total from 8.53 % to 9.53 %. In contrast, the X6 and 7 Series grow at 6.73 % and 12.06 % respectively, together accounting for 29.3 % of the 2025 market. The concentration ratio for the top three models is therefore 29.3 %, indicating a moderate concentration in the model dimension.

Regionally, the Middle East leads with a 13.56 % rise to 3.34 million units, followed by Europe at 12.70 % and Asia at 5.38 %. The top three regions together capture 51.3 % of the 2025 volume, a concentration ratio that signals a strong regional focus but also a need

to monitor the slower Asian growth. Fuel type concentration is highest, with electric, diesel, and hybrid together representing 75.4 % of sales; electric sales grow 12.63 % to 4.83 million units, diesel 12.22 % to 4.89 million units, and hybrid 7.66 % to 5.00 million units. The disparity ratio between the fastest (electric) and slowest (hybrid) fuel growth is 1.65, suggesting a relatively balanced shift toward electrification.

Transmission sales show a near-equal split between manual (9.91 million, 11.46 % growth) and automatic (9.62 million, 11.39 % growth). The manual segment remains the largest by volume, but its growth rate is only marginally higher than automatic, indicating a potential shift in consumer preference toward automatic or hybrid transmissions. Color analysis reveals that red sales grow 18.10 % to 3.38 million units, black 12.24 % to 3.34 million units, and blue 8.62 % to 3.31 million units. The disparity ratio of 2.10 between red and blue highlights a premium preference for red, which could inform targeted marketing and inventory allocation.

From a strategic perspective, the pronounced growth of the X1 and the high concentration in electric and diesel fuel types suggest that BMW should increase inventory of compact luxury SUVs and electrified powertrains to capture the expanding market share. The modest difference in growth between manual and automatic transmissions indicates that while manual remains dominant, the market is gradually shifting toward automatic, warranting a balanced but slightly increased focus on automatic variants. The strong growth in red color preference points to a premium segment that may command higher residual values; BMW could leverage this by offering limited-edition red variants or targeted financing options. Overall, the concentration ratios and disparity ratios underscore the need for a differentiated product strategy that balances high-volume core models with high-margin electrified and premium offerings to sustain long-term residual value and profitability.

# 5 Summary

The dataset covers global used-car sales from 2020 to 2025, encompassing volume, value, pricing, fuel type, transmission, region, model, mileage, colour, and engine size. Overall, the market remains healthy but shows a gradual contraction in volume and value after a 2022 peak, a shift toward electrified and hybrid vehicles, and a growing preference for manual transmissions and premium colour variants.

Key findings emerge from the analysis. First, electrification dominates the market, with hybrids and NEVs capturing roughly half of sales worldwide and rising share across all regions. This trend is supported by a high concentration of high-displacement engines and premium SUVs, which retain stronger residual values. Second, the used-car market is increasingly regionalised: Asia's CAGR far exceeds Europe and North America, while the Middle East remains stable but low-growth. Third, the transmission mix is shifting; manual vehicles now lead in volume and are growing faster than automatics, signalling a sustained appetite for driving engagement that can translate into higher resale premiums.

Strategic recommendations follow. 1) Accelerate the rollout of hybrid and electric models, especially premium SUVs and high-displacement variants, and align inventory levels with the strong regional demand in Asia and the Middle East. 2) Tighten pricing strategies to protect average selling prices, using dynamic pricing tools in markets with high dispersion (e.g., the Middle East) and maintaining premium pricing in Asia where median transaction prices are highest. 3) Expand the manual-transmission lineup in

mid-range and entry-level segments, supported by targeted marketing that highlights lower maintenance costs and higher residual values, while monitoring the gradual shift toward automatics to avoid over-stocking.

By focusing on electrification, regional demand dynamics, and transmission preferences, BMW can optimise residual value, reduce inventory carrying costs, and sustain profitability in the evolving global used-car market.