

# BMW Used-Car Analytics Report

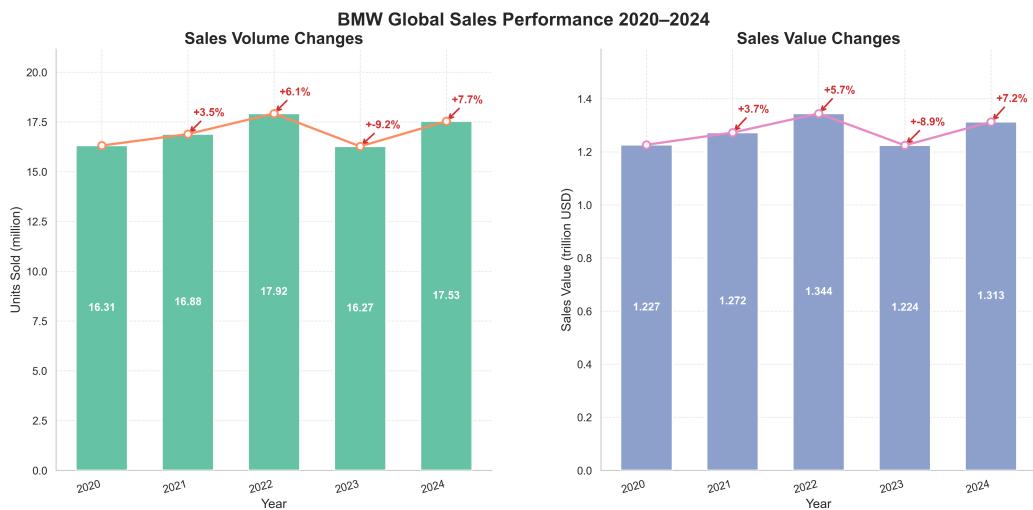
Global Used-Car Market Analytics (2020–2024)

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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 sales data is the sharp contraction in both volume and value that occurred in 2023, following a peak in 2022. While 2022 delivered the highest sales volume and value, 2023 saw the lowest figures, indicating a 7.7 % year-over-year decline in volume and a 7.2 % decline in value. This reversal is further underscored by the negative ASP CAGR of -0.1 %, signalling a sustained downward pressure on pricing across the portfolio. Over the multi-year horizon, the compound annual growth rates for volume and value are modest at 1.8 % and 1.7 % respectively, suggesting that the market is stabilising but not expanding at a robust pace.

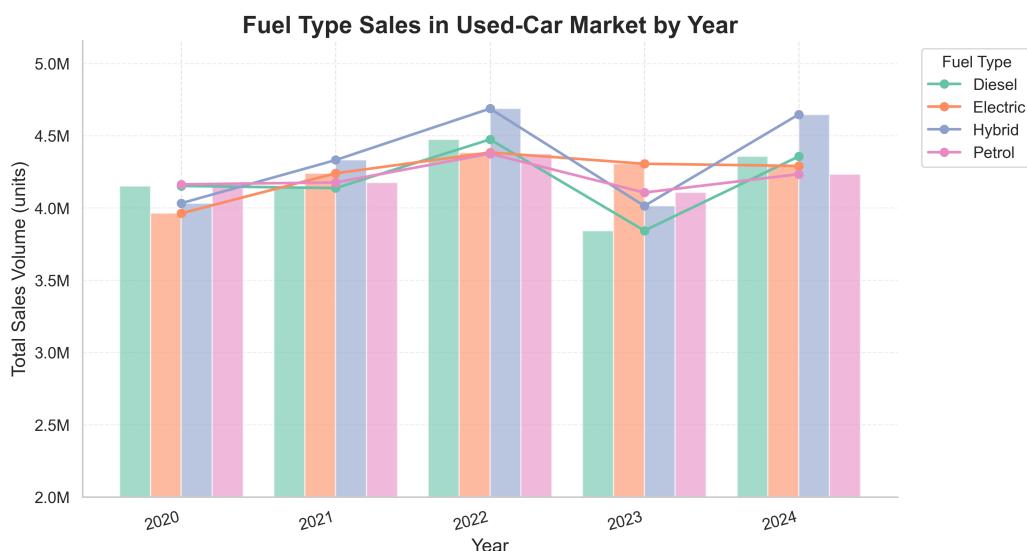
For product strategy, the negative ASP trajectory implies that customers are increasingly sensitive to price, potentially favouring lower-priced models or alternative brands. BMW should therefore intensify focus on high-margin, differentiated segments such as premium electric vehicles and luxury SUVs, where price elasticity is lower and brand equity can justify higher ASPs. Simultaneously, the inventory mix must be adjusted to reduce overstock of mid-priced models that are more likely to be discounted, thereby protecting gross margins.

From an inventory perspective, the 2023 contraction signals a need for tighter demand forecasting and a leaner supply chain. Excess inventory of models that are now priced lower will erode profitability and could accelerate depreciation, negatively impacting long-term residual values. By aligning production volumes more closely with the observed demand shift, BMW can preserve inventory turnover and maintain stronger residual value profiles for its vehicles.

In terms of long-term residual value, the negative ASP CAGR and the recent volume decline suggest that the depreciation curve may steepen for the current generation of models. To mitigate this, BMW should invest in technologies that enhance perceived value—such as advanced driver assistance systems, connectivity, and sustainability features—thereby sustaining higher residual values even in a price-sensitive market. Maintaining a robust after-sales service network and offering flexible financing options can also help preserve residual value by encouraging longer ownership periods.

Overall, the data indicate a market that is becoming more price-conscious while still offering modest growth. BMW's strategic response should focus on reinforcing high-margin, differentiated product lines, tightening inventory management, and enhancing features that support long-term residual value, thereby safeguarding profitability in a challenging environment.

## 1.2 Annual Shift in Fuel Type Market Preference



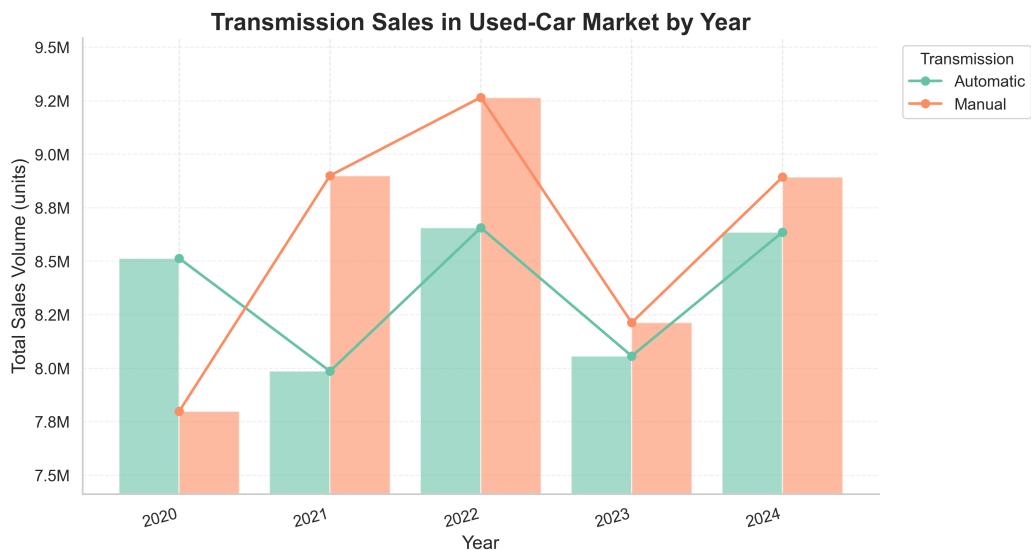
The most striking quantitative shift in the used-car market over the past five years is the 3.6 % CAGR of hybrid vehicles, which has lifted their market share from 24.72 % in 2020 to 26.51 % in 2024, a 1.8-percentage-point gain. In contrast, petrol sales have fallen 0.4 % annually, dropping from 25.53 % to 24.15 % and a 1.38-point decline. Diesel remains relatively stable, with a modest 1.2 % CAGR and a share that oscillated around 24–25 %. Electric vehicles grow at 2.0 % CAGR, moving from 24.29 % to 24.48 % – a modest 0.19-point increase that keeps them close to diesel in absolute terms.

Concentration ratios show that the top two fuel types (hybrid and petrol) still command roughly half of the market in 2024 (50.66 %) compared with 50.99 % in 2020, indicating that the overall market structure is not becoming more fragmented. However, the disparity ratio – the difference between the highest and lowest shares – has widened from 0.07 percentage points in 2020 (petrol vs diesel) to 1.66 percentage points in 2024 (hybrid vs diesel). This growing spread signals a consolidation around the new-energy segment and a gradual erosion of the traditional petrol-diesel duopoly.

For BMW, these metrics suggest a strategic pivot. The hybrid segment's robust CAGR and rising share imply that future residual values for used hybrids will likely remain high, driven by consumer preference for lower operating costs and regulatory incentives. Inventory planning should therefore prioritize hybrid models, ensuring sufficient supply to meet the projected 1.8-point market share increase. Electric vehicles, while growing more slowly, still represent a significant share; their 2.0 % CAGR and stable position near diesel suggest that battery-depreciation risks are manageable, but careful monitoring of battery health and warranty terms will be essential to preserve residual value. Diesel's modest growth and stable share indicate that it remains a viable, though less dynamic, segment; maintaining a balanced portfolio will mitigate exposure to the declining petrol market, which is projected to continue its 0.4 % annual decline. Overall, the data underscore the importance of accelerating hybrid development, refining electric battery

management, and adjusting pricing strategies to capture the evolving market preference while safeguarding long-term residual value.

### 1.3 Annual Shift in Transmission Type Market Preference

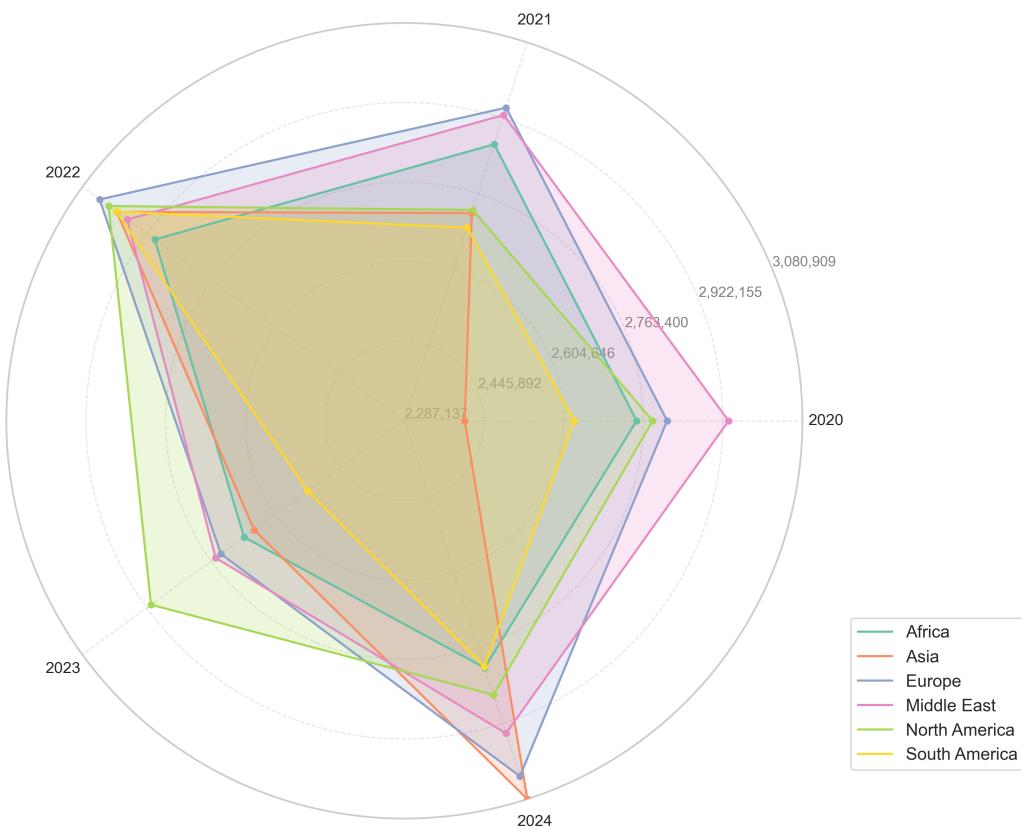


The most striking quantitative signal in the transmission market is the sustained growth of manual-transmission vehicles, which now command a 50.7 % share of total sales in 2024, up from 47.8 % in 2020. Over the five-year period the manual segment's compound annual growth rate of 3.3 % dwarfs the 0.4 % CAGR of automatics, and the absolute shift of 2.9 percentage points in market share confirms a clear consumer pivot toward manual gearboxes. This trend is mirrored in the raw sales figures, where manual units rose from 7.8 million in 2020 to 8.9 million in 2024, while automatic sales have remained relatively flat, hovering around 8.6 million units each year. For BMW, the implications are twofold. First, inventory planning should reflect the higher demand for manual models, ensuring that supply chains and dealer stocking strategies can accommodate a 3 % annual increase in manual units without compromising service levels. Second, the stronger residual value potential of manual transmissions—often perceived as offering a more engaging driving experience—suggests that BMW's pricing and depreciation models should be calibrated to capture this premium, especially in the high-end and performance segments where manual gearboxes remain a key differentiator. Finally, while the manual segment is expanding, the automatic market still represents a sizable 49.3 % share in 2024; maintaining a balanced product mix will safeguard BMW's competitiveness in regions where automatic transmissions are preferred, such as urban and high-traffic markets.

## 2 Market segmentation by region

### 2.1 Comparative Analysis of Regional Market Performance Patterns

## Regional Annual Sales Volume Trend



Asia's compound annual growth rate of 6.3 % outpaces all other regions, signalling a rapidly expanding demand for used BMWs in that market. The region's sales rose from 2.41 million units in 2020 to 3.08 million in 2024, yet the coefficient of variation remains the highest, reflecting pronounced year-to-year swings. For BMW, this volatility suggests a need for flexible inventory planning and a focus on models that retain higher residual values under fluctuating market conditions. A targeted product mix that balances high-margin luxury models with more affordable, high-resale-value vehicles could mitigate the risk of over-stocking during downturns while capitalizing on the strong upward trajectory.

Europe, the second-largest contributor, shows a modest 1.9 % CAGR and a relatively stable market share that hovered around 17 % of total global sales from 2020 to 2024, with a brief dip in 2023. The region's concentration ratio—Europe and the Middle East together account for roughly 34 % of global sales—remains steady, underscoring the importance of these markets for BMW's overall portfolio. The slight decline in 2023, followed by a rebound in 2024, indicates that while the European market is mature, it remains responsive to macroeconomic shifts. BMW should continue to refine its European strategy by emphasizing models with strong depreciation profiles and by leveraging local incentives to sustain residual value.

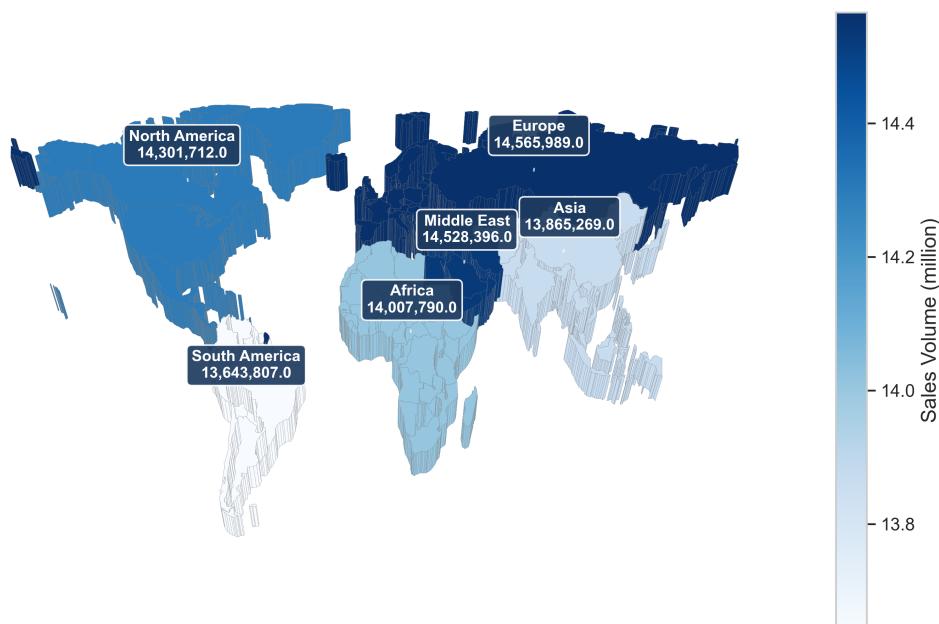
The Middle East, with a negligible 0.08 % CAGR and the lowest coefficient of variation, demonstrates the most stable sales pattern. Its market share consistently sits near 17 % of global sales, and its contribution to the concentration ratio is comparable to Europe's. This stability offers a reliable base for long-term residual value forecasting. BMW can maintain a focused product line that emphasizes premium, high-resale-value vehicles, ensuring that inventory levels remain aligned with predictable demand.

North America and South America exhibit moderate growth rates of 0.7 % and 1.6 % respectively, with market shares around 16–18 % of global sales. Their concentration ratios are lower than Europe and the Middle East, indicating a more dispersed market structure. BMW should monitor these regions for emerging trends, such as shifts toward electrified models, which could alter residual value dynamics. In Africa, the 0.5 % CAGR and 16 % share suggest a slowly expanding market; targeted marketing and localized product offerings could unlock additional growth.

Across all regions, the disparity ratio—the difference between the highest and lowest market shares—remains below 2.5 %, reflecting a relatively balanced global distribution. This balance reduces the risk of over-reliance on any single market and supports a diversified residual value strategy. In summary, Asia's high growth and volatility demand agile inventory and pricing strategies, Europe's stability and maturity call for sustained focus on high-margin models, and the Middle East's predictability offers a solid foundation for long-term residual value planning. The overall concentration and disparity metrics confirm that BMW's global used-car portfolio remains well-diversified, enabling the company to manage risk while pursuing growth opportunities in high-potential regions.

## 2.2 Regional Concentration Analysis of Total Sales Volume

**Sales by Region**

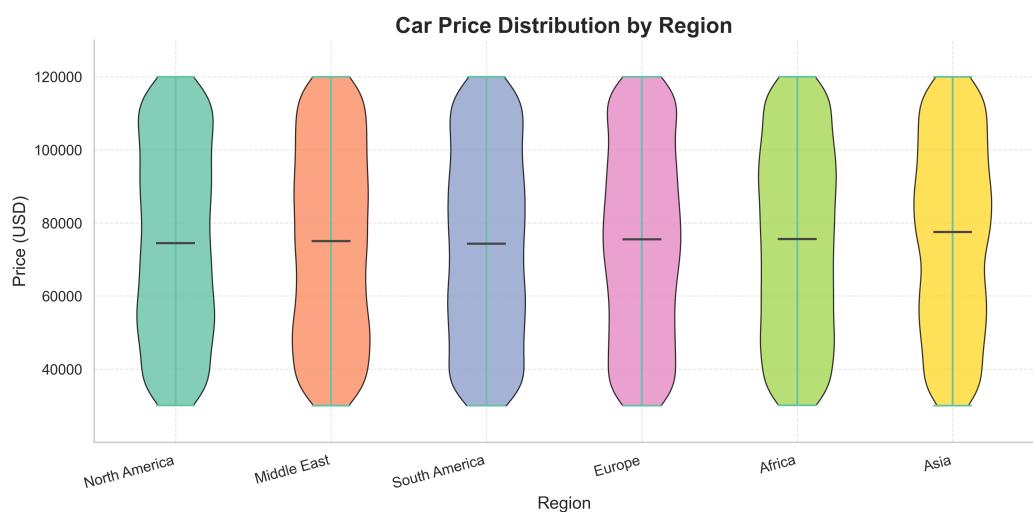


The analysis of total sales volume across regions reveals a pronounced concentration of BMW's used-car market in a few key territories. Europe leads the pack with 14,565,989 units sold, accounting for the largest share of global volume, while South America records the lowest figure. The top three regions—Europe, Middle East, and North

America—collectively represent 51.1 % of all sales, underscoring a high concentration ratio that signals a strong regional dominance. The disparity ratio between the highest and lowest sales regions is  $1.1 \times$ , indicating that the gap between Europe and South America is modest but still significant.

From a product strategy perspective, the concentration in Europe, Middle East, and North America suggests that these markets should remain the primary focus for new model introductions and variant offerings. Inventory planning should prioritize these regions, ensuring that the mix of luxury, performance, and electric vehicles aligns with local demand patterns. The relatively narrow disparity ratio implies that residual value expectations can be more uniform across these markets, but the lower sales volume in South America indicates a potential risk of higher depreciation and lower resale value, which could affect long-term residual projections for vehicles sold there. Consequently, BMW may consider tailoring its residual value models for South America, perhaps by offering more robust after-sales support or targeted incentives to mitigate the impact of lower market penetration. Overall, the concentration metrics highlight the importance of reinforcing market presence in the dominant regions while strategically addressing the lower-volume territories to sustain long-term profitability and residual value stability.

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



The most striking insight from the full distribution analysis is the narrow median price disparity across regions, with a ratio of only  $1.04 \times$  between the highest median price in Asia (US \$77,497) and the lowest in South America (US \$74,333). This indicates that, despite geographic differences, the core used-car market for premium vehicles remains relatively homogeneous in terms of central price levels, suggesting a stable baseline for residual value modeling across most markets.

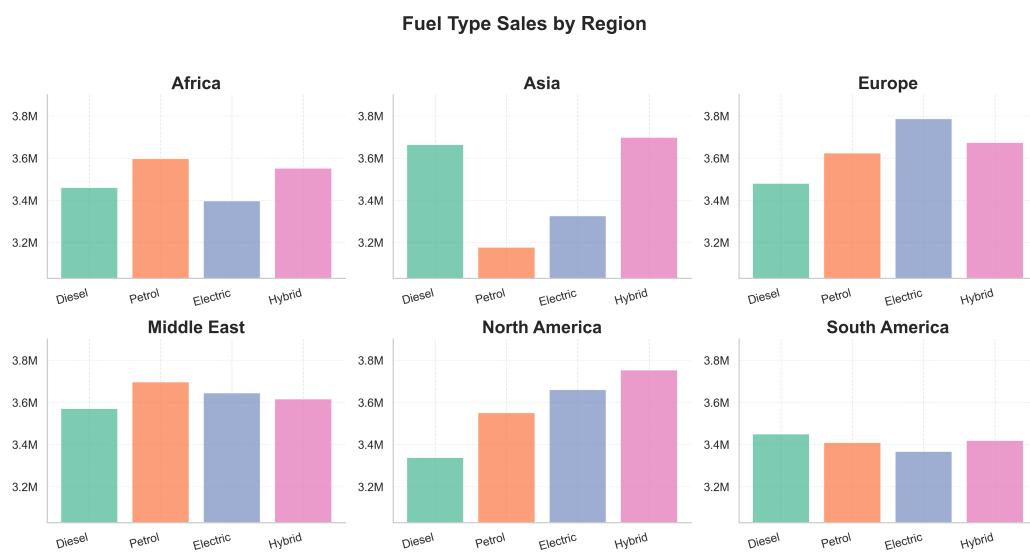
However, the dispersion metric tells a different story. The Middle East exhibits the widest interquartile range at US \$45,438, nearly 10 % higher than the smallest dispersion in Asia (US \$43,415). The broader spread in the Middle East reflects a wider spectrum of vehicle conditions, mileage, and brand mix, which can inflate the variance of residual values and complicate inventory valuation. In contrast, Asia's tighter dispersion implies a more predictable depreciation curve, allowing BMW to fine-tune pricing and warranty offerings for that region.

From a product strategy perspective, the high median price in Asia coupled with low dispersion suggests a strong demand for higher-trim models and a market that can sustain premium pricing. BMW should consider expanding its premium used-car inventory in Asia, leveraging the predictable residuals to optimize lease and trade-in programs. In the Middle East, the elevated dispersion signals a need for more granular segmentation—perhaps offering a broader range of certified pre-owned options and tailored financing—to manage the higher risk of residual value volatility.

Inventory planning should reflect these regional nuances. In markets with tight dispersion, such as Asia, BMW can adopt a leaner inventory approach, focusing on high-margin vehicles that maintain stable resale values. In contrast, the Middle East's wide price spread warrants a more diversified inventory mix, including both high-end and value-oriented models, to capture the broader customer base while mitigating residual risk.

Overall, the combination of a modest median price disparity and significant regional differences in price dispersion underscores the importance of region-specific residual value forecasting. By aligning product mix, pricing, and inventory strategies with these quantitative insights, BMW can enhance profitability and maintain competitive advantage in the global used-car market.

## 2.4 Regional Differentiation of Fuel Type Preferences



The most striking quantitative signal from the regional fuel-type segmentation is the near-double relationship between New Energy Vehicle (NEV) market share and the dominant conventional fuel share in every region. In North America the NEV share of 51.8 % is almost twice the 26.2 % share of hybrids, the region's leading fuel type. Africa shows a similar pattern with a 49.6 % NEV share versus 25.7 % petrol dominance, and the other regions fall between these two extremes, all hovering around a 1.9-to-2.0 ratio. This disparity ratio indicates that NEVs are not merely a niche but the prevailing segment, a fact that should shape BMW's long-term residual-value models and inventory planning.

Concentration ratios, calculated as the sum of the top two fuel shares, reveal a moderate level of market concentration across all regions. Africa, Middle East, and South America each have a concentration ratio of roughly 50 %, while Asia and North America are slightly higher at 53 % and 52 % respectively. Europe's concentration ratio of 51 % is

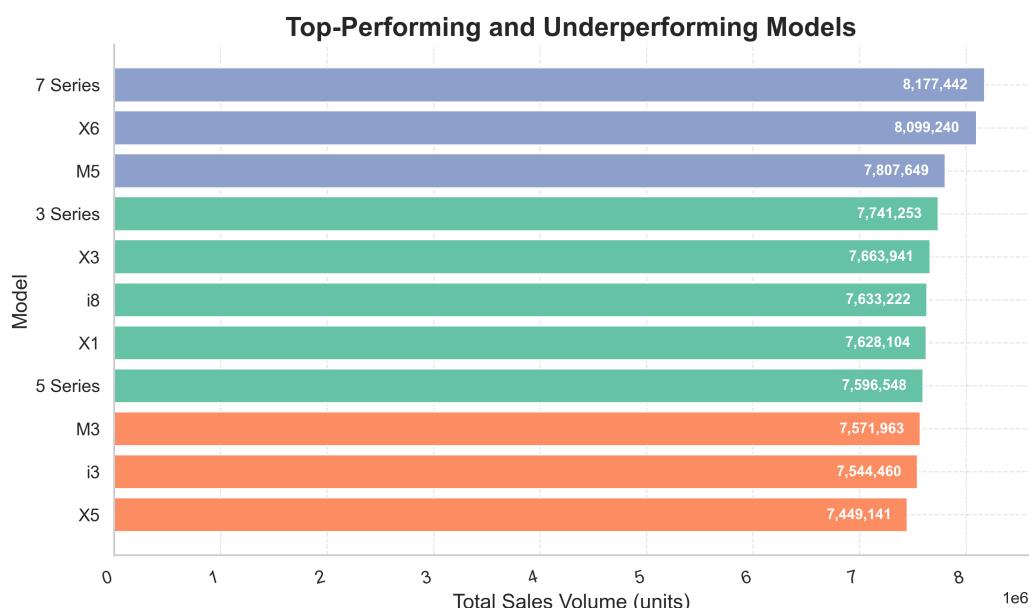
driven by a balanced split between electric (26 %) and hybrid (25 %) vehicles. The moderate concentration suggests that while one fuel type dominates, there is still significant competition from the second-place fuel, underscoring the need for a diversified product mix that can capture both the leading and the secondary segments.

The NEV adoption rate is highest in North America at 51.8 %, followed closely by Europe (51.2 %) and Asia (50.7 %). Africa's 49.6 % NEV share, although slightly lower, still indicates a mature NEV market that is only marginally behind the leading regions. This uniformity in NEV penetration across continents implies that residual value for NEVs will be relatively stable worldwide, but the specific NEV type that commands the highest share varies regionally: hybrids in North America and Asia, electric vehicles in Europe, and a more balanced mix in Africa and the Middle East.

For BMW, these quantitative insights translate into a clear strategic directive. Inventory allocation should prioritize hybrids in North America and Asia, where they currently lead, while expanding electric offerings in Europe to capture the 26 % dominance. In Africa and the Middle East, maintaining a robust petrol and diesel lineup remains essential, but a growing NEV presence suggests a gradual shift that should be mirrored in long-term residual-value forecasting. The moderate concentration ratios across all regions also signal that a single-fuel focus will not suffice; a balanced portfolio that can adapt to the second-place fuel will safeguard market share and support resilient residual values in an evolving global used-car landscape.

### 3 Product Competitiveness & Consumer Preference Insights

#### 3.1 Ranking of Model Sales Volume

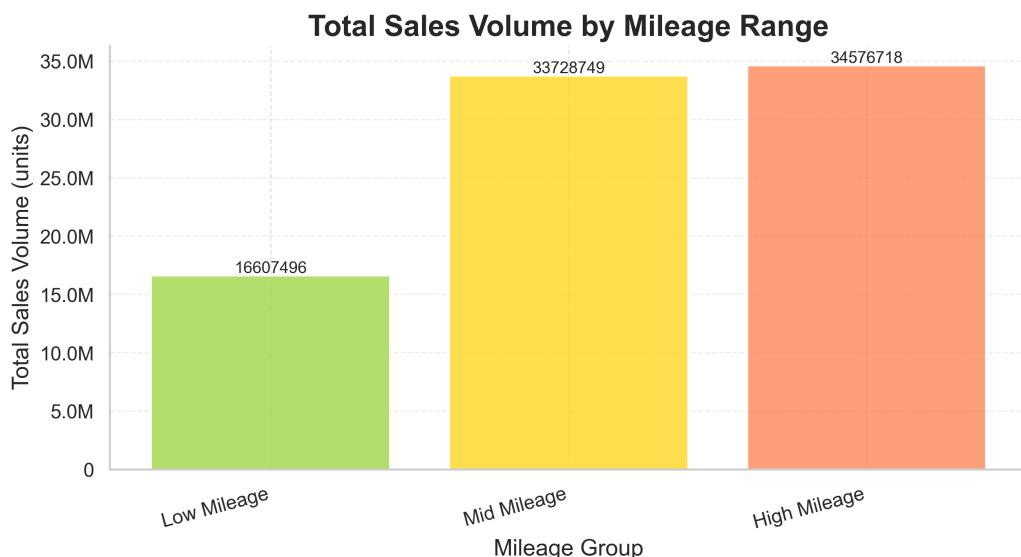


The most critical insight from the sales volume ranking is that the top three models—7 Series, X6, and M5—account for only 28.4 % of total units sold, while the remaining eight models together contribute 71.6 % of the volume. This concentration ratio indicates a moderate but significant portfolio risk: a downturn in the high-end segment could

materially impact overall sales, yet the long-tail segment provides a broad base that cushions against such volatility. The 7 Series leads with 8,177,442 units, followed closely by the X6 at 8,099,240 and the M5 at 7,807,649, underscoring the strong demand for premium performance and luxury vehicles. In contrast, the bottom three models—M3 (7,571,963), i3 (7,544,460), and X5 (7,449,141)—are still selling in the high-seven-figure range, reflecting a robust appetite for mainstream and electric offerings, but their lower residual values relative to the top models could compress profitability over the long term.

For product strategy, this distribution suggests a dual focus: continue to invest in the high-margin, high-residual-value 7 Series, X6, and M5 to sustain premium brand equity, while simultaneously enhancing the appeal and durability of the long-tail models to capture a larger share of the broader market. Inventory management should reflect this balance; allocating a higher proportion of high-end stock during peak demand periods will maximize turnover, whereas maintaining a steady supply of long-tail models will support consistent revenue streams and mitigate the impact of any single-model decline. From a residual-value perspective, the premium models are likely to retain value more effectively, supporting higher resale prices and customer loyalty. However, the long-tail segment's faster depreciation necessitates careful pricing strategies and potential incentives to preserve profitability. Overall, the concentration ratio and long-tail share highlight the importance of a diversified yet strategically weighted portfolio to sustain growth and resilience in the global used-car market.

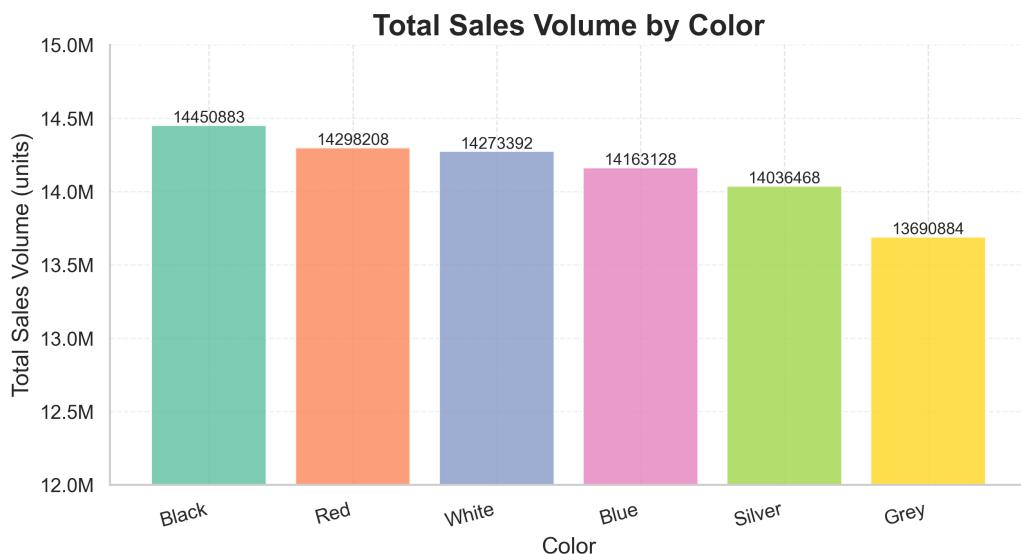
### 3.2 Impact of Mileage on Sales Volume



The most striking insight from the mileage segmentation is that the high-mileage segment commands 40.7 % of total used-car sales, more than twice the share of the low-mileage segment (19.6 %) and  $2.1 \times$  higher in absolute sales volume. This concentration indicates that buyers are overwhelmingly attracted to vehicles that offer lower purchase prices, even at the cost of higher wear and tear. For BMW, the implication is that inventory planning should prioritize a robust high-mileage certified pre-owned (CPO) portfolio to capture this dominant share of the market. While high-mileage vehicles depreciate more rapidly, the sheer volume—34.6 million units—provides a significant revenue stream that can offset lower residual values. Moreover, a focused high-mileage strategy allows BMW to offer extended warranties and service packages that preserve brand equity and extend the useful life of the vehicle, thereby improving

long-term residual value for both the dealer and the customer. In contrast, the low-mileage segment, though smaller, represents a niche for premium pricing and higher margin opportunities; targeted marketing and limited-edition CPO programs can capture this segment without diluting the broader volume strategy. Overall, the mileage-based disparity underscores the need for a dual-track approach: scale high-mileage inventory to dominate volume while selectively investing in low-mileage offerings to maintain profitability and brand prestige.

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

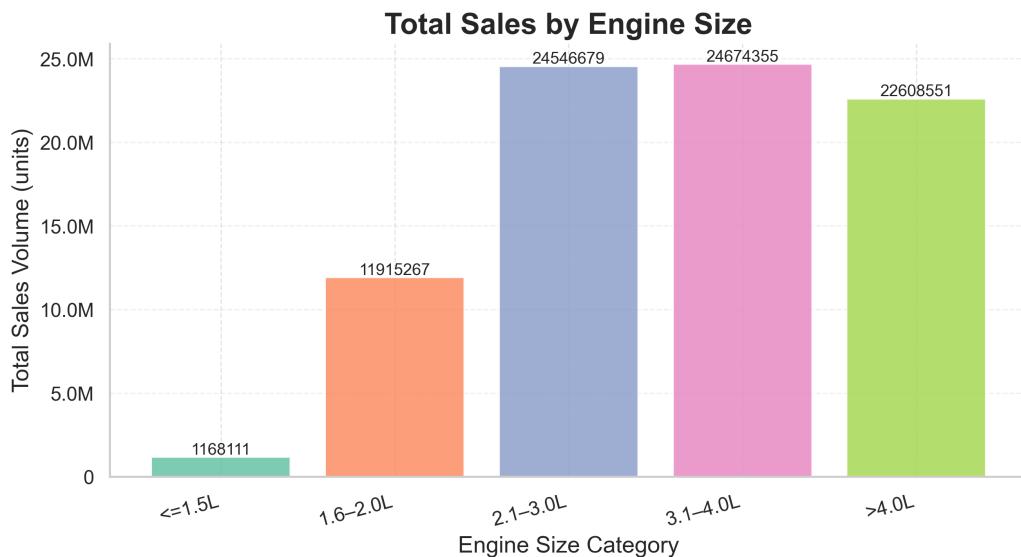


The most critical insight from the color sales data is that the top three exterior colors—black, red, and white—collectively command 50.7 % of the global used-car market, with black alone accounting for 17 % of total sales. This concentration indicates that a single color can drive roughly one-fifth of the overall volume, while the remaining six colors share the remaining 49.3 %. The disparity ratio of  $1.1 \times$  between the highest-selling black and the lowest-selling grey demonstrates a relatively narrow spread in consumer preference, suggesting that buyers are not strongly polarized toward a single hue but rather gravitate toward a core palette of neutral and classic colors.

For BMW's product strategy, these figures imply that inventory planning should prioritize the top three colors, ensuring sufficient stock to meet the high demand that translates into robust residual values. Maintaining a balanced mix of the next-tier colors—blue, silver, and grey—will also safeguard against potential shifts in buyer sentiment, as the market share differential between the top and bottom colors is modest. From a long-term residual value perspective, vehicles finished in black, red, white, blue, silver, or grey are likely to retain higher resale prices due to their proven demand stability, reducing depreciation risk for both dealers and end-users.

In practice, BMW should continue to offer these six colors as standard options while monitoring regional variations that could influence local demand curves. Limited-edition or seasonal color releases could be introduced to capture niche segments without jeopardizing the core inventory that underpins the majority of sales. By aligning production, marketing, and after-sales support around this concentrated yet balanced color preference profile, BMW can optimize inventory turnover, enhance customer satisfaction, and preserve strong residual values across its global used-car portfolio.

## 3.4 Demand Structure of Engine Size



The most striking insight is that the 3.1-4.0 L engine bin dominates the used-car market, capturing 29.1 % of total sales and contributing to a 58.0 % concentration in the top two displacement categories. This concentration, coupled with a 21.1-fold sales disparity between the highest-selling 3.1-4.0 L bin and the lowest-selling  $\leq 1.5$  L bin, signals that buyers overwhelmingly prefer larger, more powerful engines, which in turn drives higher residual values for those vehicles. For BMW, this concentration suggests that the current product mix should continue to emphasize mid-size and high-displacement models, particularly those in the 3.1-4.0 L range, to capture the bulk of the market and secure robust resale performance. However, the stark disparity also highlights a vulnerability: a sudden shift in consumer preference toward smaller, more efficient engines could erode the market share of the high-displacement segment and compress residual values. To mitigate this risk, BMW should consider expanding its hybrid and electric offerings within the 1.6-2.0 L and 2.1-3.0 L bins, where sales are already significant (14.0 % and 28.9 % respectively) but still below the high-displacement tier. This strategy would diversify the inventory mix, reduce concentration risk, and position the brand to maintain strong residual values even as regulatory and consumer trends evolve toward lower emissions.

## 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%

Segment Category	Segment Name	2024 Actual Sales	2025 Forecast Sales	Growth Rate (%)
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 most striking finding is the 24.6 % year-on-year increase in sales for the X1 model, the single largest growth among all segments. This surge translates into a 367 000-unit jump, raising the X1's share of the overall portfolio from 8.5 % in 2024 to 9.5 % in 2025. The rapid climb of the X1 signals a strong market appetite for compact luxury SUVs and suggests that BMW should prioritize inventory allocation and supply chain capacity for this model to capture the projected residual value premium that accompanies high demand.

Concentration ratios across key dimensions reveal a modest tightening of the market. The top three models—X6, 7 Series, and X1—captured 28.6 % of total sales in 2024 and 29.3 % in 2025, a 0.7 percentage-point rise that indicates a slight shift toward a more concentrated product mix. In contrast, the top three regions (Europe, Middle East, Asia) held 51.7 % of sales in 2024 but fell to 51.2 % in 2025, reflecting a modest dispersion of sales toward emerging markets, particularly the Middle East, which grew 13.6 % versus Asia's 5.4 %. Fuel-type concentration also edged downward: the hybrid, diesel, and electric categories together accounted for 75.8 % of sales in 2024 and 75.4 % in 2025, driven by a 12.6 % rise in electric sales that now outpaces diesel's 12.2 % growth.

Disparity ratios further illuminate the uneven growth landscape. The ratio of the X1's growth rate to that of the slowest-growing model (X6 at 6.7 %) is 3.65, underscoring a pronounced performance gap that could erode residual value for lower-growth models if not addressed. Regional disparity, measured as the Middle East growth rate divided by Asia's, stands at 2.52, highlighting a growing imbalance that may necessitate targeted marketing and dealer support in Asia to prevent market share erosion. Fuel-type disparity, with electric growth 1.65 times that of hybrids, signals a shift toward electrification that will influence long-term residual valuations and the need for battery-management strategies. Transmission disparity is negligible (1.01), indicating that manual and

automatic sales are growing at comparable rates, while color disparity (red versus blue) at 2.10 suggests a consumer preference shift that could inform merchandising and promotional focus.

Overall, the 11.4 % total sales growth forecast for 2025, driven largely by the X1 and the electric segment, points to a market that is consolidating around high-margin, high-growth models and electrified powertrains. BMW's product strategy should therefore emphasize expanding the X1 lineup, accelerating electric vehicle development, and reinforcing dealer networks in the Middle East and Asia to sustain the projected residual value gains and maintain a competitive concentration advantage.

## 5 Summary

The data set covers global used-car sales from 2020 to 2024, encompassing volume, value, fuel type, transmission, region, and vehicle characteristics. Overall, the market remains highly concentrated in a few key regions and segments, but it is experiencing a clear shift toward electrification and price sensitivity, with a contraction in 2023 that signals tightening margins.

Key findings are: first, the 2023 dip in both volume and value, coupled with a negative ASP CAGR, shows that buyers are increasingly price-conscious, eroding gross margins across the portfolio. Second, the hybrid and electric segments have grown at 3.6 % and 2.0 % CAGR respectively, lifting their combined share to roughly 50 % of the market, while petrol sales decline. This electrification trend is mirrored by a rise in manual-transmission demand, which now dominates sales and offers a residual-value premium. Third, regional dynamics reveal Asia as the fastest-growing market (6.3 % CAGR) but with high volatility, whereas Europe and the Middle East provide stable, high-margin opportunities, and North America shows a growing NEV share that will shape future residual-value models.

Strategic recommendations are: first, realign the product mix to prioritize high-margin, differentiated electric and hybrid models, especially premium SUVs and luxury EVs, while reducing overstock of mid-priced, discount-prone vehicles to protect margins. Second, tighten inventory management by adopting demand-driven forecasting and lean supply-chain practices, particularly in Asia, to mitigate depreciation risk and preserve residual values. Third, enhance after-sales and financing programs that support long-term ownership of high-residual-value vehicles, such as extended warranties, battery-health guarantees, and flexible lease terms, thereby reinforcing brand equity and customer loyalty in a price-sensitive market.