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GLOBAL SMARTPHONE MARKET 2019–2029: REVENUE DYNAMICS, VOLATILITY DRIVERS AND DEVELOPMENT PROSPECTS

Abstract

This article presents a comprehensive analysis of global smartphone market dynamics for the period 2019–2029, based on data from Statista Consumer Market Insights (June 2024). Industry revenues are projected to grow from USD 453.70 billion in 2019 to USD 562.56 billion in 2029, corresponding to a compound annual growth rate (CAGR) of 2.17% over the full ten-year period and 3.77% during the forecast period 2024–2029. A key structural feature identified is the high volatility during 2019–2024, when years of decline (2020: –6.64%; 2022: –5.68%; 2024: –2.39%) alternated with years of growth, while the forecast period 2025–2029 anticipates stabilisation within a narrow range of 3.65–3.90%. The causes of volatility are systematised: the pandemic shock of 2020, pent-up demand and shifts in consumer behaviour in 2021, the inflationary correction of 2022, and market saturation in developed economies combined with premiumisation pressure in 2023–2024. Baseline, optimistic and pessimistic scenarios for industry development to 2029 are formulated.

Keywords: smartphone market, consumer electronics, mobile devices, industry revenue, CAGR, market volatility, premiumisation, market saturation, forecast modelling.

JEL Classification: L63; O33; F01

ГЛОБАЛЬНИЙ РИНОК СМАРТФОНІВ 2019–2029: ДИНАМІКА ДОХОДІВ, ЧИННИКИ ВОЛАТИЛЬНОСТІ ТА ПЕРСПЕКТИВИ РОЗВИТКУ

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Анотація

У статті здійснено комплексний аналіз динаміки глобального ринку смартфонів за період 2019–2029 років на основі даних Statista Consumer Market Insights (червень 2024). Виявлено принципову особливість досліджуваного ринку – його високу динамічність протягом 2019–2024 рр. За досліджуваний період обсяг доходів галузі зростає з 453,70 млрд доларів США у 2019 році до прогнозованих 562,56 млрд доларів у 2029 році, що відповідає середньорічному темпу приросту (CAGR) 2,17% за десятирічний період та 3,77% у прогнозованому періоді 2024–2029 рр. Виявлено принципову особливість досліджуваного ринку – його високу волатильність протягом 2019–2024 рр., коли роки спаду (2020: –6,64%; 2022: –5,68%; 2024: –2,39%) чергувалися з роками зростання, на тлі чого прогнозний період 2025–2029 рр. передбачає стабілізацію темпів у вузькому діапазоні 3,65–3,90%. Систематизовано причини волатильності: пандемічний шок 2020 року, відкладений попит та зміна споживчої поведінки 2021 року, інфляційна корекція 2022 року, насичення ринку розвинених країн та тиск преміумізації 2023–2024 рр. Сформульовано базовий, оптимістичний та песимістичний сценарії розвитку галузі до 2029 року.

Ключові слова: ринок смартфонів; споживча електроніка; доходи галузі; CAGR; ринкова волатильність; преміумізація; насичення ринку

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Introduction

The smartphone, as both a technological device and a consumer good, plays a role in the modern economy that is difficult to overestimate. Less than two decades after the launch of the first iPhone in January 2007, smartphones evolved from a niche product for technology enthusiasts into a universal tool for global communication. Today the smartphone is the primary gateway to the internet for the majority of humanity and a key channel for e-commerce and digital services (Vorobiova et al., 2023). According to various analytical centres, more than 6.8 billion smartphones were actively used worldwide in 2024, equivalent to approximately 84% of the global adult population.

The economic dimension of this phenomenon is exceptionally significant. The global smartphone market is one of the largest segments of contemporary consumer electronics, with annual revenues of USD 467–562 billion (as of 2024–2029). It encompasses a complex global value chain that includes tens of thousands of companies – from semiconductor and component manufacturers (TSMC, Samsung Electronics, SK hynix, Sony) to final brands (Apple, Samsung, Xiaomi, OPPO, vivo, Honor, Transsion), mobile operators and distribution platforms. In the broader context, the smartphone market underpins adjacent industries – mobile applications (App Store and Google Play, with annual volumes exceeding USD 200 billion), mobile advertising, mobile payments and mobile content.

The relevance of studying the dynamics of the global smartphone market is driven by several factors. First,

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the market is approaching saturation in key economies – the United States, the European Union, Japan and South Korea – compelling manufacturers and investors to rethink growth strategies. Second, the period 2019–2024 demonstrated unprecedented volatility – three of six years ended with revenue declines, which is atypical for a mature consumer industry. Third, the projected recovery of stable growth in 2025–2029 demands critical analysis: how well-founded is the optimism of analytical centres? Fourth, in the medium term the market will face fundamentally new challenges – from generative artificial intelligence as a new functional axis of smartphones to the potential emergence of post-smartphone form factors (AR glasses, brain-computer interfaces).

The objective of this article is to conduct a comprehensive analysis of the dynamics of the global smartphone market for the period 2019–2029, to identify patterns and distinctive features of industry development, to systematise the drivers of volatility, and to formulate a well-reasoned forecast of future prospects.

Literature review

The concept of a "smartphone" has several levels of definition – technical, functional and economic. Technically, a smartphone is defined as a mobile device that combines the functionality of a computer with the ability to make telephone calls. In this formulation (Statista, 2024), the key features are: a touchscreen display, a camera, internet connectivity, and an operating system that allows third-party applications to be downloaded and run. The smartphone is further characterised by a broad spectrum of additional functions.

Functionally, the smartphone today is not merely a phone with extended capabilities, but a universal digital companion that substitutes for an entire array of traditional devices and services: telephone, digital camera, media player, GPS navigator, ATM, wallet, e-reader, gaming console, torch, clock and remote control. Underlying this convergence is a fundamental pattern – the consolidation of formerly distinct consumer categories into a single device that becomes the primary interface of a person's digital life.

Economically, the smartphone is a distinctive commodity with several characteristic traits. First, high price differentiation: the market simultaneously encompasses devices priced from USD 50 to USD 2,000 (fully configured flagships). Second, a pronounced brand effect: brand premiums (particularly for Apple) can reach 100–200% compared with technically equivalent offerings from Chinese manufacturers. Third, a relatively short upgrade cycle – on average 2–4 years – which generates stable replacement demand. Fourth, high dependence on ecosystem effects: the choice of smartphone is often effectively the choice of an entire ecosystem (App Store / Google Play, iCloud / Google Drive, AirDrop / Quick Share), which creates significant lock-in power for manufacturers.

In the academic literature, the smartphone is classified as a durable good with elements of a platform good. Its uniqueness lies in the fact that the economic value of a smartphone for a consumer is largely determined not by the device itself, but by the ecosystem of applications and services accessible through it (Riabova, 2024). This creates a complex two-sided market dynamic in which smartphone manufacturers compete simultaneously for users (B2C) and for application developers (B2B), while the value of the device as a commodity is partially "embedded" in the value of the entire ecosystem.

Aims and Objectives

The aim of this article is to conduct a comprehensive quantitative analysis of the global smartphone market over the period 2019–2029 in order to identify long-term revenue trends, examine the nature and drivers of market volatility, and assess the plausibility of projected stabilisation and growth in the medium-term perspective.

To achieve this aim, the study pursues the following specific objectives:

1. To analyse the dynamics of global smartphone market revenues for the period 2019–2029 and to

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determine the overall growth trajectory of the industry.

2. To calculate and interpret key growth indicators, including annual growth rates and compound annual growth rate (CAGR), for both historical (2019–2024) and forecast (2025–2029) sub-periods.
3. To assess the degree of market volatility across different phases of industry development using statistical dispersion measures.
4. To systematise the main drivers of revenue volatility, with particular attention to macroeconomic shocks, technological cycles, demand-side shifts, and structural characteristics of a mature consumer electronics market.
5. To compare historical and forecast growth regimes in order to critically evaluate the transition from high volatility to projected stabilisation.
6. To formulate baseline, optimistic, and pessimistic scenarios for the development of the global smartphone market through 2029, taking into account technological, economic, and geopolitical uncertainties.

Methods

The Statista Consumer Market Insights data are based on a proprietary market assessment model combining top-down (macro-analytical) and bottom-up (aggregation of corporate and industry data) approaches. Information sources include: official financial reporting of listed sector companies; industry reports (IDC, Canalys, Counterpoint Research, GfK, IHS Markit); expert assessments and surveys of industry participants; and macroeconomic indicators that correlate with consumer demand.

Forecast values for 2025–2029 are generated on the basis of regression models that account for historical trends, demographic projections, expected changes in economic activity, technological innovations and the strategic plans of key players. Statista analysts note that the 2024–2029 forecast anticipates cumulative growth of USD 95 billion, or +20.32%, reaching a new peak of USD 562.56 billion in 2029.

The following methods are applied: 1) time-series analysis – to identify long-term trends and delineate sub-periods; 2) calculation of base and chain growth rates; 3) calculation of CAGR using the formula $CAGR = (V_{end}/V_{start})^{(1/n)} - 1$; 4) calculation of the coefficient of variation to assess volatility; 5) second-degree polynomial regression – to construct a trend curve; 6) graphical method – to visualise trends; 7) scenario modelling – for forecasting purposes.

The study has certain limitations. It rests on a single indicator – global industry revenue in US dollars – which is not disaggregated by geography, price segments, manufacturers or device types. The forecast nature of the 2025–2029 values introduces uncertainty, as actual data may be substantially revised under the influence of unforeseen events. Additionally, the study does not cover adjacent segments of the smartphone ecosystem (mobile applications, mobile advertising, mobile accessories).

Results

The global smartphone market can be segmented along several dimensions. By price range: the budget segment (entry-level, up to USD 200); the mid-range segment (USD 200–500); premium mid-range (USD 500–800); premium (USD 800–1,200); and ultra-premium (above USD 1,200, predominantly foldable devices and fully-configured flagships). The revenue distribution by price does not coincide with the distribution by unit volume: premium segments generate a higher share of revenue with a smaller share of unit shipments.

By operating system, there are two dominant blocks: iOS (Apple) and Android (numerous manufacturers, from Samsung to Chinese brands). Alternative systems – such as HarmonyOS from Huawei, KaiOS and Sailfish OS – hold a negligible market share. This binary operating system structure is one of the most stable features of the global market over the past decade.

By regional dimension: North America, Western Europe, Greater China (including Hong Kong and Taiwan), South Asia (India, Bangladesh), South-East Asia, Latin America, Africa and the Middle East. Each region has its own specifics – penetration rates, the prevailing price segment, dominant brands and regulatory characteristics. The markets of developed economies are largely saturated, and the main growth is occurring in emerging markets (India, Africa, Latin America).

By acquisition model: new devices, certified refurbished devices, and subscription models (smartphone-as-a-service). The last segment is growing rapidly, especially in Europe and the United States, where major operators (T-Mobile, Verizon) and ecosystem players (Apple iPhone Upgrade Program) offer monthly device subscriptions with regular upgrades.

An analysis of the global smartphone market dynamics over the ten-year period 2019–2029 allows several key structural features to be identified that fundamentally distinguish this industry from many other segments of the contemporary digital economy. The quantitative dynamics are illustrated in Figure 1.

Global Smartphones Market Revenue, 2019–2029

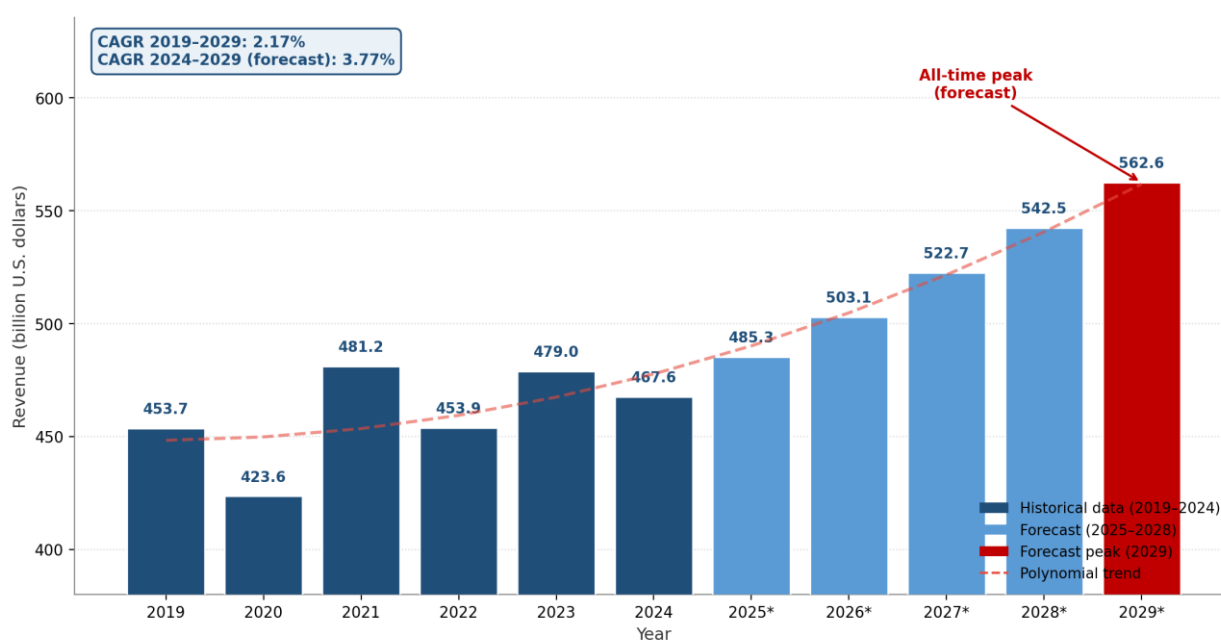


Figure 1. Global smartphone market dynamics, 2019–2029, USD billion

Source: compiled by the author based on Statista Consumer Market Insights (June 2024).

As Figure 1 shows, industry revenues will grow from USD 453.70 billion in 2019 to a projected USD 562.56 billion in 2029. The total increase over the ten-year period amounts to USD 108.86 billion, or 23.99% in relative terms. The compound annual growth rate (CAGR) for the full period equals 2.17% – a notably modest figure compared with other segments of the contemporary digital economy. For comparison: the artificial intelligence market is projected to grow at a CAGR of approximately 28% over 2020–2030; the cybersecurity market at 9.7%; and the influencer marketing market at over 30%.

The modest growth rates of the smartphone market reflect a fundamental characteristic of the industry – it is in the maturity phase. Whereas in 2007–2015 the market experienced exponential growth from a near-zero base to hundreds of billions of dollars, in 2019–2029 growth is constrained by two fundamental factors: 1) saturation of key markets (smartphone penetration in developed countries has exceeded 90%); and 2) lengthening of device upgrade cycles due to the diminishing significance of technological innovations between generations. Rather than buoyant growth driven by new users, the industry

increasingly operates within a replacement market.

The contrast between the historical and forecast periods is especially striking. In 2019–2024, the market demonstrated minimal growth – from USD 453.70 to USD 467.60 billion, or just 3.06% over five years (CAGR 0.60%). By contrast, the forecast period 2024–2029 projects growth from USD 467.60 to USD 562.56 billion – 20.31% (CAGR 3.77%). In other words, the projected growth rate is more than six times higher than the historical rate. This raises a key question: why should the market suddenly accelerate in 2025–2029 when it demonstrated stagnation in 2019–2024?

Statista justifies the forecast on several grounds: 1) the expected rollout of AI smartphones as a new upgrade trigger (Apple Intelligence, Galaxy AI, Pixel AI); 2) the expansion of 5G infrastructure in emerging markets; 3) the emergence of new form factors (foldables, rollables); 4) growth of developing markets (India, Africa, Latin America). The validity of these factors is examined in Section 7.

Table 1 – Quantitative characteristics of global smartphone market dynamics, 2019–2029

Year	Revenue (USD bn)	Abs. change (USD bn)	Rel. change (%)
2019	453.70	–	–
2020	423.59	–30.11	–6.64
2021	481.20	+57.61	+13.60
2022	453.88	–27.32	–5.68
2023	479.03	+25.15	+5.54
2024	467.60	–11.43	–2.39
2025*	485.34	+17.74	+3.79
2026*	503.06	+17.72	+3.65
2027*	522.67	+19.61	+3.90
2028*	542.47	+19.80	+3.79
2029*	562.56	+20.09	+3.70

Source: forecast values. Source: calculated by the author based on Statista Consumer Market Insights (2024)

While the analysis of absolute volumes indicates an overall progressive market growth, a detailed analysis of annual growth rates reveals a fundamentally important characteristic – the high volatility of the historical part of the period. The visualisation of annual growth rates is presented in Figure 2.

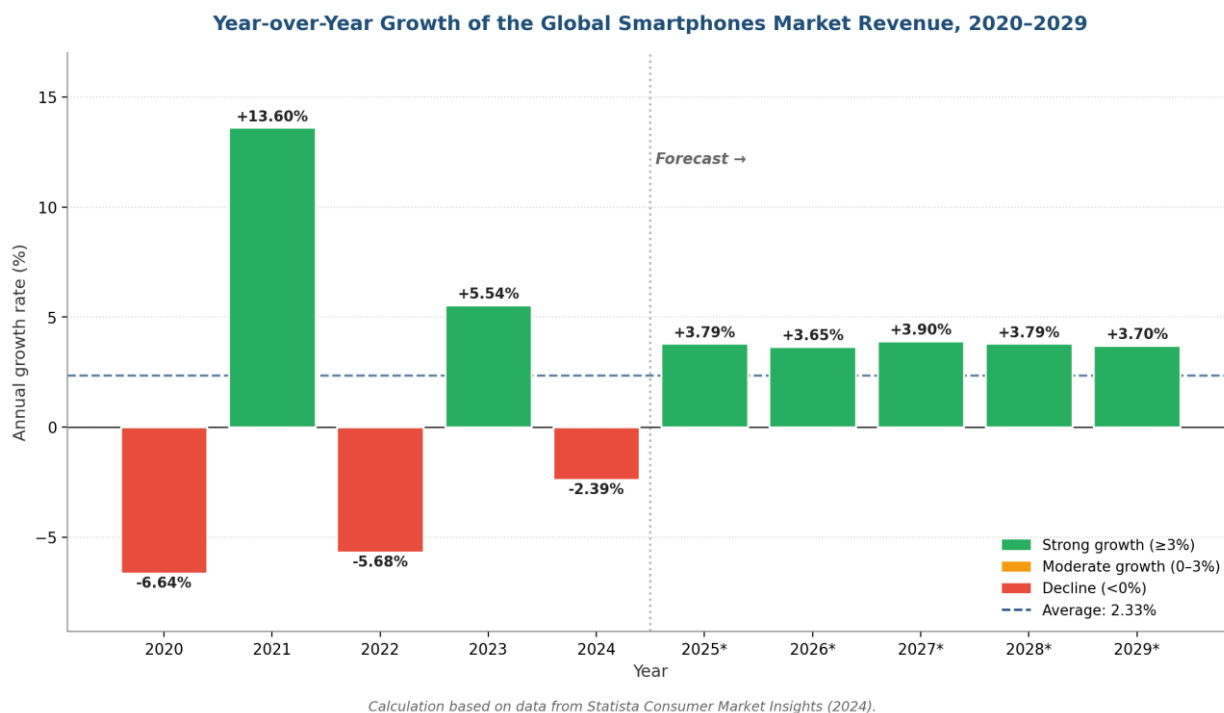


Figure 2. Annual growth rates of the global smartphone market, 2020–2029, %.

Source: compiled by the author based on Statista Consumer Market Insights (2024).

First, the historical period 2020–2024 demonstrates extreme volatility: three of the five years ended with revenue declines (2020: –6.64%; 2022: –5.68%; 2024: –2.39%), while the inter-crisis years 2021 and 2023 saw significant growth (+13.60% and +5.54% respectively). Such a pattern is atypical for a mature consumer industry, where growth rates normally fluctuate within a narrow range around the mean. The alternation of large positive and negative values indicates the impact of external shocks and a recovery-correction cycle.

Second, the most extreme year in absolute terms is 2021 with a reading of +13.60% – an unprecedented figure for the period that is not repeated in any other year of the study interval. This phenomenon is explained by the so-called "pent-up demand" – after the pandemic lockdown of 2020, when a significant proportion of consumers postponed device purchases, 2021 saw a mass return to the market, amplified by large-scale fiscal stimulus measures, accumulated savings and the expansion of remote work.

Third, the forecast period 2025–2029 presents a fundamentally different picture – stable growth rates within the narrow range of 3.65–3.90%. The standard deviation of growth rates in the forecast period is approximately 0.11 percentage points, compared with approximately 7.5 percentage points in the historical period (about 70 times higher). This difference warrants critical comment: either Statista analysts systematically underestimate the potential for future shocks, or they credibly anticipate a fundamental stabilisation of the industry following the end of the post-crisis period.

Fourth, the mean growth rate for the full ten-year period 2020–2029 is 2.33% – lower than the CAGR (2.17%), with the small discrepancy arising from the difference between arithmetic and geometric means. This indicates that even accounting for positive forecast values, the historical weakness of the market pulls the overall indicator downward.

Table 2 – Calculated volatility indicators of smartphone market growth rates

Sub-period	Mean (%)	YoY	Std. dev. (pp)	Coeff. variation	of	Min (%)	YoY	Max (%)	YoY
Historical (2020–2024)	+0.89		≈ 7.55	8.49		–6.64		+13.60	
Forecast (2025–2029)	+3.77		≈ 0.11	0.03		+3.65		+3.90	
Full period (2020–2029)	+2.33		≈ 5.49	2.36		–6.64		+13.60	

Source: calculated by the author

To systematise the identified trends, five functional-economic sub-periods can be delineated within the study range. The first is the pre-pandemic period (2019), when the market operated in a mode of progressive maturity. The second is the pandemic shock (2020), marked by a sharp decline in demand due to the closure of retail networks, supply chain disruptions and general economic uncertainty. The third is the post-pandemic recovery (2021), with record growth driven by pent-up demand. The fourth is the inflationary-correction phase (2022–2024), during which the market experienced repeated corrections against macroeconomic challenges. The fifth is the projected stabilisation phase (2025–2029), characterised by sustained moderate growth.

This periodisation raises several important research questions. Why did the post-pandemic recovery last only one year (2021), after which the market returned to volatile dynamics? Why did 2024 – despite ongoing 5G rollout and an active wave of AI functionality – end in a decline rather than growth? How realistic is the transition from chaotic historical dynamics to stable projected growth? These questions receive detailed consideration in the subsequent sections.

The 6.64% decline in global smartphone market revenues in 2020 (from USD 453.70 to USD 423.59 billion) is a direct consequence of the COVID-19 pandemic. The factors underlying this decline can be organised into three groups. The first is supply chain disruption: Chinese factories, which produce the vast majority of components and assemble finished devices, operated at only 30–50% capacity in the first quarter of 2020 due to lockdowns. This resulted in a physical shortage of smartphones on the market, particularly in the early months of the pandemic.

The second group of factors is demand-side. Global economic uncertainty, job losses (in the United States alone, unemployment rose from 3.5% to 14.7% in April 2020), falling incomes and diminished consumer confidence led consumers to postpone non-essential purchases, including smartphone upgrades. The premium device segment proved especially sensitive: iPhone sales in the second quarter of 2020 fell 6.7% compared with the same quarter of 2019. By contrast, the Xiaomi budget segment demonstrated relative stability.

The third group involves the closure of distribution channels. Physical retail stores, which remained the primary channel for smartphone sales (especially in emerging markets), were shut for weeks and, in some regions, for months. While online sales partially offset these losses, the importance of the tactile pre-purchase experience for smartphones proved significant – a complete migration of sales to online channels did not occur.

The 13.60% growth in the market in 2021 (from USD 423.59 to USD 481.20 billion) – the highest figure

over the entire study period – is the result of several simultaneous factors. First, the restoration of supply chains and the return to full production capacity. Second, the realisation of pent-up demand: consumers who had deferred device upgrades in 2020 returned to purchasing in 2021. Third, large-scale fiscal stimulus packages and cash payments in many countries (notably stimulus cheques in the United States) temporarily increased household disposable income.

Fourth, the rollout of 5G smartphones played an important role. In 2020, 5G models were only entering the market and represented an insignificant share (approximately 17% of shipments), but by 2021 they had become a mass-market product (approximately 39% of shipments). The transition to 5G became a powerful upgrade trigger for technology-oriented consumers. Fifth, the spread of remote working generated new sustained demand for powerful mobile devices – with high-quality cameras for video conferencing and advanced productivity tools.

The role of premiumisation as a structural trend should also be noted. In 2021, the average smartphone price rose 8.5% – partly due to component cost inflation and partly due to a demand shift towards more expensive models. Premiumisation is a fundamentally important mechanism for increasing industry revenues when unit shipment growth is limited: if fewer units are sold but each commands a higher price, total revenue can still grow.

The 5.68% decline in 2022 (from USD 481.20 to USD 453.88 billion) reflects the transition of the global economy from post-pandemic recovery to an inflationary crisis. The rapid rise in consumer prices across most major economies (US inflation reached 9.1% in June 2022; eurozone inflation reached 10.6% in October 2022) and subsequent interest rate increases by central banks dealt a significant blow to household discretionary spending. Specifically, the US Federal Reserve raised its rate from 0.25% to 4.5% over the course of 2022 alone. The smartphone, as a durable consumer good that is not a necessity, is particularly sensitive to such cycles.

The impact of the Russia–Ukraine war, which began in February 2022, should be noted separately. The war caused: 1) an energy crisis in Europe that further elevated inflation; 2) rising prices for commodities critical to electronics production (nickel, palladium, neon); 3) the withdrawal or restriction of activities by many smartphone brands in the Russian market (Samsung, Apple and Sony restricted official sales); 4) general geopolitical uncertainty that depressed consumer confidence. According to IDC estimates, the Russian market alone lost approximately 3 million units of smartphone shipments in 2022.

The dynamics of 2023–2024 illustrate another characteristic feature of the industry – the two-phase "recovery-correction" logic. The growth of 2023 (+5.54%) partly reflected adaptation to the new inflationary environment and another round of pent-up demand realisation. However, by 2024 the market was again in decline (–2.39%), albeit considerably less severe than in 2020 and 2022.

The 2024 decline is a particularly interesting phenomenon, as it occurred against the backdrop of active marketing of AI smartphones (Apple Intelligence, Samsung Galaxy AI, Google Pixel AI) and the continued rollout of 5G infrastructure. Why did the AI factor not trigger a wave of device upgrades, as 5G did in 2021? Possible explanations include: 1) the insufficient quality and functionality of first-generation AI features (often perceived as a marketing gimmick); 2) the growing memory and processing power requirements for AI features, which raised prices without a proportionate increase in perceived value (Ramya & Rao, 2024); 3) saturation of key developed markets – consumers with a 2021–2022 smartphone with a powerful processor and adequate memory see insufficient reason to upgrade.

An alternative explanation is that 2024 proved to be a specific transitional period, during which the market "paused" between upgrade cycles, awaiting the maturation of AI functionality. If this hypothesis is confirmed, the Statista forecast of stable 3.65–3.90% growth in 2025–2029 is realistic; if not, actual growth may fall short of the projection.

Understanding revenue dynamics requires analysis of its two components: unit shipment volume and

average selling price (ASP). Revenue change = volume change $\times$ price change, so the same absolute revenue figure can result from very different structural combinations.

According to IDC and Counterpoint Research, global smartphone shipments were approximately 1.37 billion units in 2019; approximately 1.29 billion in 2020 (–5.8%); 1.36 billion in 2021 (+5.4%); 1.21 billion in 2022 (–11.2%); 1.17 billion in 2023 (–4.2%); and approximately 1.24 billion in 2024 (+6.2%, estimated). Shipment dynamics are even less favourable than revenue dynamics – over 2019–2024, shipments declined by approximately 9–10%, while revenue fell by only 1.3%. This indicates the active operation of the price factor.

The global average smartphone price rose from approximately USD 331 in 2019 to approximately USD 377 in 2024 – an increase of approximately 14% over five years. This reflects several trends: 1) premiumisation of demand – consumers prefer more expensive models even if they buy less frequently; 2) rising component costs (especially chips and OLED displays); 3) inflation; 4) a declining share of budget feature-phone substitutes that had previously diluted the statistics.

The premiumisation effect merits separate attention. Apple, which generates revenue predominantly from high-priced iPhones, held approximately 18% of unit shipment volume in 2023 but approximately 47% of industry revenue. Similarly, Samsung Galaxy S/Note/Fold series and Chinese flagships (Xiaomi 14 Ultra, OPPO Find X, vivo X) generate a disproportionately large share of revenue. Premiumisation has become the key strategy for manufacturers in an environment of limited volume growth.

By region, Asia accounts for the largest share of shipment volume (approximately 50% of global shipments in 2024), followed by Europe (15%), North America (13%), Latin America (8%), and Africa and the Middle East (14%). In terms of revenue, the structure shifts in favour of developed markets: North America and Europe together generate approximately 45% of global revenue with only 28% of shipment volume – a consequence of higher average prices in these regions.

India is the key region for prospective growth – the second largest market by shipment volume globally (approximately 153 million units in 2023) with the fastest growth rates. In 2023, the average smartphone price in India was approximately USD 248, but over the past three years it has risen by 30%, reflecting the global premiumisation trend even in developing economies.

Beyond the geographic and price dimensions, the sales channel structure is an important aspect of demand. In countries with developed digital infrastructure (China, South Korea, Scandinavia), the online sales share reaches 40–50%, while in developing economies (Africa, parts of Latin America) it remains at 15–20%. The global average in 2024 was approximately 30%, with a tendency towards slow but sustained growth of the online channel share.

A distinctive channel is the direct-to-consumer (D2C) model, actively developed by all major brands. Apple Store, Samsung Experience Store and Mi Home are not merely retail outlets but brand experience spaces where customers can try the product, receive consultation and use after-sales services. This model provides manufacturers with higher margins and deeper control over the customer experience, but requires substantial capital investment.

A third important category is the carrier sales channel – where smartphones are sold bundled with a mobile operator tariff plan. In the United States, approximately 70% of iPhone sales are made through the carrier channel (AT&T, Verizon, T-Mobile); in Europe the share is lower (approximately 35–40%); and in developing countries it is minimal. Carrier channels create a "hidden subsidy" effect – the consumer perceives the smartphone as "free", while in fact paying for it through the tariff plan over 24–36 months.

The competitive structure of the global smartphone market has evolved considerably over the past decade, but in the 2020s has stabilised around a limited number of powerful players. Six companies – Apple, Samsung, Xiaomi, OPPO, vivo and Transsion (brands Tecno, Itel, Infinix) – together control over 75% of global shipments and approximately 80% of industry revenues.

Apple is the undisputed leader by industry revenue and simultaneously one of the leaders by shipment volume (approximately 18% in 2024). Apple's unique characteristic is its exclusive focus on the premium segment – the cheapest iPhone (SE series) costs approximately USD 429, while the top-of-the-range iPhone Pro Max exceeds USD 1,200. Through this strategy, Apple generates approximately 50% of global industry revenues on 18% of shipment volume. iPhone users have significantly higher retention rates (over 90%) and are less likely to switch to other brands.

Strategically, Apple pursues a policy of regular price increases: the average iPhone price rose from approximately USD 760 in 2020 to approximately USD 880 in 2024. The launch of the iPhone 16 Pro Max at a starting price of USD 1,199 and the subsequent introduction of a foldable iPhone (expected in 2026–2027) continues this strategy. Apple launched Apple Intelligence in 2024, positioned as the primary upgrade driver for existing users.

Samsung is the traditional leader by shipment volume (approximately 19–20% in 2024) and simultaneously the second-largest player by industry revenue (approximately 18%). Samsung's strategy is to be present across all price segments, from budget Galaxy A models to the premium Galaxy S, Note, Fold and Flip lines. Samsung actively develops the foldable smartphone niche – the Galaxy Z Fold/Flip series – which accounts for approximately 5% of the company's revenue but is growing rapidly.

In 2024, Samsung introduced Galaxy AI as an integrated AI functionality suite in the Galaxy S24 series. Samsung's strategy is to position AI not as a premium add-on, but as a standard feature across the entire flagship lineup.

Chinese manufacturers collectively control over 35% of global shipments and approximately 25% of industry revenues. Xiaomi (approximately 13% of shipments in 2024) is the largest among them – the company is intensively expanding into European, Latin American and MENA markets, gradually strengthening its presence in the premium segment (Xiaomi 14 Ultra, Pad/Watch series). OPPO and vivo (approximately 8–10% of shipments each) have historically been strong in China and South-East Asia but are actively expanding globally. Honor (spun off from Huawei in 2020) focuses on the mid-to-premium segment.

The absence of Huawei from the top 5 global smartphone manufacturers is a consequence of US sanctions in 2019–2022, which restricted access to American technologies (Google services, Qualcomm chips). In 2023–2024 Huawei partially restored its position thanks to the development of proprietary chips (Kirin 9000s) and HarmonyOS. In China, the company firmly holds 15–18% of the market and is actively expanding its presence in partner countries.

Transsion Holdings (brands Tecno, Itel, Infinix) is a Chinese company with a unique positioning: a focus on African markets, where it holds over 40% share. Transsion develops devices that account for the specific requirements of the African market (high-capacity batteries for regions with unreliable electricity supply, enhanced camera algorithms for dark skin tones, localised languages). In 2024, the company entered the top 5 global manufacturers by shipment volume (approximately 9%) – a telling case of how specialisation in "neglected" markets can create a globally significant player.

The remaining 20–25% of industry revenues are distributed among dozens of marginal and niche players. These include: Motorola (a Lenovo division, approximately 4% of shipments with a notable presence in Latin America); Sony (the niche premium Xperia line, oriented towards cinema and photography enthusiasts); Nothing (a young British brand founded by Carl Pei, with an emphasis on design and transparency); Nokia HMD Global (a revival of the legendary brand with emphasis on longevity and the right to repair); ASUS ROG Phone (the gaming segment); and Fairphone (an ecological niche player focused on reparability).

Further growth of the global smartphone market in the medium term depends to a large extent on technological innovations capable of stimulating device upgrades among existing users.

AI functionality is the most actively promoted trend in 2024–2026. Apple Intelligence, Samsung Galaxy AI and Google Pixel AI promise to transform the smartphone from a "smart phone" into a "personal AI agent". Key functions include: personal assistants (generative search, contextual assistance); text processing (summarisation, rewriting, translation); image processing (generation, editing, object removal); and creative tools (video generation, animation). Technologically, this requires powerful neural processing units (NPUs) within the chip – the consequence being that AI features are effectively available only on the latest flagship models, which turns AI into a tool for driving premiumisation.

However, actual demand for AI features remains unclear. Surveys show that more than 60% of users noticed no change in their daily smartphone usage after the introduction of AI features. Only 18% actively use the AI assistant more than once a week. This creates uncertainty: will AI truly become a powerful device upgrade trigger, or will it remain a marketing technique without a perceptible impact on consumer behaviour?

Foldable smartphones (Galaxy Z Fold/Flip, Pixel Fold, Honor Magic V, Huawei Mate X, Xiaomi MIX Fold) offer a fundamentally new form factor: a large screen in a compact body. In 2024, global foldable device shipments exceeded 25 million units (approximately 2% of all smartphones), with projections of reaching 50–60 million by 2027. High prices (USD 1,000 to USD 2,500) make the foldable segment one of the key drivers of revenue growth in the industry without a proportionate increase in volumes.

The rollout of 5G networks in the vast majority of developed countries is essentially complete (over 80% coverage in the United States, South Korea, China and Japan as of 2024). In developing countries, 5G continues to roll out, which creates an additional upgrade trigger. The first 6G pilot networks are expected in 2028–2030, but mass adoption will only occur after 2030. Thus, within the 2024–2029 horizon, 5G remains a relevant factor but no longer carries the dramatic novelty that it did in 2020–2022.

Other technological drivers worth mentioning include: advances in photo and video systems (telephoto lenses with 10× optical zoom, AI processing); satellite connectivity for emergency messaging (iPhone Emergency SOS, Galaxy S25 Satellite Connectivity); next-generation biometric identification (under-display Face ID, voice and behavioural biometrics); fast charging (over 200 W in the Xiaomi 14 Pro); ecological materials (recycled aluminium, bio-based polymers); and reparability as a regulatory requirement (notably the EU's right-to-repair rules).

Formulating a final forecast for the development of the global smartphone market to 2029 requires a systematic review of both the opportunities and the risks facing the industry.

Baseline Scenario (consistent with Statista's forecast)

The baseline scenario assumes the realisation of Statista's projection – reaching USD 562.56 billion by 2029, with a CAGR of 3.77% in the forecast period. The preconditions for this scenario are: the successful commercialisation of AI functionality stimulating a new upgrade wave; the continuation of demand premiumisation; growing sales of foldable devices; moderate expansion into emerging markets (especially India and Africa); and the absence of new global shock events (a new pandemic, full-scale wars, financial crises).

Optimistic Scenario (USD 600–650 bn by 2029)

The optimistic scenario envisages an acceleration of growth to a CAGR of 5–7% in the forecast period, with revenues reaching USD 600–650 billion by 2029. This scenario materialises if: AI functionality truly becomes a "killer feature" compelling billions of users to upgrade devices; foldable smartphones explosively expand their share to 10–15% of shipments at a high price premium; fundamentally new form factors emerge (AR glasses as a complement to, rather than a replacement for, smartphones); and the Indian market grows faster than expected, delivering an additional 50–100 million shipments per year.

Pessimistic Scenario (USD 470–510 bn by 2029)

The pessimistic scenario envisages a continuation of stagnation or a recurrence of the volatility seen in the

historical period – reaching only USD 470–510 billion by 2029. This scenario materialises if: AI functionality proves overrated; new form factors (foldables, rollables) remain niche due to high prices and limited reliability; a global economic recession reduces discretionary spending; geopolitical shocks (war between major powers, new sanctions) destabilise global supply chains; and post-smartphone form factors (AR/VR headsets, neural-computer interfaces) begin substituting traditional smartphones.

Structural Challenges of the Industry

Beyond the triggers of a specific scenario, the industry faces several structural challenges. The first is the saturation of core markets: in developed countries it is nearly impossible to attract new users, as almost everyone already owns a smartphone. Growth can come only from: 1) increasing the average price (premiumisation has limits); 2) shortening the upgrade cycle (which is currently moving in the opposite direction); 3) expanding the product line through accessories (smartwatches, earphones, glasses). The second challenge is regulatory pressure: EU right-to-repair rules, the USB-C standard and open App Store alternatives (Digital Markets Act) reduce margins and complicate business models. The third is geopolitical tension between the United States and China, which threatens the integrity of global supply chains.

Prospects for Ukraine

For Ukraine, the smartphone market represents predominantly a consumer dimension, as the country has no domestic manufacturers of mobile devices at a global scale (Zhytar, 2024). However, the Ukrainian IT industry is actively integrated into the mobile application ecosystem – numerous Ukrainian developers work in the areas of mobile apps, smartphone games and mobile-first services. In the post-war perspective, an important direction may be the development of a domestic mobile identification and payment ecosystem ("Diia" is already one of the world leaders in this segment) and services for global manufacturers – from UI/UX design to mobile application security.

Discussion

The findings of this study contribute to the broader debate on the maturation trajectories of consumer electronics markets and warrant comparison with adjacent academic and industry literature. The identified CAGR of 2.17% over 2019–2029 confirms the conceptualisation of the smartphone industry as a saturated durable-goods market rather than a high-growth digital segment. This positions the smartphone market in clear contrast to revenue-adjacent ecosystems – such as mobile applications and AI services – which continue to grow at double-digit rates. The implication is structurally important: the locus of value creation in mobile economy is gradually shifting from hardware to services and ecosystems, a thesis consistent with the platform-good interpretation discussed in the literature review.

A central analytical question raised by the data concerns the legitimacy of the projected regime change between 2024 and 2025. The historical sub-period exhibits a coefficient of variation of 8.49, while the forecast sub-period collapses to 0.03 — a discrepancy that cannot be explained by ordinary cyclical smoothing. Three interpretations merit consideration. First, the Statista projection may reflect a methodological artefact: regression-based models calibrated on long-run trends tend to underweight tail risks and produce smoothed trajectories that systematically exclude shocks. Second, the projection may capture a genuine structural transition, in which the post-pandemic adjustment cycle has exhausted itself and the industry is reverting to a steady-state replacement-driven equilibrium. Third, the smoothness may reflect a deliberate baseline assumption — that no major exogenous shock will occur — rather than a probabilistic forecast. The empirical record of 2019–2024, which contains three negative years, suggests that the first and third interpretations are more plausible than the second.

The role of premiumisation deserves further critical scrutiny. The data demonstrate that revenue resilience over 2019–2024 was sustained primarily through average selling price growth (+14%) compensating for shipment contraction ($\approx -9\%$). This mechanism, however, has natural limits: consumer willingness to absorb continued price increases is bounded by income elasticity, and survey evidence on the limited

adoption of AI features (only 18% active weekly use) suggests that the perceived value-added of premium devices may be plateauing. If premiumisation decelerates without a corresponding rebound in unit shipments, the baseline forecast of 3.77% CAGR becomes structurally fragile.

The findings also intersect with the literature on technology adoption cycles. The 2021 spike (+13.60%) corresponds to a textbook case of pent-up demand combined with a generational technology transition (5G), whereas the 2024 decline despite active AI marketing suggests that not every technological novelty functions as an upgrade trigger. This asymmetry — between infrastructure-level innovations (5G, which expanded the functional envelope of devices) and feature-level innovations (on-device AI, which extends existing capabilities) — has theoretical implications for understanding what constitutes a "killer feature" in mature markets.

Finally, the study's scenario analysis highlights an underappreciated risk: the potential emergence of post-smartphone form factors. While AR glasses and neural interfaces remain commercially marginal in the 2024–2029 horizon, their gradual maturation could fundamentally alter the demand trajectory beyond 2029, paralleling the smartphone's own displacement of feature phones in 2007–2015. This consideration suggests that the industry's medium-term stabilisation, if realised, may itself be a transitional phase preceding a more profound structural reconfiguration of personal computing.

Conclusions

The analysis conducted allows the following main conclusions to be formulated.

1. The global smartphone market over the period 2019–2029 demonstrates revenue growth from USD 453.70 billion to a projected USD 562.56 billion. The cumulative increase amounts to USD 108.86 billion (+23.99%), with a CAGR of 2.17%. These are notably modest rates compared with other segments of the digital economy, indicating that the industry is in the maturity phase.
2. The defining characteristic of the historical period 2019–2024 is high volatility: three of the six years ended with revenue declines (2020: -6.64%; 2022: -5.68%; 2024: -2.39%), while the inter-crisis years delivered significant growth (2021: +13.60%; 2023: +5.54%). The standard deviation of growth rates in the historical period (≈ 7.55 pp) is more than 70 times greater than the corresponding figure for the forecast period.
3. The drivers of volatility in the historical period include: the pandemic shock of 2020 (supply chain disruptions, demand decline, retail closures); the post-pandemic recovery of 2021 (pent-up demand, fiscal stimulus, the transition to 5G); the inflationary correction of 2022 (price increases, compression of discretionary spending, the war in Ukraine); and the "recovery-correction" cycle of 2023–2024.
4. The forecast period 2025–2029 projects stable growth rates within the narrow range of 3.65–3.90% with a CAGR of 3.77%. Such a sharp change in dynamic regime warrants critical interpretation: Statista analysts may either systematically underestimate the risks of future shocks, or realistically anticipate a fundamental stabilisation of the industry following the end of the post-crisis period.
5. Structurally, revenue dynamics are shaped by the interaction of two components: shipment volumes (1.17–1.37 billion units per year with a tendency to fluctuate) and average price (growth from USD 331 in 2019 to USD 377 in 2024, +14% over five years). Premiumisation of demand is the key mechanism for increasing industry revenues when volume growth is constrained.
6. The competitive structure of the market is characterised by high concentration: six companies (Apple, Samsung, Xiaomi, OPPO, vivo, Transsion) control over 75% of global shipments and approximately 80% of industry revenues. Apple is the undisputed revenue leader (approximately 50% of industry revenue on 18% of shipment volume) owing to its exclusive concentration in the premium segment.
7. Technological growth drivers in the medium-term perspective include: on-device AI functionality (Apple Intelligence, Galaxy AI); foldable devices (Samsung Z Fold/Flip, Pixel Fold); the continued rollout of 5G in developing countries; advances in photo and video systems; and integration with wearable electronics.

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8. The scenario forecast for industry development to 2029 encompasses: a baseline scenario (USD 562.56 bn, CAGR 3.77%); an optimistic scenario (USD 600–650 bn on success of AI and foldables); and a pessimistic scenario (USD 470–510 bn under conditions of stagnation or shocks). The baseline scenario is realistic in the absence of major macroeconomic upheavals.

9. Structural challenges include: saturation of the core developed markets; regulatory pressure (DMA in the EU, right to repair, USB-C); geopolitical tension between the United States and China; and the potential emergence of post-smartphone form factors.

Directions for Further Research. Promising directions for further research include: 1) a deeper analysis of regional market segments (India, Africa, South-East Asia) with an assessment of their potential for global growth; 2) quantitative modelling of the impact of AI functionality on device upgrade cycles; 3) an examination of the economics of foldable smartphones and potential post-smartphone form factors; 4) an analysis of the effects of EU regulatory reforms (DMA, right to repair) on business models and manufacturer margins; 5) an assessment of Ukraine's role as a mobile development hub for global smartphone manufacturers.

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ADDITIONAL INFORMATION

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