



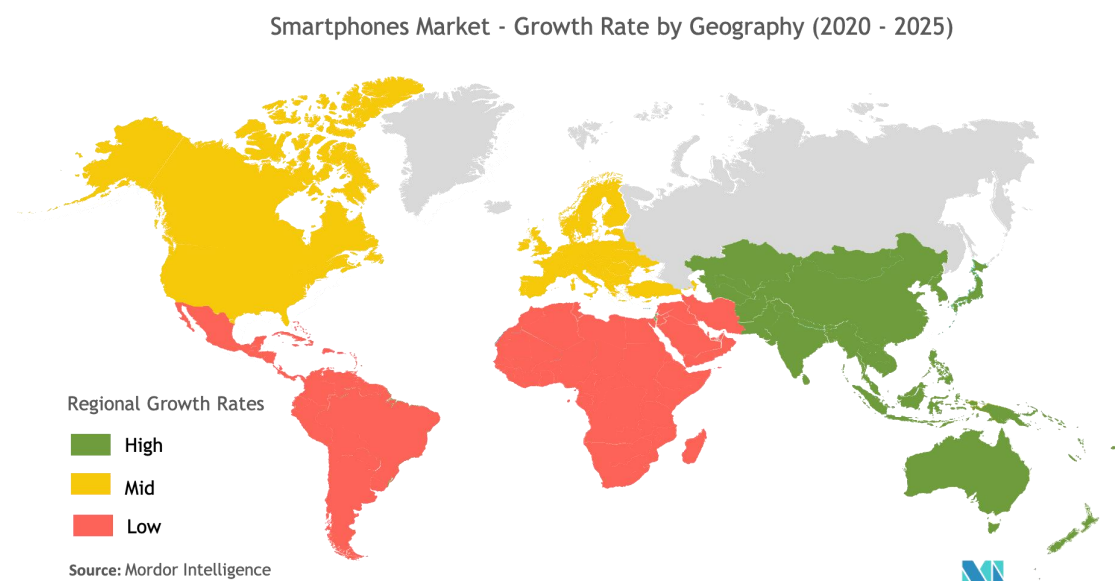
World Economics Cup 2020
Thinking and Innovation

Topic: Booming Smartphone Industry

Topic Introduction

The smartphone industry was valued at \$714.96 billion in 2019 and is expected to reach \$1351.8 billion by 2025, at a CAGR of 11.2% over the forecast period 2020 - 2025. Increased consumer spending across regions has driven the sales of Smartphone markers for years. The growth of the market is, however, plateauing, considering intense penetration levels. For instance, 91% of U.S. households own smartphones and are packed with vital features at different price points.

Figure 1 Global Smartphones Market – Growth Rate by Geography (2020-2025)



Regarding the players in the market, according to IDC, Table 1 shows the market share of leading smartphone brands since 2018. We may see that:

- Huawei reached to the first position with 20.2% share of the global smartphone market despite a decline in shipments of 5.1% year over year in the quarter, mostly due to its exceptional growth in China in the mid-range and high end segments.
- Samsung closed at second position with a global market share of 19.5% to reach 54 million units, though decline of 29.1% YoY.
- Apple came at a third position with 37.6 million iPhones and reported a growth of 11.1% YoY in 2020Q1. The timely launch of the new SE (2020) & iPhone 11 series continued to help drive the growth for the vendor. The new iPhone 12 in October 2020 marked Apple's entry in the world of 5G & challenge Android 5G devices.

Table 1 Market Share of Leading Smartphone Brands (2018Q2-2020Q2)

Quarter	2018Q2	2018Q3	2018Q4	2019Q1	2019Q2	2019Q3	2019Q4	2020Q1	2020Q2
Huawei	15,9%	14,6%	16,2%	18,9%	17,7%	18,6%	15,2%	17,8%	20,2%
Samsung	21,0%	20,3%	18,8%	23,0%	23,0%	21,8%	18,8%	21,2%	19,5%
Apple	12,1%	13,2%	18,3%	11,8%	10,2%	13,0%	19,9%	13,3%	13,6%
Xiaomi	9,5%	9,5%	6,7%	8,9%	9,7%	9,1%	8,9%	10,7%	10,3%
OPPO	8,6%	8,4%	7,9%	7,4%	8,9%	8,7%	8,3%	8,3%	8,7%
Others	32,9%	34,0%	32,0%	30,0%	30,5%	28,8%	28,9%	28,7%	27,8%
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: International Data Corporation (IDC)

Due to the outbreak of COVID-19, smartphone shipments saw a declining stage as countries are still dealing with the pandemic. According to a report, there is a 15.7% decline year-on-year in unit shipments from 331.8 million in Q2/2019 to 279.7 million in Q2/2020. However, 5G handsets and foldable phones are likely to provide the smartphone companies with new opportunities. For instance, according to Ericsson, the number of mobile 5G subscriptions in North America will reach 3.25 million in 2020 compared to 3 million in 2019.

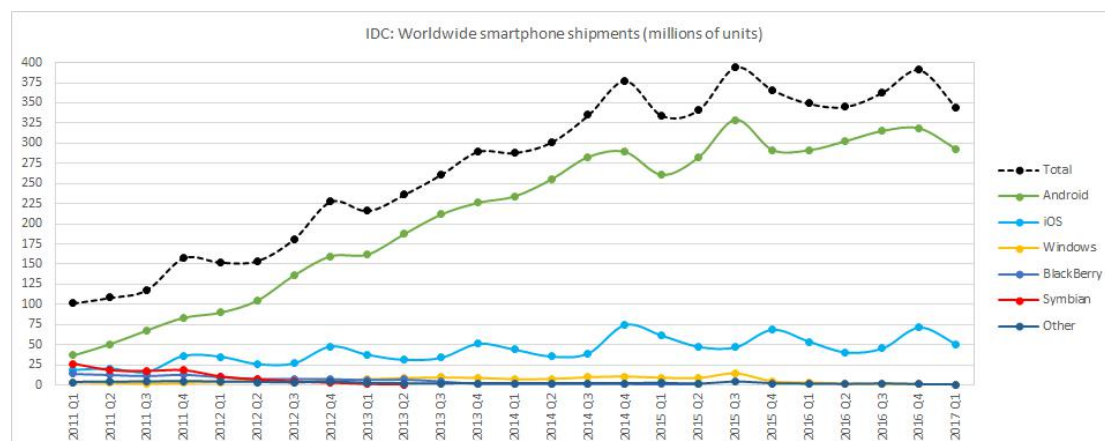
Free-Response Questions

[Short answer] 15p

- 1) When quantity demanded is equal to quantity supplied, there is market equilibrium. Now we suppose that there will be a higher demand for smartphone in 2021, there will appear an improvement in technology for smartphone in 2021, and meanwhile some small smartphone companies will be driven out of the market. **Analyze how the market equilibrium will change in these cases and illustrate with graphs.**

[Short answer] 15p

- 2) An example of the oligopoly market structure is the industry of smartphone operating system. Apple and Google, selling the same product of a mobile operating system (iOS and Android respectively), dominate the operating system market (see the chart below). **Explain the characteristics of oligopoly, and explain why it is hard for Apple and Google to form and maintain cartels (an agreement between firms in an industry to take actions to limit competition).**



Source: International Data Corporation (IDC)

[Short answer] 20p

- 3) Smartphone consumers must have different price elasticity of demand (PEDs) for the good. Third-degree price discrimination is based on the principle that different consumer groups have different price elasticity of demand for a product. **Draw graphs to illustrate Apple's profit-maximizing strategy in third-degree price discrimination, and briefly discuss the effects of price discrimination.**

[Problem-Solving] 100p

- 4) Some major factors, such as the outbreak of COVID-19, the application of 5G technology in smartphone, reform in corporate taxation, etc. are all likely to bring a possible major reshuffle to the whole industry. **In terms of policy making, please propose three solutions to promote the further development of the smartphone industry and truly associate the technology with people's better life.** Please demonstrate with economic theories you learnt and logic reasoning.