

# The Effect of COVID-19 on High-Tech Industry of China

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## ABSTRACT

COVID-19 causes damage to the world in various aspects especially in the market of high-tech, an industry that is supposed to have a bright future. In order to indicate a real situation China faced during the pandemic, this paper uses two examples and their financial performance to point out the recession Chinese high-tech industry faced during the pandemic and attempts to find out whether there are opportunities in the pandemic. Data and information contained in this research are mainly obtained from annual official reports, which accurately illustrate the change at the same portion of a year, and the statement will be much clear to the public. By comparing the data of tables, this study presents the argument directly and instructs what the high-tech industry in China faced afterwards.

**Keywords:** COVID-19, high-tech industry, Huawei, Alibaba

## 1. INTRODUCTION

COVID-19 strikes the global market in the beginning of 2020. By the time this passage was written, there had been 660,000 people infected currently and 24,000,000 people infected of all time worldwide, as a result of which, countries had come up with various methods to stabilize the domestic situation: isolation policies, shut down policies, mask policies. Everything countries made aimed to control the flow of people and decrease citizens' rate of going out, which were effective in controlling the spread of disease. However, obvious problems remained during the process. As a result of avoid human aggregation, decrease in production and the higher unemployment rate coexisted with those solutions. High-tech industries, one of the industries that stimulate the growth of country economy is a core factor to determine a country's integrated abilities, were greatly affected by the pandemic[1].

Analyzing the situation of high-tech industries will provide the opportunities and challenge, which means that the core industry will be limp while facing difficulties. Since COVID-19 first widely spread in China, there had already raised significant influences throughout high-tech industry: pause in the designing process and stagnation in research and innovation. Nowadays the country has already entered the phase of recession during the business cycle and the passage will analyze the circumstances and provides solutions[2].

This paper will firstly introduce the global market of high-tech under the outbreak of COVID-19 by stating data and news from the internet. Then the article will shift the focus from the globe to high-tech industries in China. The paper will mainly use two examples of the largest high-tech and Internet companies: Huawei and Alibaba to further explain the challenge faced in China and the opportunities. By utilizing comparison, the passage concludes that how the pandemic provided opportunities and difficulties for high-tech industries in China.

## 2. THE EFFECT OF THE PANDEMIC ON THE GLOBAL ECONOMY

To begin with, in order to analyze a country's specific industry, one has to first understand the global situation. From the distribution of COVID-19 firstly occurred in China, the circumstance has always been severe. Even though some countries had themselves controlled, some of them still got the second rebound of infected people. Consequently, the globe was influenced continuously and had not recovered from the pandemic. This pandemic has caused negative effects in various aspects, especially the economy. According to economic effects of coronavirus outbreak (COVID-19) on the world economy, every industry got involved and the damage to the economy was the most significant even though put it into history[3]. Table 1 shows the impacts of this pandemic on different countries' GDP[4].

**Table 1.** The impacts of this pandemic on different countries' GDP

	<b>Growth in GDP</b>	<b>confidence margin</b>
Argentina	-5.0%	[from -6.4% to -3.7%]
Australia	-2.2%	[from -3.6% to -0.8%]
Austria	-3.8%	[from -5.4% to -2.2%]
Belgium	-3.0%	[from -4.7% to -1.3%]
Brazil	-1.9%	[from -3.2% to -0.6%]
Canada	-2.1%	[from -3.5% to -0.7%]
China	1.6%	[from 0.2% to 2.9%]
Czech Republic	-2.0%	[from -3.7% to -0.3%]
France	-3.0%	[from -4.5% to -1.6%]
Germany	-3.5%	[from -5.1% to -2.0%]
Greece	-3.9%	[from -5.5% to -2.4%]
India	3.1%	[from 1.7% to 4.3%]
Ireland	-1.3%	[from -3.3% to 0.7%]
Italy	-4.5%	[from -5.9% to -3.0%]
Japan	-3.1%	[from -4.5% to -1.9%]
Mexico	-4.1%	[from -5.6% to -2.6%]
Netherlands	-2.6%	[from -4.3% to -0.9%]
Norway	-2.0%	[from -3.5% to -0.5%]
Poland	-0.8%	[from -2.3% to 0.7%]
Portugal	-4.3%	[from -5.9% to -2.8%]
Russian Federation	-1.7%	[from -3.1% to -0.4%]
Saudi Arabia	-2.2%	[from -3.7% to -0.8%]
South Africa	-3.2%	[from -4.6% to -1.8%]
South Korea	-1.6%	[from -3.0% to -0.1%]
Spain	-3.4%	[from -4.9% to -1.9%]
Sweden	-3.1%	[from -4.6% to -1.6%]
Switzerland	-3.3%	[from -5.0% to -1.7%]
Turkey	-1.7%	[from -3.1% to -0.3%]
United Kingdom	-3.1%	[from -4.5% to -1.7%]
United States	-1.7%	[from -3.0% to -0.4%]

As one of the industries in the huge global market, high-tech industry definitely injured during this pandemic: Foxconn, the largest electronics manufacture in the world, suffered a decrease in its earning from 8.87 billion dollars to 7.26 billion dollars, which indicated that there was a 18.13% decrease. Moreover, from the reactions of corporations: Apple delayed its product launch, Facebook and Google canceled their annual developer conference, high-tech industry suffered from

stagnation in developing new products and inconvenience of market surveys.

According to TrendForce, a company in providing market information and intelligence, had made reports on the performance of high-tech industries during the first quarter of 2020.

Besides materials and accessories, end products were greatly affected by the pandemic. Table 2 draws a clear conclusion below.

**Table 2.** The influences of pandemic on the accessories and end products

1Q20	Previous forecast	Revised forecast	% change
TV	48.8	44.6	-8.6%
Notebook Computers	35.0	27.9	-20.3%
Monitors	29.0	26.2	-9.7%
Smartphones	307	27.4	10.7%
Automobiles	21.0	17.2	-18.1%

### 3. HIGH-TECH INDUSTRY IN CHINA AND THE PANDEMIC

High-tech corporations in China definitely faced the same problem as any other high-tech companies abroad.

Since the reform and opening-up policy was firstly introduced in 1978. China has been working on improving its core industries and focusing on high-tech industries. Recently, more internet and technology companies emerged in the market. As a result, in order

to analyze the impact of COVID-19, the passage will use two typical examples.

**3.1 Negative effects**

**Example 1: Huawei**

Huawei was established in 1987, aiming to produce smart phones and it was one of the largest high-tech corporations in China. Its main products are smartphones, which suffered a decline in the first quarter, 2020. Analyzing its data and operating condition could illustrate reactions, policies and influences of a high-tech company. In the first season of 2019, Huawei went through a net profit rate of 8% and a 39% year-on-year growth(). However, in the first season of 2020, during which the pandemic took place, Huawei had 7.3% net profit rate and 1.4% year-on-year growth.

**Table 3.** Report of Alibaba Group of the March quarter of 2020

Year (March quarter)	Year-on-year growth	Non-GAAP free cash flow
2020	22%	\$ -0.6 billion
2019	51%	\$ 1.6 billion
2018	61%	\$ 1.4 billion
2017	60%	\$ 1.2 billion
2016	39%	\$ 0.8 billion

By comparing the seasonal reports of both Huawei and Alibaba, recession was inevitable and common during the first outbreak of COVID-19 pandemic.

**3.2 Related reactions**

What was different from China and other countries was that even though China was the first country that got widely affected by the pandemic, policies took by the government were effective enough to control the situation. Most of the companies shut down in January and February, but they came back at mid-March and resumed producing.

Example 1: Huawei sacrifices its profit to firstly ensure that its employees were health and began returning to work orderly. As one of the largest high-tech companies in China, Huawei took part in the maintenance of global internet and utilized AI in analyzing CT, which increased the speed of diagnosing of patients. As a result, even though Huawei could not make profit from selling and designing new products, it gained fame and benefit from supporting movements against the pandemic.

Example 2: Alibaba Group definitely got hurt during the pandemic, but it also provided platforms to cope with the pandemic. Alibaba introduced applications for Chinese students having class at home and the

**Example 2: Alibaba Group**

Alibaba Group, established in 1999, has long been mainly focusing on electronic businesses, also got injured during the pandemic. Since China came up with isolation policies to control the outflow of people from the places that suffered the most from this pandemic and the transportation, Alibaba Group could not convey its cargoes to some places, which decreased some of the market temporarily. Moreover, from the report of Alibaba Group of the March quarter of 2020, the year-on-year growth was 22%, a significant decrease compared to that from 2019 of 51% [5]. By obtaining the data from the seasonal report in recent 5 years, Alibaba Group suffered an obvious decrease even though Internet business kept growing in recent years.

supermarket under its command provided delivery services and made sure that the delivery services was suitable. Moreover, like Huawei and Alibaba also provided AI in scanning CT, which increased the speed.

From the reports of these two companies, even though they had a tough time, they still made profit in other aspects and helped conquer the difficulties positively. The reactions they took were all linked to the development of high-tech, which indicates that high-technology continued improving and elaborating during the pandemic.

**4. AFTER THE PANDEMIC**

Due to the effective methods took by China, the pandemic was controlled in 2 months and in April, many corporations began to operate again but with serious epidemic prevention policies. The same situation occurred on the performances of Huawei and Alibaba after their employees returned to work[6]. Huawei mainly focused on the development of the construction of 5G after the pandemic and most of the news and conferences it held mainly focused on the topic of building networks. Alibaba Group extended its services and held shopping festivals as it did in the past years. What should be emphasized here was the characteristic shared in common by both companies. As two large high-tech companies, they concluded experiences during

the pandemic and applied more digital services. Global companies faced the same situation and opportunities. Even though the pandemic is still severe in many companies, it could still provide services and digital products, which is more important in people's daily lives and the demand for such products kept increasing during the pandemic. COVID-19 brought human culture with devastating consequences but also advances in biological science and medical science, which are two aspects in high-technology. The use and the popularization of AI would not only do favor in high-tech industries, but also be beneficial to various professions worldwide.

## **5. CONCLUSION**

The outbreak of COVID-19 was one of the most severe illnesses that human beings had been through. Increasing diagnosed patients every day and recession in economy affected daily lives and every industry. In China, the high-tech industry was greatly influenced by the pandemic and it could be indicated by two obvious cases: Huawei and Alibaba, two leading high-tech industries in China. Even though the business they had been doing were the most popular ones in recent years, they still got hurt and lost profit during the pandemic. However, great opportunities remained among the disadvantages. High-tech industry had to capture the platform given by COVID-19 to improve AI and the transformation of industries, providing more effective products. However, the conclusion and data obtained in this article have limitations. Since it was still the period of isolation, accessing more accurate data and using regression calculators cannot be done in the passage and most of the methodology is comparison and analyze from official reports. Although there are limitations, the conclusion made in the passage still pinpoints the main orientation of future development of Chinese high-tech industries.

## **AUTHORS' CONTRIBUTIONS**

This paper is independently completed by the author

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