

# How to Deal with the “Gray Rhino” and “Black Swan” of European and American Blockade from the Perspective of Huawei

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## Abstract

As a world-famous information and communication technology solution provider and the pride of Chinese national brands, Huawei has made rapid development in recent years, and is in a leading position in 5G field. However, in the process of Huawei's development, it has been constantly blocked and attacked by European and American countries. These attacks can be regarded as the “gray rhino incident” at first, and then evolved into the “black swan incident”. This paper introduces how Huawei deals with different crises in different ways in the face of the difficulties brought about by the crisis. At the same time, it also introduces the role of Huawei's strategic vision, technological innovation and rapid response in the process of Huawei's breakout, providing reference for other enterprises to deal with the crisis.

## Keywords

Blockade by European and American Countries; Grey Rhino Incident; Black Swan Incident; Breakthrough of Huawei.

## 1. Introduction

The year 2020 is destined to be an extraordinary year for Chinese high-tech companies - a succession of crisis incidents has brought them face to face with “gray rhino incidents” and “black swan incidents”. Gray rhino incident is very common, high-impact but often overlooked risk that has a high probability of occurring. For example, the phenomenon of China's high housing prices and high leverage. Gray rhino incident is not random emergency, but problem that erupts after a series of warnings and obvious signs. Black swan incident is a metaphor for an unusual event that is unforeseen, extremely rare, and has a huge impact, usually causing a chain of negative market reactions or even disruptions. Examples include the 911 attacks and the subprime mortgage crisis in the United States.

In 2020, the COVID-19 epidemic spread around the world, causing the global economy to come to a halt and businesses in various countries to face huge challenges. In addition to the rampant virus, in response to the rise of China's high-tech enterprises and their leadership in the field of 5G, the United States have been suppressing Chinese high-tech enterprises led by Huawei in various ways. In the face of these “gray rhinos” and “black swans”, Huawei has resisted the pressure and had a very good performance: revenue was RMB 454 billion, up 13.1% year-on-year, and net profit was 9.2%. How exactly did Huawei cope with the heavy challenges brought by the blockade in Europe and the United States?

## 2. Huawei's Strategy to Deal with the Blockade in Europe and the United States: From "Grey Rhino" to "Black Swan"

### 2.1. Huawei's Response to "Gray Rhino" of the Early Blockade by European and American Countries

#### 2.1.1. The Occurrence of the Gray Rhino Incident

In fact, the blockade by European and American countries against Huawei has been going on for a long time. As early as 2002, U.S. technology giants such as Cisco suppressed Huawei by means of patent lawsuits and publishing information unfavorable to Huawei. In 2010, Motorola sued Huawei for stealing network technology. In addition to these companies, even the U.S. Department of Commerce, Congress, and other government agencies have been suppressing Huawei and Chinese companies one after another under the pretext of damaging national security. Huawei has not only been excluded from the list of infrastructure providers for mainstream U.S. carriers, but many commercial projects have been aborted one after another. In January 2018, the U.S. government firmly opposed Huawei's cooperation with four major U.S. operators including AT&T, and banned phones of Huawei from entering the U.S. market. Huawei could only squeeze out a small part of the U.S. market by way of retail. Shortly after that, in March, Best Buy, the largest electronics retailer in the US, stopped selling products of Huawei. In August of the same year, U.S. President Donald Trump signed the National Defense Authorization Act for Fiscal Year 2019, legislatively suppressing Huawei and prohibiting U.S. government agencies from purchasing equipment and services from Huawei.

At the end of 2019, the U.S. Congress introduced the Defense Act 2020, which further increased the blocking of Huawei. At this stage, the blockade on Huawei can be seen as a kind of gray rhino incident. Huawei lost full access to Android and also lost some of its key suppliers. These factors led to a 40% drop in shipments of Huawei's cell phones in the international market in 2019, and annual cell phone shipments fell to 230 million from 260 million, with development severely hampered.

#### 2.1.2. Down-to-earth and Technically Rich

Facing the crisis, Ren Zhengfei, founder of Huawei, insisted that improving technology and core competitiveness is the best way to deal with the blockade. The world-leading 5G technology is Huawei's weapon to conquer the global market. According to Huawei's official website, Huawei has been conducting 5G technology research since 2009, and has invested a total of \$4 billion and the investment will continue to increase in the future. As of December 2019, Huawei has been awarded more than 70 commercial 5G contracts, and more than 500,000 5G AAUs (Active Antenna Units) have been shipped worldwide. Huawei has the world's largest number of 5G basic patent proposals, accounting for more than 20% of the total.

As the leader in 5G, Huawei has launched the 5G multimode chip solution-Balon 5000 and has further developed various forms of 5G terminals such as cell phones, MiFi, car modules, and TVs. Huawei's technological advantages have made its 5G services low-cost and quick to update, bringing great convenience to other countries' communication business, making it impossible for them to give up their cooperation with Huawei. France, Germany and other countries have said that they will not stop their 5G cooperation with Huawei. Mike Quivey, an analyst at Forrester Research, said, "The U.S. threat to Huawei could have disastrous consequences for the world and for the development of 5G industry."

#### 2.1.3. Be Prepared for a Rainy Day, "Backup" Plan for Crisis

Ren Zhengfei said that the problems Huawei encounters today were predicted more than a decade ago, and Huawei has been standing by for more than a decade for these dangers that may not even happen. Huawei has had department of "opposing force" for a long time, they

consider the problems from the perspective of competitors, simulate rival strategies, identify vulnerabilities, and carry out related work, constituting Huawei's "spare tire" plan. In the words of He Tingbo, president of Huawei Hisilico, the actions of these "spare tires" are sad, and they may be pressed into the closet of secrecy never to be activated.

The blockade prevents Huawei from sourcing chips from U.S. companies, and Huawei has responded to the weak chip supply chain early on. From 2004, Ren Zhengfei found He Tingbo, said "to give you 20,000 people, 400 million dollars a year to study the chip", to now 16 years later, Huawei invested lots of resources for a "spare tire". Now it seems to be worth it. Hisilicon perfect replaced Qualcomm, and became a powerful support for Huawei's development.

In the field of operating systems, Huawei started the development of the Harmony OS as early as 2012. In 2019, Huawei launched Harmony OS and equipped it on Huawei Smart Screen. Harmony OS has grown rapidly since its launch, now covering more than 170 countries and regions worldwide, with more than 400 million monthly users and 1.3 million developers. The release of Harmony OS also shows that Huawei has entered the most core area of the software.

## **2.2. Huawei's Response to "Black Swan" of the Intensification Blockade by European and American Countries**

### **2.2.1. The Occurrence of the Black Swan Incident**

Since the first half of 2020, as Huawei gradually occupied the high ground of 5G technology, the U.S. further imposed blockade on Chinese high-tech enterprises represented by Huawei, and some Western countries such as the U.K. and Italy also announced to boycott Huawei. On July 14, 2020, the U.K. announced to completely remove Huawei equipment from the U.K. 5G network by 2027. The situation continued to worsen, as on July 17, TSMC, Huawei's key foundry, announced that it would cut off supplies to Huawei. A series of actions has turned the blockade into a black swan incident. With core components not yet fully self-sufficient, key nodes of the supply chain uncontrollable, and core technologies and patents in related fields mostly coming from exogenous technologies, the development of Chinese high-tech enterprises has encountered unprecedented challenges, which is a tough battle for Huawei.

### **2.2.2. Resilient Enterprises, Turning Crisis into Opportunity**

In the face of crisis in its supply chain and key business, Huawei is not discouraged but timely seize the opportunity to fill the market gap, scrambling to develop core components. Exogenous technology supply is limited, on the other hand, is also a good opportunity for foreign products to exit the Chinese market, leaving room for the development of Chinese enterprises - this is an important breakthrough to turn risks into opportunities and expand new areas. The intensification of the US-China trade war has forced China to undertake large-scale core technology development and research. As a commentary in the Financial Times suggests, rather than crushing Chinese technology companies, the embargo has boosted their growth.

In the face of larger-scale sanctions, Huawei started the whole-industry chain model when it seemed desperate, and made two preparations: one hand to step up business development, and the other hand to carry out self-help. During the buffer period when TSMC's supply was cut off, Huawei placed a large number of additional orders with TSMC, and sought cooperation with MediaTek, the world's leading IC design house, and Ziguang Group, China's largest integrated circuit company. In addition to actively looking for foundry, Huawei also began to self-reliance, not only with well-known universities to carry out the "Huawei talent project", but also to open the IDM model (vertically integrated manufacturing plant). In July 2020, Huawei began large-scale recruitment of lithography technical personnel, which means that Huawei began to self-research chip processing technology. In other words, Huawei wants to achieve the independent completion of the entire process of chip design, production, testing and manufacturing, and

fundamentally solve the production of core components. For Huawei, it is a most correct and thorough, but also the most difficult and long road.

### **3. Management Implications of Huawei's Response to "Grey Rhino" and "Black Swan"**

#### **3.1. Prescribe the Right Medicine and Enhance Risk Awareness**

In the process of development, enterprises will inevitably encounter "gray rhino incidents" and "black swan incidents". In the face of these two kinds of crises, enterprises should correctly identify and adopt corresponding strategies. The gray rhino incident rushes out after a series of warnings and obvious signs, is dangerous but it gave early warning and gave companies time to react. For example, Huawei saw the crisis in the ongoing blockade and prepared "spare tires" in advance.

2020 is the full launch year of 5G commercialization, and enterprises in crisis should pay attention to the new direction of future technology development, enhance problem awareness, adhere to the problem-oriented, and take appropriate measures. What's more, enterprises should prepare backup plans for their weaknesses to prevent having no way back when encountering a crisis.

In the face of unpredictable black swan incidents, in addition to enhancing the awareness of worry and risk, enterprises can also introduce the concept of "positive black swan", that is, some benefits arising from the accident. "The black swan" of the blockade by the United States made foreign chips withdraw from the long-occupied Chinese market, giving Chinese enterprises the opportunity to step on the stage. Huawei turns the threat into an important strategic opportunity, so we can see Huawei develops its own chip processing technology and enters the field of photolithography.

Since black swan incidents are unsuspected and cannot be predicted beforehand, we can handle afterwards and take the opportunity from the crisis. To improve organizational resilience, we need to recover quickly from the crisis. Improving organizational resilience requires preparing various precautionary plans and simulation exercises, improving overall awareness of threats and opportunities and formulating good forward-looking strategies. In the process of overcoming crises time and again, we will learn from our experience and accumulate experience for the next crisis so that we can react quickly and face it calmly.

#### **3.2. Be Well Prepared and Enhance Response Strength**

Huawei's ability to cope with black swan and gray rhino incidents is inextricably linked to its three capabilities: strategic vision, technical strength and rapid response.

Strategic vision is a potential competitiveness of enterprises, which can correctly guide the development of enterprises. Huawei prepared "spare tire" plan and begun the alternative research about exogenous supply monopolized by the West. Therefore, enterprises should be prepared for danger in times of peace, make overall plans and use a forward-looking strategic vision to cope with possible crises.

Technological innovation is not only a determining factor for the competitiveness of enterprises, but also an important driving force for the economic and technological development of the entire modern society. Huawei attaches importance to innovation and regards technological innovation as the fundamental source of competitiveness. Huawei's annual report shows that the investment of R&D in 2019 was RMB 131.7 billion, accounting for more than 15% of Huawei's annual revenue. Huawei has spent more than RMB 600 billion on R&D over the past decade. It is in the context of such emphasis on research and technology that Huawei has opened the door of world market with its global leading technology. Therefore, enterprises should increase investment in scientific research, pay attention to the recruitment and training

of technical personnel, and create a corporate atmosphere and incentive system that encourages innovation.

The third secret weapon of Huawei's successful breakthrough is rapid response, that is, corporate flexibility. Enterprise flexibility refers to the ability of enterprises to continuously learn, develop and innovate, and systematically integrate internal and external resources to respond to environmental changes. When the chip supply channel was blocked, Huawei assembled human and material resources, absorbed talents in related fields, quickly entered the field of photolithography. The purpose of rapid response is to help enterprises adapt to the rapidly changing external environment and solve problems in the shortest time. Therefore, once a crisis occurs, enterprises should react quickly and take measures to control the deterioration of the situation and stop the damage in time.

### 3.3. Conclusion

On August 5, 2020, the U.S. announced its "Clean Network" initiative, which further restricted seven Chinese companies, including Huawei, China Mobile, Baidu... On August 6, the U.S. announced a 45-day ban on U.S. individual and entity trading with WeChat, TikTok and their Chinese parent companies. After September 15, 2020, Huawei's external chip supply was completely cut off. In tough times, the launch of Huawei Mate 40 was held on October 30. The Mate 40 and Kirin 9000 are the highest level of Huawei in the current situation, and their continued iteration in the future has become a tough challenge that Huawei will surely face due to the blockade.

As we can see, the blockade by European and American countries continues and the situation in the international market is ever-changing. Only those companies that provide better services to users, actively assume their own social responsibilities and move forward firmly in the stormy market can survive the crisis. At the same time, focus on technology and innovation is the most effective way to meet the challenge. So far, it seems that Huawei has done it, and we expect it to achieve better results in the future. Perhaps the road ahead is hard, but as long as we do not forget the original intention and go forward, we will be able to break out of the siege and embrace the light. The support of all Chinese people is also Huawei's strength. May all enterprises "respond to the crisis with strategy, management and hope".

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