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**DOES HUAWEI REACT WELL TO THE US SANCTION IN
THE ASPECT OF FINANCE?¹**

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1 INTRODUCTION

1.1 Huawei

Huawei¹ is China's leading high-technology company. It was founded in 1987 and is now an important manufacturer of ICT² infrastructures and smart terminals. It has over 180 thousand employees and operates in 170 nations and regions, serving 3 billion people worldwide. (Huawei Investment & Holding Co., Ltd. 2019a)

1.2 The US Sanction

On May 21, 2019, the Bureau of Industry and Security, a subdivision of the Department of Commerce of the United States of America, announced its rule regarding Huawei on the *Federal Register*. (Bureau of Industry and Security 2019) This rule decrees that any United States company cannot conduct business with Huawei and its subsidiaries unless authorized by the Department of Commerce. (Shepardson and Freifeld 2019)

1.3 Challenges from the US Sanction

1.3.1 Components

Huawei relies heavily on US suppliers. (Qiao 2019; Zhang et al. 2019) As the US government forbids US firms from exporting components³ to Huawei, Huawei's heavy reliance becomes a very imminent threat because it lacks necessary components for manufacturing its products. (King, Bergen, and Brody 2019)

Huawei is not expected to solve this problem soon because high-tech devices are highly integrated, which means if one chip is missing, the entire system would be non-functional. Although Huawei declared that its HiSilicon chips can substitute US products (Tao and Deng 2019), experts are not convinced because Huawei's chips are not tested in real life like US chips and may have reliability issues. (Nellis and Jiang 2019)

1.3.2 Software

In addition, the US ban makes the heavy reliance on US software an imminent threat as it will stop Huawei from further using software from US companies in its consumer products⁴ (Amadeo 2019; Y. Li 2019), for example, Google Mobile Service (GMS) and Microsoft Windows.

These pieces of software are of vital importance. For example, GMS is a must for markets other than the Chinese mainland, which is not substitutable, and many pieces of software can only run on Windows. Without these pieces of software, Huawei will lose competitiveness against other vendors. (Amadeo 2019; Warren 2019) Although Huawei declared it has developed an operating system (Huawei Software Technology Co., Ltd. 2019), this system does not resolve the lack of GMS and cannot run Windows programs.

Huawei's industrial products⁵ are not affected by this challenge as they use Huawei's self-developed software. (Huawei Technologies Co., Ltd. 2016)

1. Huawei Investment & Holding Co., Ltd. and its domestic and overseas subsidiaries, including but not limited to Huawei Technologies Co., Ltd., Huawei Software Technology Co., Ltd., Huawei Device Co., Ltd., Dongguan Huawei Service Co., Ltd., Chengdu Huawei High-Tech Investment Co., Ltd., North Huawei Communication Technology Co., Ltd., Huawei Machine Co., Ltd., and HiSilicon (Shanghai) Technologies Co., Ltd.

2. ICT stands for Information and Communication Technology.

3. Chips and other types of hardware.

4. Including but not limited to smartphones, laptops, tablets, and smart wearables.

5. Including but not limited to routers, switches, firewalls, wireless controllers, and wireless access points.

1.3.3 The Effect of Challenges

However, immediately after the sanction, Huawei declared that it has pre-purchased chips enough for one year (Lin and Ji 2019) and US chip and software companies are lobbying to sell their products because they are suffering heavy toll in profit due to the ban (Nellis et al. 2019; Kelion 2019; Bohn 2019). This means Huawei may earn itself some time in addressing this issue and also suggests that Huawei's challenge with the component and software unavailability may not be very destructive.

2 HUAWEI'S STRENGTHS AND OPPORTUNITIES AND UTILIZATIONS IN ITS STRATEGIES

2.1 Strengths

One of the strengths Huawei has is its **ability of self-reliance**. Through many of its subsidiaries, the firm can supply some software (Huawei Software Technology Co., Ltd. 2019) and chips (HiSilicon (Shanghai) Technologies Co., Ltd. 2019) that are needed in the production of its other products. The self-reliance of some components or software could reduce the risk of the supplier's instability.

Another strength is that Huawei has many **proprietary technologies**. Until 2017, Huawei has been granted with 74,307 patents. (H. Zhao 2018) This is especially true for the 5G technology, as Huawei holds near 1,000 5G patents, which is only second to Samsung. (Pohlmann 2018) Patents protect the proprietary technologies from being copied by others, ensuring Huawei's exclusive profitability as customers can only purchase from Huawei if these technologies are needed.⁶

2.2 Opportunities

One of the opportunities Huawei has is **governmental support in China**. As Huawei "has contributed greatly to the development of China", the Chinese government has granted unconditional subsidies of 11 billion Chinese Yuan (CNY) in the past ten years. (L'Agence France-Presse 2019) Additionally, Huawei and its subsidiaries has been certified as High and New Technology Enterprises⁷, entitling them to tax reduction and other benefits in China (State Taxation Administration 2017).

Another opportunity is that Huawei is **perceived as a patriotic company in China**. (BBC 2019) It makes Huawei more welcomed in China, and many customers tend to choose Huawei's product over similar products manufactured by foreign companies. (Goh and Jiang 2019)

Additionally, Huawei's **suppliers are well-distributed**. This means for one type of components, Huawei can purchase from both US supplier and the suppliers from Japan, South Korea, Taiwan and the Chinese Mainland. (Cheng and Yajun 2018) This practice ensures that Huawei is able to offset supply fluctuation or instability.

2.3 Strength and Opportunity Utilizations

In order to counter the possible sales decline brought by the US sanction, Huawei has employed multiple strategies with its strengths and opportunities utilized.

2.3.1 For Possible Sales Decline

With sufficient fund from the government as well as fewer liabilities from taxes, Huawei has utilized sales promotion to boost domestic sales. Its sales promotion practices include "interested-free instalment payment plans and lotteries for its premium smartphones" (Goh and Jiang 2019)

6. The exclusive profitability of patents also means the profit from authorization and transferring of patents. This aspect is irrelevant to the strategies of Huawei so it is not discussed.

7. Certification Numbers: GR201744202066, GR201732003701, GR201744001116

The company has also utilized its another opportunity of the brand image of a patriotic company in China: it hired paid posters and Internet marketers to create an impression that Huawei is persecuted by the US government on Chinese social networks and hence mobilised patriotic Chinese to purchase its products (M. Li 2019; Goh and Jiang 2019).

Additionally, the strength of its proprietary technologies has also been utilized by Huawei. One of such technologies is Huawei's 5G technology, and for this technology, Huawei has highlighted it in the promotion of its smartphones in order to attract customers in both consumer and industrial market. (Zhu and Wang 2019)

2.3.2 For Components and Software Unavailability

For the unavailability of US components, Huawei has utilised its strength of self-reliance as well as its opportunity of distributed suppliers. It is now switching from US suppliers to Chinese (including Huawei's subsidiaries), Japanese and Korean ones. (S. Li 2019) According to disassembly of Huawei's recently released flagship smartphone Mate 30 Pro 5G, Huawei has successfully switched suppliers for its consumer products, as 50% of chips are made in China and most of other chips are from Japanese and Korean vendors. (Yang and Wegner 2019)

Huawei has also secured its current suppliers who are outside of the US, as many of them have declared that their trades with Huawei are unaffected and will continue in the future. (Kensaku 2019; Qian and Ma 2019)

For the unavailability of US software, Huawei has been continuing building its own mobile operating system, including the Harmony OS. (Huawei Software Technology Co., Ltd. 2019) It is also building a substitution of GMS, which is called Huawei Mobile Service. (Team XDA 2019)

3 THE SANCTION'S FINANCIAL IMPACT ON HUAWEI

3.1 Sales and Sales Revenue Impact

Due to the absence of GMS, Huawei has suffered a heavy toll on its smartphone sales in international markets. Knowing GMS may not be installed due to the sanction, Singaporean customers asked for refund or replacement of their Huawei smartphones purchased on Crousell. (W. Zhao 2019) Sales of Huawei smartphones also declined from around 20 daily to two or three a day in Singaporean smartphone shops. (Chang 2019) In addition, telecom companies in Taiwan (Peng 2019) and the United Kingdom (Zhang 2019; Keach 2019) stopped selling Huawei's smartphones. Therefore, Huawei's senior managers expected a decline of 40% in overseas sales. (Gao and Rascouet 2019)

Vendor	Q3 2019 Shipments (Million)	Q3 2019 Market Share	Q3 2018 Shipments (Million)	Q3 2018 Market Share	Annual Growth
Huawei	41.5	42.4%	25.0	24.9%	66%
Vivo	17.5	17.9%	22.7	22.6%	-23%
Oppo	17.0	17.4%	21.2	21.1%	-20%
Xiaomi	8.8	9.0%	13.1	13.1%	-33%
Apple	5.1	5.2%	7.1	7.0%	-28%
Others	7.8	8.0%	11.4	11.3%	-31%
Total	97.8	100.0%	100.6	100.0%	-3%

Table 1: Chinese Mainland Smartphones Shipments and Annual Growth, Q3 2019 (Source: Peng et al. 2019. Percentages may not add up to 100% due to rounding.)

However, Huawei's sales in the Chinese mainland market is ideal. Due to patriotism, many customers in Chinese mainland decide to purchase Huawei to show their support. (BBC 2019) A research published by CINNO Research in July says that Huawei's smartphone sales in Chinese mainland in the first half year of 2019 have increased by 16.8 % compared with the second half year of 2018. (Yang 2019) Another report published by Canalys suggests that Huawei's market share in Chinese mainland in Q3 2019 is 42.4 %, which is 66 % greater than 24.9 % in Q3 2018. (See Table 1) (Peng et al. 2019)

Huawei's sales in the domestic market have boosted the overall sales. According to Gartner's report, Huawei's overall sales increased by 16.5 % (Goasduff and Gupta 2019), despite a sad expectation of a 40% decline in overseas market.⁸ Therefore, the impact due to the ban is minimum.

Figure 1: Bar Charts of Huawei's Revenue (Source: Huawei Investment & Holding Co., Ltd. 2019b)

As a result, despite the US sanction, Huawei achieved an increase in its sales revenue. According to Huawei's half-year briefing (Huawei Technologies Co., Ltd. 2019), until July, Huawei has made a revenue of 401.3 billion Chinese Yuan, which is 23.2 %⁹ higher than that of the first half year in 2018. Another profit and loss account disclosed in Shanghai Clearing House also shows similar financial growth as Huawei has achieved a revenue of 603.3 billion Chinese Yuan in the first three quarters of 2019. It is 73.8 million Chinese Yuan higher than 486.5-billion-Chinese-Yuan revenue of the first three quarters of 2018, and this figure is even higher than the annual revenues of 2016 or 2017 (See Figure 1). (Huawei Investment & Holding Co., Ltd. 2019b)

3.2 Stock and Liquidity Impact

Figure 2: Stock of Huawei, 2017–2019 (Source: Huawei Investment & Holding Co., Ltd. 2019b)

8. The data of Huawei's annual sales in overseas market is not available when this article is finished.

9. Huawei did not disclose revenue achieved in the first half year of 2018 in the half-year briefing, and only a percentage of increase was given. Therefore, the author did not plot a bar chart due to absence of data.

The stock figures in the balance sheet disclosed in Shanghai Clearing House show correlation with the unideal sales in the international market. The stock on June 30, 2019 is 138.3 billion Chinese Yuan, but that on December 31, 2018 is 96.3 billion Chinese Yuan, which suggests an overstock (See Figure 2). (Huawei Investment & Holding Co., Ltd. 2019b)

Time	Financial Figures (Billion CNY)			Current Ratio	Acid Test Ratio
	Current Asset	Stock	Current Liability		
Sept 1, 2019	642.1	154.2	399.1	1.61	1.22
Dec 31, 2018	530.1	96.4	359.3	1.48	1.21
Dec 31, 2017	405.3	72.4	286.8	1.41	1.16
Dec 31, 2016	355.5	74.0	258.9	1.37	1.09

Table 2: Huawei's Financial Figures and Ratios Regarding Liquidity (Source: Huawei Investment & Holding Co., Ltd. 2019b)

However, this overstock does not impact on Huawei's liquidity (See Table 2). Compared with the value on December 31, 2018, the current ratio¹⁰ of Huawei increases by 0.13. Its latest value is between 1.5 and 2.0 in accordance with the industrial best practice (Tracy and Tracy 2014), suggesting an optimal liquidity status. The acid test ratio¹¹ of Huawei gives stronger evidence of minimum impact as compared with the value on December 31, 2018, the acid test ratio of Huawei increases by 0.01. Its latest value is between 1.0 and 1.5 in accordance with the industrial best practice (Tracy and Tracy 2014), suggesting an optimal liquidity status.

3.3 Profitability Impact

Period	Financial Figures (Billion CNY)			Gross Profit Margin	Net Profit Margin
	Sales Revenue	Gross Profit	Net Profit		
M1 – M9, Y2019	603.3	65.1	53.5	10.79%	8.87%
M1 – M9, Y2018	486.5	54.1	44.0	11.12%	9.04%
Y2018	715.2	74.9	59.3	10.47%	8.29%
Y2017	598.5	57.0	47.5	9.52%	7.94%
Y2016	518.1	45.6	37.1	8.80%	7.16%

Table 3: Huawei's Financial Figures and Ratios Regarding Profitability (Source: Huawei Investment & Holding Co., Ltd. 2019b)

The profitability of Huawei (See Table 3) has not been affected by the US sanction. Compared with the value of the period of M1 – M9, Y2018, Huawei's gross profit margin¹² and net profit margin¹³ of the period of M1 – M9, Y2019 has only decreased by less than 1%. And compared with the value of the periods of Y2018, Y2017 and Y2016, Huawei's gross profit margin and net profit margin of the period of M1 – M9, Y2019 has even increased. This suggests that the impact brought by the US sanction on Huawei's profitability is minimum.

10. Current Ratio = Current Asset/Current Liability

11. Acid Test Ratio = (Current Asset – Stock)/Current Liability

12. Gross Profit Margin = Gross Profit/Sales Revenue × 100%

13. Net Profit Margin = Net Profit/Sales Revenue × 100%

4 CONCLUSION

Huawei has suffered a heavy toll on sales in international markets because of the US sanction, but it has successfully utilised its strength and opportunity, meaning having use sales promotion, patriotism and proprietary technology in promotions in the domestic market, and having switched and secured its suppliers.

Therefore, the sales in the Chinese mainland is quite satisfactory to Huawei, and this situation let Huawei achieve an increase in sales revenue. In addition, the impact of the US sanction on Huawei's liquidity and profitability is minimum. Therefore, financially speaking, Huawei reacted well to the US sanction.

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