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Financial and Economic Analysis of Chosen Enterprise

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DIPLOMA THESIS ASSIGNMENT

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Economics and Management
Economics and Management

Thesis title

Financial and Economic analysis of Chosen Enterprise

Objectives of thesis

Huawei

1. To find factors of Huawei's success
2. To find potential risks of Huawei
3. To find factors that influence Huawei's business

Methodology

1. Financial Ratio

Financial ratio is a method that calculate the ratio of relevant indicators in the financial statements. According to the results to compare the different period of financial statement of Huawei. Through this way to find Huawei's financial performance, liquidity leverage and so on.

2. SWOT analysis

Through SWOT analysis to find Huawei's strengths and weaknesses and its opportunity and threats. And then use those results to analysis company's development strategies and to find its influences on financial.

3. Empirical summary

According to financial analysis, SWOT analysis and other analysis to draw a conclusion about Huawei such as its development risks, development experience.

And give some suggestions about Huawei.

The proposed extent of the thesis

60 – 80 pages

Keywords

Huawei; Financial Analysis; Financial Risk; Financial Statement; Marketing Strategies

Recommended information sources

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Expected date of thesis defence

2019/20 SS – FEM

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Declaration

I declare that I have worked on my diploma thesis titled "Financial and Economic analysis of Chosen Enterprise" by myself and I have used only the sources mentioned at the end of the thesis. As the author of the diploma thesis, I declare that the thesis does not break copyrights of any their person.

In Prague on 06.04.2020

Acknowledgement

I would like to thank Ing. Tomáš Maier, Ph.D. for his advice, support, patience and for taking the time to consult during my work on this thesis.

Financial and Economic analysis of Chosen Enterprise

Abstract

The diploma thesis selects Huawei to do financial and economic analysis. Huawei is a leading global ICT (information and communications) infrastructure and smart terminal provider. Its main businesses are carrier business, consumer business and corporate business. The thesis's main content consists of a theoretical part and an analytical part. The theoretical part introduces Huawei's market share and competitors. In analytical part will analyze Huawei's financial and economic situation base on the Huawei 2009-2018 annual report. Through PEST analysis, Porter Five Force Model, Harvard financial analysis framework and SWOT to analyze and evaluate Huawei financial and economic development status, risks. Find out the challenges and potential risks that will be faced by the company and make proper suggestions.

The results of the financial and economic analysis show that Huawei is facing challenges because competition between companies is becoming fiercer. Huawei's financial situation is relatively stable. Revenues and profits show an increasing trend, but short-term solvency needs to pay attention.

Keywords: Huawei, Economic analysis, Financial analysis, Financial statement, Factors

Finanční a ekonomická analýza vybraného podniku

Abstrakt

Diplomová práce vybírá Huawei k finanční a ekonomické analýze. Huawei je přední světová ICT (informační a komunikační) infrastruktura a poskytovatel inteligentních terminálů. Mezi její hlavní činnosti patří přepravní, spotřebitelské a podnikové podnikání. Hlavní náplní práce je teoretická část a analytická část. Teoretická část představuje tržní podíl společnosti Huawei a její konkurenty. V analytické části bude analyzována finanční a ekonomická situace společnosti Huawei na základě výroční zprávy společnosti Huawei 2009–2018. Prostřednictvím PEST analýzy, Porter Five Force Model, Harvardské finanční analýzy a SWOT pro analýzu a hodnocení stavu finančního a ekonomického rozvoje Huawei, rizika. A také budou identifikovány výzvy a potenciální rizika, kterým bude společnost elít, a vydejte náležité návrhy.

Výsledky finanční a ekonomické analýzy ukazují, že Huawei čelí výzvám, protože konkurence mezi společnostmi je stále tvrdší. Finanční situace společnosti Huawei je relativně stabilní. Příjmy a zisky vykazují rostoucí trend, ale je třeba věnovat pozornost krátkodobé solventnosti.

Klíčová slova: Huawei, ekonomická analýza, finanční analýza, finanční výkaz, faktory

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List of abbreviations

AI---Artificial Intelligence

B2B---Business to business

B2C--- Business to Consumer

B2H--- Business to Home

IoT--- Internet of Things

SMEs --- Small and Medium-size enterprise

GNP--- Gross National Product

GDP--- Gross domestic product

CNY--- China Yuan

Introduction

The internationalization process of world economic development is deepening and trade competition is intensifying. Enterprises are constantly seeking to reduce the cost and profit growth space, and pay more and more attention to economic and financial analysis. Economic and financial analysis is an essential part of evaluating a company's economic activities. Effective economic analysis and financial analysis can provide reasonable suggestions for the company's production and operation activities, economic benefits, and operational decisions, and help enterprises development in the world trade competition.

Economic analysis refers to a comprehensive and systematic analysis of the company's production, operation activities and results in a specific period through different economic information of the company and scientific analysis methods. Its essence is a process of in-depth understanding of the company's economic activities. Through economic analysis, from the economic environment in which the enterprise is located, analyze the current status and development trends of the company's production and operating activities, and provide a basis for enterprises to make economic decisions and how to strengthen corporate management to improve management efficiency and economic benefits. The economic analysis of a company can encourage the company to discover its potential advantages, and promote leadership to improve working methods and thereby improve work performance. Through economic analysis, tap the potential of the company. While focusing on how to improve the economic benefits of the enterprise, it is also necessary to pay attention to the social benefits of the enterprise and realize the unity of economic and social benefits. [Youzhuang Wang, 2000]

Financial analysis means using corporate financial statement to evaluate solvency, operational capability and profitability and development capabilities of corporate. Financial analysis methods include horizontal analysis and vertical analysis. Through analysis financial statement can help decision makers and shareholders to

find out problems and chances that company faced, it's also the way to improve corporate management level and economic benefits. At its core, the financial statement is a pulse of the financial health of the company, defining whether it is capable of paying expenditures, overburdened with debt or flush with capital to expand.

Huawei is a Chinese technology and communications company which founded in 1987. Huawei's main businesses are carrier business, consumer business and corporate business. In 2017, Huawei surpassed Ericsson, with a market share of 28%, becoming the world's largest telecommunications equipment manufacturer. As one of the leader companies in the world's communications industry, Huawei is facing many challenges as it continues to grow. Now that the mobile phone market is gradually showing saturation, the development of Huawei's mobile phone business has also encountered some pressure. In 2018, Huawei experienced the Meng Zhengfei incident; in 2019, Huawei's promotion of 5G services was rejected by some countries and its safety was suspected. These events demonstrate that Huawei's development is facing challenges and opportunities. This paper through analyze Huawei's financial and economic situation to find the factors and potential risks affecting Huawei's development and make reasonable suggestions for Huawei's future development.

1. Objectives and Methodology

1.1 Objectives

The main objective of this paper is based on Huawei's 2009-2018 annual reports and financial statements through economic analysis and financial analysis to evaluate Huawei's overall development status between 2009 and 2018 to find out the influencing factors in the development of Huawei enterprises, potential risks and make reasonable suggestions. In the economic analysis part, it mainly analyzes the influence of the external environment of the enterprise, such as politics, economy, culture and competitors. In the financial analysis part, it mainly analyzes Huawei financial situation such as liquidity, solvency and profitability.

It is believed that Huawei's external situation will affect Huawei development, but Huawei's competitiveness is strong, its profit also shows a good upward trend, and the company's financial health, so Huawei's future development will be good.

Finally, it summarizes through SWOT analysis to evaluate the advantages and disadvantages, risks and opportunities of Huawei's development. Through the analysis of the economic and financial parts, the potential risks of Huawei in the future development are summarized, and the factors affecting Huawei's development are pointed out and suggestions are given.

1.2 Methodology

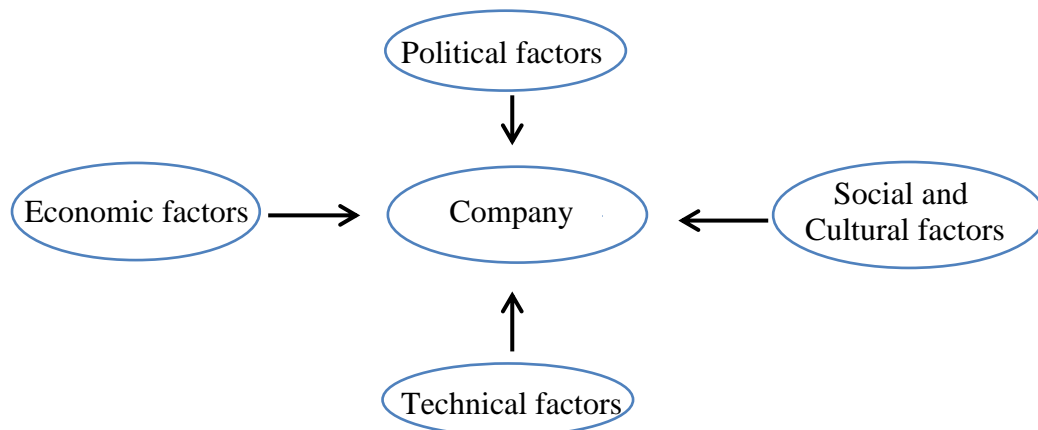
First, Huawei was selected as a case study to report its 2009-2018 annual report. The second is to use PEST analysis to analyze the macro environment in which the company is located, and use the Porter Five Forces model to evaluate its competitiveness in the entire industry. Summarize and point out the macroeconomic factors that affect Huawei's development. Then use Harvard's financial analysis framework to analyze Huawei's strategic development, accounting development,

prospect development and financial status from 2009 to 2018. Finally, SWTO analysis combined with the analysis of the first three parts summarizes Huawei's strengths and weaknesses and potential threats and development opportunities, and makes suggestions.

1.2.1 PEST analysis

PEST is an analysis about macro-environmental factors. It's a kind of external analysis. Macro-environment factors means the external factors can influence company or industry development. Most of time, it's divided into four parts: political; economic; social and cultural; technical. As shown in Figure 1.

Figure 1 PEST



Source: Ghazinoory, Zadeh & Memariani. "Fuzzy SWOT analysis." Journal of Intelligent and Fuzzy Systems. (2007).18.99-108.

Political factors not only included political but also included law. It's related to intervention of government in economy. Specifically, it main includes tax policy and law; labor law; environmental protection law; trade restrictions; national subsidy and so on. All of these have a great impact on the company.

Economic factors are the most important factors in PEST analysis. The economic

environment mainly includes macro and micro aspects. The macroeconomic environment mainly refers to the population of a country and its growth trend, national income, gross national product and its changes, and the level and speed of national economic development that can be reflected through these indicators. The micro-economic environment mainly refers to the income level of consumers; consumer spending preference; degree of saving etc. The important indicators to measure economic factors are gross national product, interest rate, inflation rate, exchange rate and economic growth rate.

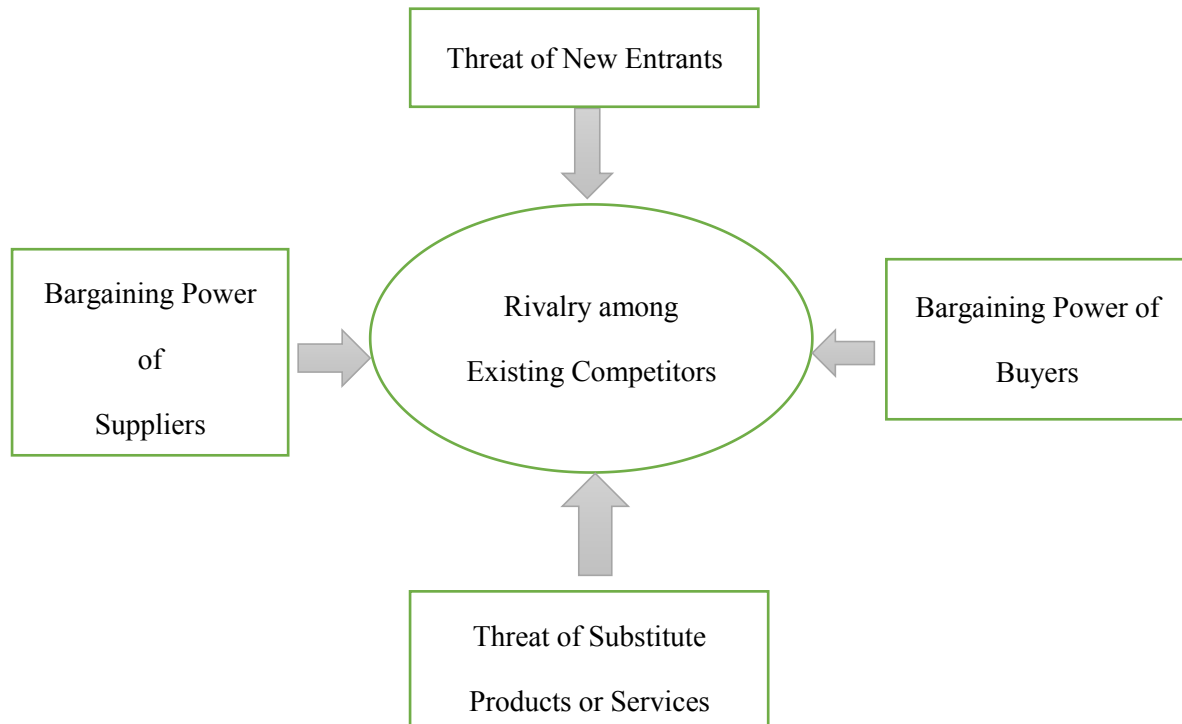
Social and cultural factors include the educational level and cultural level of residents in a country or region, religious beliefs, customs, aesthetic viewpoints, and values. Educational and cultural level can influence people's purchasing choice and preferences. For company, doing business in a country or region, knowing local people's custom and habit is important. It can decide the successful of this market.

The important factors in technical factors are innovation, research and development activity, technology incentives. These can identify barriers to entry, the lowest level of effective production and influence outsourcing decisions. In addition, technological change will affect cost, quality and lead to innovation.

1.2.2 Porter Five Forces model

Porter Five Forces model was first introduced by Michael E. Porter of Harvard University in 1980s. Porter Five Forces model usually used in competition analysis, to help company through analysis the weaknesses and strengths of industry which located to identify industry's structure and company strategy. Porter's model can be applied to any part of the economy to understand the level of competition in the industry and improve the company's long-term profitability. It contains threat of new entrants, the power of suppliers, the power of buyers, the threat of substitutes and rivalry among existing competitors.

Figure 2 Porter Five Forces model

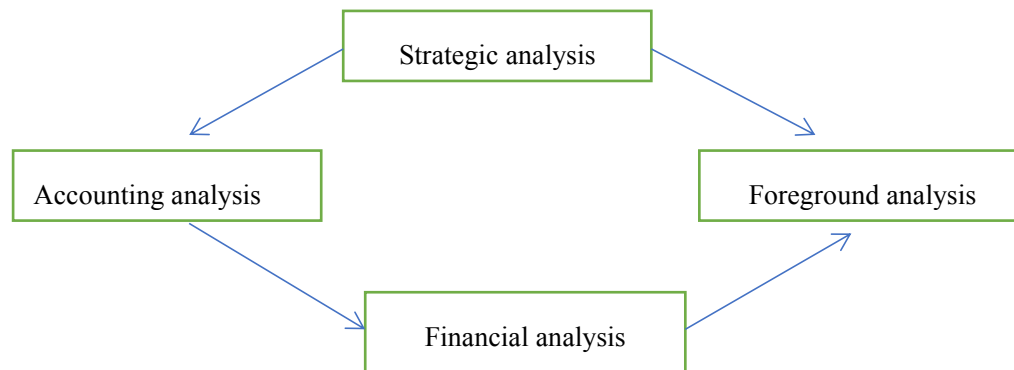


Source: Porter, Michael E. "The five competitive forces that shape strategy." *Harvard business review* 86.1 (2008): 25-40.

1.2.3 Harvard's financial analysis framework

Harvard financial analysis framework was first put forward by Krishna G . Palepu, Paul M. Hesly and Victor L. Bernard in their book: *Business Analysis Valuation--Using Financial Statements*. This method including four parts: strategic analysis, accounting analysis, financial analysis and foreground analysis. It focus on analyzing industry environment, business strategy and financial situation thus allows users to understand the real financial situation of the company more objectively and comprehensively and also better to ensure the future development of the enterprise. [Gang Liu & Zhipeng Cao 2015]

Figure 3 the basic flow of Harvard's financial analysis framework



Source: Liu, Cao. *A new perspective on modern financial analysis. Finance & Accounting for Communications, economic activity analysis.*2015.05:55-58.

1. Strategic Analysis

Company's strategies can decide one company future development, so strategy analysis is the starting point of company financial analysis. It is a unique part of Harvard's financial analysis. Company strategy analysis can provide external stakeholders with relevant information about company goals, industry development trends, market patterns, etc.

Strategic analysis reflects the current situation of enterprise management to a certain extent and can be used as the basis for evaluating enterprise management level, thus laying a foundation for financial analysis. Strategic analysis can start with the three aspects: macro-environment analysis, marketing analysis and industry analysis. Macro-environment analysis mainly analyzes its impact on business operations from political, economic, legal, social and cultural aspects. Market analysis is to analyze the overall demand situation of the market and find new opportunities in some unsaturated market. Industry analysis mainly includes analysis of the degree of dispersion of related companies in the industry, analysis of product stages, product innovation analysis and market share analysis.

2. Accounting Analysis

Accounting analysis focuses on analyzing the appropriateness of applying

accounting, financial management principles and flexibility of accounting treatment. Analyze the business activities of the company by combining accounting statements and other relevant information Adjust the relevant data in the financial statements based on the results of the accounting analysis to obtain more realistic financial data and provide a basis for financial analysis.

3. Financial Analysis

Financial analysis is based on financial statement, using trends analysis, ratio analysis and cash flow analysis to analyze the company's solvency, operating capacity, profitability capacity. The financial analysis under the Harvard analysis framework is not just to analyze the financial data of the company, but to explain the reasons for the abnormal financial data in combination with the industry environment and corporate development strategy of the company. When conducting financial analysis, focus on abnormal changes in financial indicators or financial data at a certain point in time, and analyze the reasons for the changes.

(1) Trend analysis

Compare the data of the financial statements of an enterprise in different periods, explain the increase and decrease, and the range of change, so as to determine the business results and changes in the financial situation of the enterprise, and then measure the development trend of company.

(2) Ratio analysis

Ratio analysis is a common analysis method in financial analysis. Classify ratios based on financial statements to measure a company's financial position. It usually consists of four aspects: liquidity ratio, activity ratio, debt ratio and profitability ratio.

a) Liquidity ratios

Liquidity ratio measures a company ability to use its current assets to pay its short-term debts when short-term debt matures. It includes working capital, current ratio, quick ratio, cash ratio and operating cash flow ratio.

Equation 1 Working Capital

$$\text{Working Capital} = \text{Current Assets} - \text{Current Liabilities}$$

Equation 2 Current Ratio

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

Equation 3 Quick Ratio

$$\text{Quick Ratio} = \frac{\text{Liquid Assets}}{\text{Current Liabilities}}$$

Equation 4 Liquid Assets

$$\text{Liquid Assets} = \text{Current Assets} - \text{Inventories}$$

Equation 5 Cash Ratio

$$\text{Cash Ratio} = \frac{\text{Cash}}{\text{Current Liabilities}}$$

Equation 6 Operating Cash Flow Ratio

$$\text{Operating Cash Flow Ratio} = \frac{\text{Operating Cash Flow}}{\text{Current Liabilities}}$$

The current ratio is the most common indicator of a company's short-term solvency. The larger the ratio, the stronger the company's short-term debt-paying ability and the company's sufficient working capital; on the contrary, it means that the company's short-term debt-paying ability is not strong and its working capital is insufficient. Generally financially sound companies, their current assets should be much higher than current liabilities, at least not less than 1: 1, and generally considered to be more than 2: 1. But for companies and shareholders, it's not that the higher the ratio, the better. Excessive current ratio does not necessarily mean that the financial situation is good, especially if the current ratio is too large due to excessive receivables and inventory balances which it is not good for financial health.

Quick ratio is an indicator used to measure the company's maturity liquidation ability. By analyzing the quick ratio, investors can measure the company's ability to obtain cash to repay short-term debt in a short period of time. It is generally believed that the minimum speed ratio is 0.5: 1. If it is maintained at 1: 1, the safety of current

liabilities is more guaranteed. Because when this ratio reaches 1: 1, even if the company's capital turnover is difficult, it will not affect the immediate solvency.

b) Activity ratios (Efficiency Ratios)

Activity ratio also called efficiency ratio. Activity ratio measures the efficiency of enterprise asset utilization based on the turnover rate of various assets of the enterprise. The faster the turnover rate, the faster the various assets of the enterprise enter the production, sales and other operating links, then the shorter the cycle of income and profit formation, the higher the operating efficiency naturally.

Equation 7 Asset Turnover

$$\text{Asset Turnover} = \frac{\text{Net Sales}}{\text{Total Assets}}$$

Equation 8 Asset Conversion Period

$$\text{Asset Conversion Period} = \frac{360\text{Days}}{\text{Asset Turnover}}$$

Equation 9 Receivable Turnover Ratio

$$\text{Receivable Turnover Ratio} = \frac{\text{Net Sales}}{\text{Average Net Receivables}}$$

Equation 10 Receivable Conversion Period

$$\text{Receivables Conversion Period} = \frac{\text{Receivables}}{\text{Net Sales}} \times 360 \text{ Days}$$

Equation 11 Inventory Conversion Period

$$\text{Inventory Conversion Period} = \frac{\text{Inventory}}{\text{Cost of Goods}} \times 360 \text{ Days}$$

c) Debt ratios (Leveraging ratios)

The debt ratio also called financial leverage. Since the owner's equity does not need to be repaid, the higher the financial leverage, the lower the protection for creditors. But it does not mean that the lower the financial leverage, the better, because a certain debt indicates that the manager of the enterprise can effectively use the shareholders' funds and help the shareholders to carry out large-scale operations with fewer funds. It includes debt ratio and long-term debt to equity ratio.

Equation 12 Debt Ratio

$$\text{Debt Ratio} = \frac{\text{Total Liabilities}}{\text{Total Assets}}$$

Equation 13 Long-term Debts to Equity

$$\text{Long-term Debt to Equity} = \frac{\text{Long-term Debt}}{\text{Equity}}$$

d) Profitability ratios

Profitability is the core of concern in all aspects, and it is also the key to the success or failure of an enterprise. Only with long-term profitability can an enterprise truly achieve sustainable operation. Therefore, both investors and creditors attach great importance to the ratio that reflects corporate profitability. Generally use the following indicators to measure the profitability of enterprises,

Equation 14 Gross Margin

$$\text{Gross Margin} = \frac{\text{Gross Profit}}{\text{Revenue}}$$

Equation 15 Operating Margin

$$\text{Operating Margin} = \frac{\text{Operating Profit}}{\text{Revenue}}$$

Equation 16 Net Operating Margin

$$\text{Net Operating Margin} = \frac{\text{Net Profit}}{\text{Revenue}}$$

Equation 17 Return on Assets

$$\text{Return on Assets} = \frac{\text{Net profit}}{\text{Total Assets}}$$

Equation 18 Return on Equity

$$\text{Return on Equity} = \frac{\text{Net Profit}}{\text{Equity}}$$

Gross margin, operating margin and net operating margin indicate the production (or sales) process, operating activities, and overall profitability of the company. The higher the ratio, the higher the profitability; the return on assets reflects the profitability of the funds invested by shareholder and creditor, return on equity

reflects the profitability of shareholders' investment funds.

4. Foreground Analysis

The prospect analysis of an enterprise is to use the results of strategic analysis, accounting analysis and financial analysis of the enterprise to reasonably predict the future situation of the enterprise, point out the shortcomings of the enterprise, and further tap the development potential of the enterprise.

1.2.4 SWOT

SWOT analysis including analysis of enterprise' s strengths, weaknesses, opportunities and threats. Therefore, SWOT analysis is actually a method of integrating and summarizing all aspects of internal and external conditions of the enterprise, and then analyzing the advantages and disadvantages of the organization, the opportunities and threats it faces. Strengths and weaknesses are internal factors, opportunities and threats are external factors. SO, ST, WT, WO forms the SWOT matrix.

SO (Strengths--Opportunities) --- take of advantage of internal advantages to hold external opportunities. ST (Strengths--Threats) --- use company' s strengths to avoid or reduce external threats influence on company. Company can through rebuild organization resources to reduce threat and increase opportunities. WO (Weaknesses--Opportunities) --- eliminate drawbacks by using external opportunities. WT (Weaknesses--Threats) --- it is a defending strategies often used when the organization is disadvantaged, which created here will hopefully avoid threats and minimize weaknesses.

Table 1 SWOT analysis matrixes

		Internal Factors	
		Strengths	Weaknesses
External factors	Opportunities	SO strategy	WO strategy
	Threats	ST strategy	WT strategy

2. Literature Review

Brown (1998) thought the analysis of financial statements can not only build on the simple analysis of the index, should according to the enterprise environment, combined with its own advantages and disadvantages, opportunities and threats faced by, more comprehensive system analysis, the results of the analysis can assess the comprehensive risk of the enterprise and can predict the future development. ^[1]

Helfert (2001) in his book *the Financial Analysis Techniques*: value creation in the guide to emphasize there is interaction between the enterprise system, decision-making environment and the financial statements. When doing financial analysis company or organization should analyze the cash flow and financial business, also make prediction. Explain in detail on corporate investment, financing choices, and corporate valuation. ^[2]

Bernstein & John J. Wild (2003) *Financial Statement Analysis*: with the development of market, stakeholders were becoming dissatisfied with the mode of financial report and analytical methods. The seeds of seeking new changes are spreading in everyone's minds. Many of them are generated from accounting information users, and some are from our scholars. The improvement of financial accounting report suggests that there are many different opinions. ^[3]

Palepu, Healy and Bernard (2004) first presented the Harvard Analytical Framework. An innovative analytical model in this book that integrates strategy, accounting policies, financial data and corporate prospects into corporate finance. The report is more comprehensive and systematic analysis, in order to have a more scientific and reasonable understanding of the absolute value of financial indicators, and provide more guidance on the operation and management of the company. This comprehensive analysis framework that integrates the strategy has broken the limitations of traditional analytical methods that used to only rely on financial indicators to analyze the state of the business. ^[4]

Wang (2004) proposed that in the past the main object of economic analysis is

a single company. With the development of market economy, the number of the market participants has increased; the flexibility complexity and variability of the economy have also increased. Now, the object of economic analysis has now become a form of diversified subject of the company itself and external stakeholders. The main purpose of business economic analysis is to comprehensively and systematically analyze business economic activities and its results, then strengthen business management and achieve business goals, and provide decision-making basis for internal and external related economic entities or investors. ^[5]

Li and Cai (2006) suggested that with the development of social economy, the challenges faced by the company have increased and framework of the disciplines for financial statement analysis have become obviously incompatible. The financial analysis framework need expand with a transformation of the financial analysis perspective. It includes value creation, strategy, value chain or value network and ecologicalization, all of which should be incorporated into the financial analysis system. The expanded financial analysis framework, with the company's value and its creation as the goal, takes the strategic analysis as the starting point, and uses the value-driven factor analysis as the main analytical framework. ^[6]

Guo and Shen (2006) *Analysis of Financial Statements of Listed Companies* mentioned that the analysis of accounting statements mainly includes four aspects of analysis: debt repayment, profit, operation and investment.

(1) Solvency: the ability of an enterprise to repay its own debt in the short and long term.

(2) Profitability: the value created by the enterprise in a certain period of time. The two scholars believe that the analysis of profitability can be divided into components that can be evaluated by profit, target profit and profit quality.

(3) Operation: The company turnover capacity in terms of assets, inventory and accounts receivable in its operating activities. Including assets turnover, accounts receivable turnover and inventory conversion period.

(4) Investment: Whether the investment of the company's shareholders can get a return, whether the company can develop steadily for a long time and ensure that the interests of the shareholders are not harmed. [7]

Cao (2014): many problems in the current financial analysis of enterprises in China have affected the performance of financial analysis in practical applications. First, enterprises have insufficient understanding of the role of financial analysis; second, the data of financial statements has limitations and lags due to historical data; third, the construction of financial indicators lacks internal logic, and some do not combine the actual situation of enterprises. Therefore, the company should strengthen its financial analysis awareness, selected high-quality financial personnel, and applied financial analysis methods comprehensively and effectively. [8]

Guo (2017): the organic integration of business and finance is an important principle of business management accounting. The finance department should apply modern information technology and company information system construction to achieve the unification of business flow, information flow and data flow. The business department and the finance department should strengthen communication and use the results of financial analysis to identify and respond to problems in the operational decision-making process, improve the company's operational efficiency, and achieve organic integration of business and wealth to ensure the realization of the enterprise value creation process. [9]

Zhan (2018) in the analysis of *The Impact of Macroeconomic Factors on Corporate Financial Risks*: it is argued that the development of production and operation of enterprises is affected by GDP and bank loan interest rates. The higher the GDP growth rate, the more prosperous the market economy is, the disposable income of people will increase, and purchasing power will also increase. As a result, the production scale of the enterprise has also expanded accordingly, the sales have increased, and the economic benefits of the enterprise have increased accordingly. As bank loans increase interest rates, corporate borrowing costs will also increase, which

will increase the pressure on corporate debt and is not conducive to corporate development. Therefore, enterprises should pay more attention to the relevant national policies and economic environment and establish a financial early warning mechanism when developing. ^[10]

Conclusion:

From the above literature, we can know that with the development of society and economy, the relationship between the development of company and the social environment is more and more tight, and the number of participants in the company is increasing. To analyze the development of a company cannot only start with financial statements. Pay attention to financial statement analysis, corporate strategy and combine internal and external environments and various economic activities in order to conduct a comprehensive and effective analysis of the company's operating conditions and profitability, point out potential threats to the development of the enterprise, and make feasible recommendations. At the same time, the financial and management of the enterprise must be combined with the development of the enterprise, which can promote the overall development of the enterprise.

3. Theoretical Part

As an international company, Huawei has a global market. The main markets are mainly in China, EMEA (Europe, the Middle East, and Africa), Asia Pacific, and Americas. The source of market revenue is mainly composed of three parts, namely: Carrier business, consumer business, and corporate business. Carrier business means that Huawei provides hardware equipment, software services and solutions for operators and enterprises around the world by establishing switching networks, transmission networks, wireless and wired fixed access networks and data communication networks in communication networks. The consumer business includes the sale of electronics, home terminals and mobile broadband. Enterprise business is to provide enterprises with cloud computing and data centers, enterprise networks, enterprise wireless, unified communications and collaboration services through ICT infrastructure construction. This section mainly describes the overall situation of the Huawei market.

3.1 Huawei Market Share

Due to the different business of Huawei, its market share is also different. I will explain the market share of Huawei's business separately according to the business.

3.1.1 Consumer Business

Huawei consumer business is one of the most important parts of all business. In 2018, according to Huawei annual report, consumer business accounted for 48% of total revenue. This is the first time it has surpassed the carrier business. Its revenues are very close to carrier business. Especially in recent years, consumer business has grown rapidly. In consumer business, mobile phone accounts for a crucial part.

Table 2 Huawei Market Share in Different Market from 2009 to 2018 (%)

Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
North America	0	0	0	1.01	1.25	1.06	1.15	1.66	1.76	2.24
South America	0	0	0	0.39	0.88	1.47	2.67	5.62	6.76	7.96
Europe	0	0	0	0.52	1.07	1.73	2.74	6.65	10.29	14.71
Africa	0	0	0	0.37	0.81	2.53	4.77	6.38	7.82	9.57

Source: <https://gs.statcounter.com/vendor-market-share/mobile>

In China mobile market, Huawei has been become the first one. In 2018, Huawei mobile share in China market was 26.5%. Because its cheap price and high quality, it attracts many customer. But in Europe, at the beginning, Huawei was not so popular. As we can see, though Huawei entered European market in 2004, but its mobile phone business started in 2012 and until 2015, the mobile phone business in the European market has slightly improved. After 2015, the proportion of Huawei mobile phones in the European market has gradually increased, which achieved to 14.71% in 2018.

As for America market, Apple and Samsung always have been the popular brand. Huawei's development in the Americas has not been smooth. In the United States, for example, in addition to the impact of consumer preferences, it is also under pressure from the US government. The US government does not trust Huawei, which has caused Huawei's reputation in the US market to be damaged, and naturally it is not conducive to the sale of Huawei mobile phones in the United States. Therefore, Huawei's North America market share was very low, even in 2018, it only reached 2.24%. Huawei's market share in South America has been rising, which is related to Huawei's market positioning in South America. The main mid-range and low-end models are sold in South America. Because they are cheap and high-quality, so they are welcomed by the local market. In Africa, Huawei's market share was nearly 10% in 2018. The main sales are mid-range models, but Huawei phones want to further expand the African mobile phone market, especially the high-end and low-end mobile

phone markets.

3.1.2 Carrier Business

Huawei's carrier business is the first to develop. After achieving sufficient results, Huawei began to develop consumer business. In 2009, Huawei became the world's second-largest telecommunications equipment vendor, behind the industry giant Ericsson. In 2013, Huawei's revenue reached US \$ 39.5 billion, surpassing Ericsson in total scale, becoming the world's largest communications equipment supplier, and increasing its share in the carrier's network market to second. The 4G era is the golden age of Huawei's growth. In 2015, Huawei's carrier business revenue surpassed Nokia for the first time, ranking first in the world and continuously widening the gap with Nokia. Since 2015, Huawei has ranked first in the global market for four consecutive years, with a global market share of 29% in 2018, which has increased by about 2 percentage points per year in the past five years. As of 2019H1, Huawei's carrier business revenue reached CNY 146.5 billion, exceeding the total of Nokia and Ericsson's carrier business revenue. In the Chinese market, since the Chinese government issued a 4G license in 2014, Huawei has seized the advantages of China demographic dividend and engineer bonus to accelerate construction. Since 2013, revenue share of China market has been continued to increase, and its domestic operating income has been increased dramatically. In 2017, the proportion of domestic revenue has been exceeded 50% of the total revenue of this business. In the European market, Huawei has fully occupied the European market in 2015. From 2011 to 2018, the average annual revenue share of Europe, the Middle East and Africa has been stable at more than 30%. At present, with the gradual commercialization of 5G, as of February 2020, Huawei has obtained 91 5G commercial contracts, of which nearly half are from Europe.

3.1.3 Corporate Business

Huawei's corporate business has a relatively short development time and is still

in the growth stage. In 2018, Huawei's corporate business realized sales income of CNY 74,409 million, a year-on-year increase of 23.8%, and gradually became the company's main engine of growth. Huawei's corporate business focuses on creating digital platforms for customers. By combining new technologies such as cloud computing, big data, AI and GIS, Huawei supports customers' successful digital transformation and bring the digital world to every organization. By the end of 2018, Huawei's corporate business had more than 20,000 channel partners, more than 1,000 solution partners, more than 3,600 service partners and more than 650 talent alliance partners, such as SAP, Accenture, Honeywell, Siemens and other enterprises. Serving more than 45,000 customers worldwide, helping customers digitally transform.

3.2 Huawei Competitors

In different business area, Huawei has different competitors.

Apple, Samsung, Xiaomi and OPPO are the main competitors of Huawei's consumer business, especially in mobile phones. Samsung and Apple's mobile phones occupy the first and second positions in the global market, respectively. Samsung has the best mobile phone screen on the market. Adding to its advanced CPU technology, storage memory and camera technology, Samsung also has a large share in the global mobile phone market. Although the price of Apple's mobile phone is relatively high compared to Huawei's, it is unique in the mobile phone market with its unique IOS system, coupled with its praiseworthy mobile phone quality. Although the price is relatively high compared to other mobile phones, but it can't stop consumers' love for it. Xiaomi and OPPO are mainly positioned in the mid-to-low-end mobile phone market, so they have a price advantage. In 2018, Xiaomi's global mobile phone market share was 8.7%, OPPO was 8.3%, Xiaomi reached 9.2% in 2019 and OPPO was 8.8%, both of which have slightly increased. In general, Huawei and Apple's main competitors are Apple and Samsung, but Xiaomi and OPPO, which came later, should not be ignored. From 2018 to 2019, the global mobile phone market is in a weak state, and mobile phone shipments have declined, which has also made it

difficult for Huawei to further increase its mobile phone market share in the global market.

Huawei's competitors in the carrier business are Ericsson, Nokia and ZTE. As an established equipment supplier, Ericsson has been developing steadily. In 2011, Ericsson withdrew from the mobile phone terminal market, completed slimming, gradually focused on telecommunications services and software supply, and reduced or even abandoned some low-margin markets such as mobile communications equipment. In 2016, due to the slowdown of global investment in the telecommunications sector, Ericsson's market has also been affected, and its market share has decreased. Therefore, in 2017, Ericsson underwent a strategic reorganization to focus on the development of carrier business. In recent years, Ericsson has achieved an increase in operator revenue and market share by cutting unnecessary costs and developing new business growth points. The operator's market share increased from 14.2% in 2016 to 23.3% in 2018.

ZTE is a well-established telecommunications equipment operator in China, and its strength is strong. Although affected by the 2018 fines, its market share has declined briefly. After the lifting of the ban, ZTE's research and development costs have increased significantly. In order to gain more voice in 5G, ZTE has continuously strengthened R & D investment in 5G wireless, core network, bearer, access, chip and other core technology areas. Subsequently, it still showed its strong strength in the competition of 5G suppliers.

Currently, Huawei and its main competitors compete in 5G. Major companies have increased their research and development in 5G. Huawei has invested the most in 5G R & D in the past ten years. Compared with Nokia and Ericsson, Huawei has sufficient R & D funds, which also helps it gain a leading edge in 5G R & D. It also far exceeds Ericsson, Nokia and ZTE in terms of the number of 5G patents Ranked first in the world. At the same time, Huawei has a complete 5G industry chain with a wide coverage. From chips, terminals, and systems, it has formed its own end-to-end

5G solution. Competition in 5G has certain advantages, but competition with Ericsson, Nokia and ZTE in this area is still fierce.

4. Analytical Part

4.1 Company Profile

4.1.1 Basic Information

1. Company Introduction

Huawei is a 100% employee-owned private enterprise. Founded in 1987, Huawei is a leading global provider of ICT (information and communications) infrastructure and smart terminals. At present, Huawei has 194,000 employees, operating in more than 170 countries and regions, and serving more than 3 billion people. In 2016, Huawei shipped 139 million smartphones throughout the year, an increase of 29% year-on-year, and its global market share rose to 11.9%, ranking among the top three globally. In 2017, the global popularity of Huawei's brand increased from 81% to 86%, making it among the top three globally for the first time. For the full year 2018, global sales revenue exceeded US \$ 100 billion for the first time. Global shipments of all Huawei mobile phone brands exceeded 200 million, ranking first in the world.

Huawei implements an employee shareholding plan through a union. The number of participants is 96,768, all of whom are employees of the company. No government department or organization holds any stake in Huawei.

Huawei has selected 115 stock-holding employee representatives through its stock-holding employees, who can participate in major matters such as the company's profit distribution, capital increase, and elections of the board of directors and the board of supervisors. Shareholders' representatives are the highest authority of the company. The chairman and other 16 directors are elected through the stockholders' representative conference, and the 4 deputy chairman and 3 managing directors are elected by the board of directors. Three vice-chairmen serve as rotating directors.

The board of directors exercises the company's strategic and operational management decision-making power and is the highest responsible agency for corporate strategy, operational management, and customer satisfaction.

2. Company Vision

Through the network, AI intelligence, big data, and other scientific and technological means, the whole people can enjoy the convenience brought by network technology and meet the individual needs of users. At the same time, they work hard to stimulate social industry innovation and industrial upgrade, ensure network security, and build a fully connected, intelligent world.

4.1.2 Business of Company

1. by Product Category

Table 3 Composition of Huawei's main businesses

Business Name	Business composition
Carrier Business	IT; Wireless Networks; Fixed Networks; Cloud Core Networks; Network Energy; B2C; B2B; B2H; IoT; Global Services.
Corporate Business	Smart City; Finance; Safe City; Energy; Transportation;
Consumer Business	Phone; Laptop; Tablet; Wearable; Audio; Router

Source: Huawei 2018 Annual Report

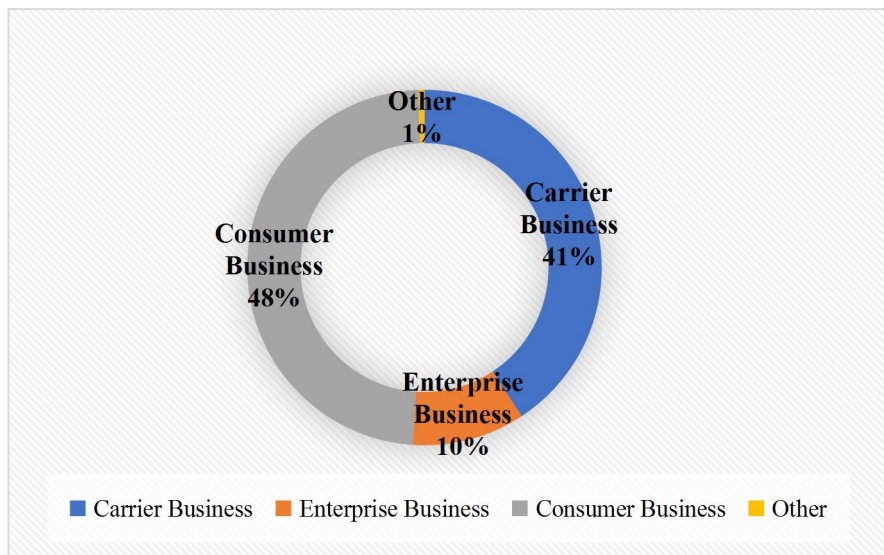
Huawei's business are divided into three parts, they are: carrier business, consumer business and corporate business. The carrier business mainly provides equipment services for network operators, mainly focusing on areas such as wireless networks, wired networks, and broadband. Corporate business mainly uses technology to provide solutions for customers, such as governments and enterprises, and digital management platforms to promote the transformation and upgrading of the industry. Consumer businesses are mainly smart devices such as mobile phones, tablets, computers, and wearables.

Table 4 Analysis of Huawei's Business Revenue in 2017 and 2018 (Unit: CNY Million)

Business Name/ Year	2018	2017	Year on Year Change
Carrier Business	294,012	297,838	(1.3)%
Enterprise Business	74,409	60,091	23.8%
Consumer Business	348,852	240,372	45.1%
Other	3,929	5,320	(26.1)%
Total	721,202	603,621	19.5%

Source: Huawei 2018 Annual Report

Figure 4 Proportion of each business in 2018



Source: Huawei 2018 Annual Report

According to table 4 and figure 4, consumer business and carrier business are the main sources of revenue. The revenue of consumer business increased remarkably, from CNY 240,372 Million to CNY 348,852 Million from year 2017 to 2018. In 2018,

global shipments of all Huawei mobile phone brands exceeded 200 million, ranking first in the world. And in carrier business, there was a slight decline at the same time period. As we can see, Huawei consumer business revenue proportion accounted for 48% of total revenue in 2018. It was also the first time that the share of consumer business exceeds the carrier business in 2018 and became the largest business of Huawei.

Huawei's corporate business uses a digital platform and combines a variety of new ICT technologies such as cloud computing, AI, big data, and the Internet of things to bring the digital world into every organization. As of the end of 2018, 211 of the world top 500 companies and 48 of the world's top 100 companies have chosen Huawei as their partner for digital transformation.

2. by Regions

Table 5 Revenue by regions in 2017 and 2018 (Unit: CNY Million)

Region	2018	2017	Year on Year Change
China	372,162	312,532	19.1%
EMEA(Europe, the Middle East, and Africa)	204,536	164,603	24.3%
Asia Pacific	81,918	71,199	15.1%
Americas	47,885	39,470	21.3%
Other	14,701	15,817	-7.1%
Total	721,202	603,621	19.5%

Source: Huawei 2018 Annual Report

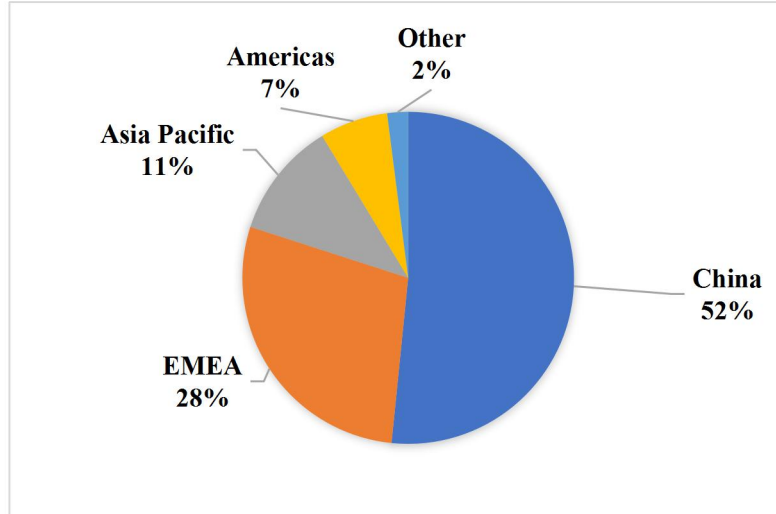
From table 5 and figure 4, China is the main market of Huawei. However, the region with the fastest revenue growth is EMEA. In 2018, revenue in this region increased by 24.3% compared to 2017, followed by the Americas, which increased by

21.3%, and China's region increased by 19.1%. China market benefits from continued growth of consumer flagships, mid-range machine competitiveness improved. Now, Huawei has become China's leading domestic brand.

The European Middle East and Africa (EMEA) region benefited from increased sales of high-end and mid-range smartphones, increased smartphone market share, and accelerated digital transformation of corporate business.

The Asia Pacific region benefited from the significant increase in the competitiveness of mid-range and low-end products, and the acceleration of digital transformation of corporate business, maintaining a good growth momentum. The Americas region benefited from the new digital infrastructure of Latin America's corporate business and the increased competitiveness of mid-range products in the consumer business.

Figure 5 Revenue Proportion of regions in 2018



Source: Huawei 2018 Annual Report

Huawei's expansion in overseas markets has never stopped. Through various marketing channels, Huawei's market in Europe, the Middle East, and Africa has gradually expanded and has become Huawei's second largest revenue share region. In 2018, Huawei in this region accounted for 28% of total revenue. In Asia Pacific and

Americas, they are mainly due to the improvement of corporate business and mid-range products.

4.1.3 Brief Introduction of Operating Conditions

Table 6 Huawei Five-Year Financial Highlights (Unit: CNY Million)

Year	2014	2015	2016	2017	2018
Revenue	288,197	395,009	521,574	603,621	721,202
Operating profit	34,205	45,786	47,515	56,384	73,287
Operating margin	11.90%	11.60%	9.10%	9.30%	10.20%
Net profit	27,866	36,910	37,052	47,455	59,345
Cash flow from operating activities	41,755	52,300	49,218	96,336	74,659
Cash and short-term investments	106,036	125,208	145,653	199,943	265,857
Working capital	78,566	89,019	116,231	118,503	170,864
Total assets	309,773	372,155	443,634	505,225	665,792
Total borrowings	28,108	28,986	44,799	39,925	69,941
Equity	99,985	119,069	140,133	175,616	233,065
Liability ratio	67.70%	68.00%	68.40%	65.20%	65.00%

Source: Huawei 2018 Annual Report

According to the above table, each indicator has been growing from 2014 to 2018. Revenue, operating profit and net profit has been growing, especially operating profit and net profit, the growth was significant from 2014 to 2018. In 2018, revenue almost three times of 2014, operating profit and net profit in 2018 was twice compared with 2014. From above table, we can see from 2014 to 2018 Huawei has grown rapidly and various businesses have achieved good development. Also, as we can see, though total borrowings have been growing in this five years, but liability ratios has shown a downward trend. Generally, Huawei's development has shown a good trend from 2014 to 2018.

4.2 PEST Analysis

4.2.1 Political Factors

1. China Political Environment

China is at a critical stage of comprehensively deepening reforms. The country attaches great importance to economic transformation, technological innovation and industrial upgrading. As a leader in China's communications industry, Huawei has enjoyed many policy benefits.

According to the decision of the executive meeting of the State Council, in order to further encourage enterprises to increase R & D investment and effectively promote their R & D and innovation activities, the Ministry of Finance, the State Administration of Taxation and the Ministry of Science and Technology jointly issued the "*On the increase of the pre-tax deduction ratio for research and development costs of technology-based SMEs*" Notice: increasing the percentage of deductions for technology-based small and medium-sized enterprises from 50% to 75%. At the same time, according to national tax laws, high-tech enterprises can enjoy a preferential income tax rate of 15% when paying corporate income tax. As a high-tech enterprise, Huawei insists on investing more than 10% of its revenue in research and development every year. The state's additional deductions for research and development expenses and preferential income tax policies for high-tech enterprises have alleviated Huawei's tax pressure to a certain extent.

The Ministry of Industry and Information Technology of China issued "*Information and Communication Industry Development Plan (2016-2020)*" clearly states that: the proposal of a series of strategies and plans such as "Made in China 2025" and "Internet +" provides a broad scope for the information and communication industry to expand into new areas and support the transformation and upgrading of traditional industries. The information and communication industry should take the initiative to strengthen interaction with related industries with a more open and pragmatic attitude, develop and expand the modern Internet industry system,

and accelerate the development of the information economy. It is necessary to make breakthroughs in giving play to its fundamental role, tapping the potential of infrastructure applications, and complementing the shortcomings of the industry, effectively improving the quality and efficiency of development, and supporting the development of the information society. The Chinese government encourages the development of the information and communication industry and creates opportunities for the development of the information and communication industry, which also provides opportunities for Huawei's development.

2. International Political Environment

With the deepening of China's reform, the Chinese market has been further opened. In recent years, China has cooperated with other countries to seek economic alliances, and the introduction and implementation of the Belt and Road Initiative have provided opportunities for Chinese enterprises to move towards international markets. But the world's political landscape is complex and changeable, and the China-US trade war has exacerbated the turmoil in world political and economic development. As an international company, Huawei's development is also inevitably affected by politics.

Since the 1880s, China and the EU have carried out a series of cooperation in the field of communications and information technology. Such as: China-Europe Information and Communication Technology Cooperation Working Group, China-EU Telecommunications and Informatization Dialogue, China-EU Information Society Project, etc. Over the years, China-EU cooperation and achievements in this field have brought development and progress to both parties. The EU has opened up the Chinese market through technology, and China has also promoted industrial upgrading through European advanced technology and management experience. In the joint statement of the 21st China-EU Summit in 2019, it was mentioned that 5G will provide basic support for future economic and social development. The two sides welcome the progress and further exchanges made on the dialogue and cooperation

mechanism based on the 2015 China-EU 5G Joint Statement, including technical cooperation between industries. The mutually beneficial and open cooperation between the two parties has made 5G technology achieve positive results in international standard formulation, technology research and development, testing, etc., and has strongly promoted the formation of 5G global unified standards, promoted the improvement of the industrial chain, and made important contributions to the maturity and development of 5G.

Europe has always been one of Huawei's important markets. Huawei entered the European market in 2004. Today, Huawei has more than 7,700 employees in Europe, of which 850 are engaged in research and development. Huawei has established 17 R & D institutions in Europe and is located in the following 8 countries: Belgium, Finland, France, Germany, Ireland, Italy, Sweden, and the United Kingdom. Huawei has established effective cybersecurity cooperation and communication mechanisms with governments in the United Kingdom, Germany, and France, and has launched the Cybersecurity Transparency Center in Brussels, Belgium in March 2019. In terms of 5G, Huawei has obtained 91 5G commercial contracts until the end of February 2020, of which 47 are from Europe, 27 from Asia, and 17 from other regions.

The opposite is the US market. Huawei's development in the US market has not been smooth. In January 2003, traditional American telecommunications giant Cisco sued Huawei in federal court, arguing that Huawei had infringed its intellectual property rights. In 2004, the lawsuit ended with a separate statement from Huawei and Cisco. In 2010, the US national government rejected Huawei's acquisition of Motorola's wireless network business on the grounds of "national security." In August 2018, U.S. President Trump signed the U.S. National Defense Authorization Act for Fiscal Year 2019: Banning all U.S. government agencies from purchasing equipment and services from Huawei. At the same time, U.S. officials have begun a global offensive against Huawei, advising governments not to use Huawei equipment. Some US allies have also begun to take action against Huawei. On August 23, 2018, the

Australian government announced that it would ban Huawei from participating in the construction of 5G network infrastructure in Australia. Subsequently, New Zealand and Canada also blocked Huawei. Huawei's development in the US market can be described as difficult.

4.2.2 Economic Factors

The degree of development of the communications industry is related to the level of economic development of a country. The higher level of economic development, the higher development of communication technology and the more mature the market becomes. Therefore, the level of economic development will also affect the development of corporate markets. Countries of the world can be divided into developed countries, developing countries and least developed countries according to different levels of economic development. Below I will give examples based on the degree of economic development.

1. Developed country

Developed countries are mainly distributed in Europe, North America, Australia, and East Asia (South Korea, Japan, and Singapore). These countries have relatively high levels of economic and social development, with high per capita GNP, industrialization standards, and quality of life. Although after experiencing the 2008 economic crisis, the economies of these countries have been in a long-term downturn, but in recent years they have also begun to pick up. For example, in Europe, the EU's per capita GDP growth rate in 2018 was 1.812%, which was a small decrease compared to 2.403% in 2017, but from the overall trend, the economy is developing in a good direction. According to the European Commission's winter economic forecast for 2020, the GDP of the euro area will maintain a steady growth of 1.2% in 2020 and 2021. For the EU as a whole, growth is expected to slow slightly to 1.4% in 2020 and 2021, down from 1.5% in 2019. But the European economy will continue to embark on a path of stable and moderate growth.

Developed countries have relatively complete social systems, laws and policies,

and the technology market is mature. Consumers have high requirements for product quality, can accept new technologies, and have a good network technology foundation and services. Therefore, when companies enter these markets, they can play their own strength better. In recent years, Huawei has achieved good results in the European market. The proportion of mobile phone sales has continued to increase, and corporate business has also achieved good development.

2. Developing country

Developing countries are mainly located in Asia (except Japan, South Korea and Singapore), South America and some African countries. The economies of these countries are in rapid growth and are accompanied by industrial upgrading and economic transformation. In order to promote economic development and attract foreign investment, the government will also grant certain preferential policies to foreign investment. Taking Russia as an example, in order to attract foreign investment and accelerate the pace of economic diversification and reform in the country, the Russian government has made many efforts in attracting foreign investment. Such as providing land and infrastructure support for international companies. The Russian government grants special legal status to domestic special economic zones. Enterprises in the zone can enjoy tax concessions and duty-free treatment. They will also provide land with ready-made infrastructure and free access to energy facilities. Taken together, these measures can help companies save on average 30% to 40% of their costs.

For developing countries, the communication industry is still in the development stage, the infrastructure is not perfect, and the entire market has a lot of room for development. This is a good opportunity for enterprises to expand and occupy the market, and competition will be fierce at the same time.

3. Least developed countries

The least developed countries are concentrated in Africa. These countries have lagging economic levels, poor infrastructure, poorly developed technology, and weak

purchasing power. The communications industry and network infrastructure in those country are basically in the early stages. So with the local government, it is a safer way to open up the market through local government purchases.

4.2.3 Social and Cultural

The social and cultural environment of a country will affect the success of a company's business expansion and market development in this country. Each country has different cultural backgrounds, consumption habits, national beliefs, religious traditions, customs, etc. When companies enter new markets, especially international markets, they should consider these contents. If the company ignores the local society and culture, it will be difficult for the company to succeed locally. At the same time, the company should also specify the corresponding sales strategy based on the local people's consumption habits and consumption preferences. Different social and cultural backgrounds also affect the way companies are managed. When company employees are from different countries, appropriate rules should be specified to avoid conflicts due to cultural differences.

Huawei's overseas markets mostly employ locals for localized operations, enabling it to better integrate into the local market and avoiding management difficulties caused by cultural differences. In order to comply with the development trend of the company's diversification and internationalization, Huawei has focused on manufacturing key basic components and decentralized assembly of final products in accordance with the principles of economies of scale, the principle of comparative costs, and the principle of being close to customers. By rationally planning the production layout and optimizing the industrial chain to reduce production costs, thereby improving the company's production efficiency.

4.2.4 Technical

One of the important reasons affecting the long-term development of technology companies are the company's scientific and technological capabilities and innovation

capabilities, which not only determines the company's development but also determines its competitiveness. Huawei invests more than 10% of its sales revenue in research and development every year, which allows Huawei to have sufficient funds to develop new technologies and products. In 2018, Huawei had more than 80,000 people engaged in research and development, accounting for about 45% of the company's total number of employees; R & D expenses were CNY 101,509 million, accounting for about 14.1% of annual revenue. The accumulated research and development expenses in the past ten years have exceeded CNY 480,000 million.

At present, Huawei is leading the world in 5G technology. As a 5G supplier, Huawei has won 91 5G commercial contracts with its strong technology and high quality prices. At the same time, as the Wi-Fi 6 market leader, Huawei first deployed the industry's first enterprise Wi-Fi 6 network in Shanghai in September 2018. Since then, Huawei Wi-Fi 6 technology has been used in Spain, Italy, Switzerland, Belgium, South Africa, China, India and many other countries have achieved large-scale commercial use. In addition, Huawei has invested in many fields such as network, software, and artificial intelligence.

4.3 Porter Five Forces model

The Porter Five Forces Model is an important means to analyze the competitiveness of the company's industry. This section will comprehensively analyze Huawei's competitiveness from five aspects: threat of New Entrants, the Power of Suppliers, the Power of Buyers, and the threat of substitutes.

1. Threat of New Entrants

The existence of barriers to entry (patents, rights, etc.): The entry barriers for the communications industry are high. Large companies have relatively many patented technologies, and may form a monopoly position in related fields. So for new entrants, applying the same technology may cost a lot of money.

Capital requirement: The communication industry has high technical requirements and needs to continuously update and develop technologies, so the

company has to invest a lot of money in technology research and development. In addition, goods need a lot of promotions, which requires companies to have sufficient funds to support the expansion of marketing channels.

Economies of scale : The communication industry, especially the mobile phone industry, is a typical representative of economies of scale. Increasing the number of production will reduce the production cost of the product, thereby increasing the profit margin.

Product differentiation : Existing communication industry brands have their own product advantages, so brand customer loyalty is high. For example: Huawei's 5G core technology and its mobile phone products attract customers to purchase with its price, unique features, and quality.

Access to distribution channels: Basically, every company has many distributors and specialty stores.

Brand equity: To become a valuable brand, not only need good products and services, but also win the trust of consumers. It takes a long time and experience to build trust between brands and consumers, which is not an easy task for the company.

Conclusion: The threat to new entrants is small.

2. The Power of Suppliers

Due to pressure from the United States, Huawei's suppliers in the United States have been affected, and production services for Huawei products will be restricted. This has prompted Huawei to seek new suppliers and Huawei's product costs and quality may be affected to some extent. Among Huawei's new mobile phone products, the suppliers of Huawei Mate 30 are mainly from China, including chip design and production, camera lenses, screens, etc., all from Chinese suppliers. Regardless of whether it is a smartphone or Huawei's other technology products, there are many types of suppliers required. Due to the influence of the United States, Huawei's choice of suppliers has shifted to China. In China, although chip technology, mobile phone screen technology, etc. are all under development, there is still a certain gap compared

with the United States, so Huawei has certain limitations in the choice of suppliers. If the suppliers that can be selected raise prices or reduce the value quality of Huawei, it will have a greater impact on Huawei.

3. The Power of Buyers

Buyer switching costs: For mobile phones, consumers' conversion costs are low, because most mobile phones have similar prices and basically the same functions, which can meet consumer demand. For other products, such as 5G products, enterprise services which with high-input and requirement, each company has its own advantages, so for customers need to consider the cost when choosing.

Buyer concentration: The first purchaser of the smart phone industry is a first-tier dealer. Most of the dealers are scattered in different regions. The purchasing power of a single dealer is still relatively small for the entire industry. In communication equipment and other fields, there are fewer distributors and marketing activities are mainly carried out by the parent company or local branches, so that companies can timely feedback customer needs. Accordingly, customers are more fragmented.

Availability of existing substitute products : In terms of smart phones, it is not difficult for consumers to switch to mobile phones made by other companies, and there are more options available. From this perspective, consumers are in an advantageous position. At present, the level of communication equipment suppliers is relatively high. The main products with better performance are Huawei, Ericsson, Nokia and ZTE. These companies also have different focuses and have their own product advantages, so customers have limited choices.

Buyer information availability : Customers know more about the product performance, quality, and price of smartphones, but less about the cost of the product. For communication equipment and other products, the buyer's level of understanding of the product technology is relatively comprehensive, as there are not many suppliers that can meet customer requirements, so the information is easy to grasp.

In general, the strength of the buyer has some impact on the seller, but the impact

is not great.

4. The threat of substitutes

Because Huawei's business involves different aspects, the main products of different businesses are used to illustrate the threat of its substitutes.

a) The price of substitutes: The alternatives to smartphones are tablets and ordinary phones. Tablets and ordinary phones are generally cheaper than smartphones. Huawei's competitors in mobile phones are mainly Xiaomi and OPPO and Samsung. Xiaomi and OPPO's mobile phones generally have lower prices, while Samsung sells mainly mid-to-high-end phones with relatively high prices. In terms of carrier business, as 5G is now commercially available and the price of Huawei's 5G is lower than that of its main competitors in the carrier business, such as Ericsson and Nokia. This has attracted many countries to consider cooperating with Huawei.

b) Functions of substitutes: As far as smartphones are concerned, the substitutes are mainly tablets and ordinary mobile phones. Because the tablet is larger and heavier than a mobile phone and is not easy to carry, most people tend to choose to use a smart phone. Ordinary mobile phones cannot meet the needs of modern people in terms of functions. In terms of 5G, Huawei has mastered many core technologies of 5G and is ahead of other operators, so the technologies of other operators lag behind Huawei to a certain extent.

c) Switching costs: Consumers have a lot of choices for mobile phone brands and the prices of most brands' mobile phones are not much different, so switching costs are not high. But as far as the operator business is concerned, the reason why Huawei can obtain many operator contracts is not only because of its low price, but also because of its excellent technology. If operators choose other brands, not only the price will be affected, but also the product quality may be affected. Even so, because Huawei suffered some crises last year, which caused some countries and distrust of Huawei technology, even if the conversion cost is high, other brands may be selected.

In general, the threat of substitutes is still there, and it is relatively strong.

5. Rivalry among existing competitors

a) Industry development speed: As far as the smart phone industry is concerned, the shipment volume of the smart phone market generally declined in 2018 and the market was weak. All brands are actively seeking new market breakthroughs. In 5G, AI intelligence, big data, cloud computing, etc., all companies focus on developing these technologies and the market is developing rapidly.

b) Product differentiation: Each mobile phone brand has its own unique selling points and advantages, and the differentiation is obvious. In terms of carrier business and enterprise business, each company's respective products and services provided in the research and development field will also differ.

c) Comparison of the number of companies in the same industry: In the smartphone industry, there are many manufacturers: Apple, Samsung, Xiaomi, OPPO, etc. Due to the large number of manufacturers and different scales, the competition in smartphone industry is fierce. Ericsson and Nokia which are with mature markets and technologies. They are well-established in all aspects, so they are more competitive in terms of carrier business. As for the enterprise business, Huawei's main competitors are also many: HP, Dell, Cisco, Fujitsu, Amazon, Microsoft, etc. The competition is also fierce.

4.4 Harvard's financial analysis framework

4.4.1 Strategic Analysis

The methods used in strategic analysis are generally PEST or Porter Five Force Model. Since such analysis has been done in the previous chapters, this section focuses on the analysis of Huawei's development strategy.

In 2011, in response to the development and change of the information industry, Huawei adjusted its customer-oriented strategy. From the telecommunications operator network to the enterprise business and consumer fields, actively providing large-capacity and intelligent information pipelines as well as new

business terminal platforms and applications. At this point, Huawei's business has begun a new journey, and the three major businesses of carrier business, consumer business and enterprise business have developed together.

Regarding market strategy, Huawei initially gained market share through price advantage. However, as competition intensified, the price gap between manufacturers gradually narrowed. Huawei began to shift from price to technology, increase research and development technology, and improve core competitiveness. In terms of market expansion, Huawei has shifted its original price strategy for overseas markets to a development strategy focusing on improving core technologies. Overseas market share has gradually increased. Huawei has gained a place from operator business to consumer business to enterprise business. Huawei still maintains a leading position in China. By improving product quality and innovation combined with marketing methods, Huawei has become China's national brand, which is also conducive to the expansion of Huawei's international market.

To cope with the gradual increase of the company's market and the gradual expansion of the company's scale, Huawei has designed an internal control system for the company based on the Committee of Sponsoring Organizations of the Treadway Commission (COSO) model. It mainly includes five parts: control environment, risk assessment, control activities, information and communication, and supervision. It also covers the financial reporting internal control system to ensure the authenticity, completeness and accuracy of financial reports. After years of continuous construction, Huawei has established an end-to-end continuity management (BCM) system from suppliers to Huawei and from Huawei to customers in the fields of procurement, manufacturing, logistics and global technical services. And by establishing a management organization, process and IT platform, formulating business continuity plans and emergency contingency plans to improve the organization's BCM awareness and ability to respond to emergencies, to ensure effective management of daily business risks.

In terms of sustainable development, the company focuses on the following four aspects: digital inclusion, security and credibility, green environmental protection, and harmonious ecology. Digital inclusion aims to connect digital to tens of millions of homes so that everyone can enjoy the convenience of digitalization. Security and credibility means that Huawei always regards network security and protecting user privacy as the company's highest program. Always adhere to the production of safe and reliable high-quality, high-tech products, and strive to ensure the security of network operations.

While developing, Huawei is also concerned about the environmental impact of its production activities. Promote energy-saving, emission reduction and sustainable economic development through innovative products and solutions. Huawei always adheres to honest operation, pays attention to the physical and mental health of employees, cooperates with other enterprises, actively assumes social responsibility, and jointly creates a harmonious and healthy industrial ecological environment.

4.4.2 Accounting Analysis

1. Identification and analysis of key accounting policies and accounting estimates

As a large international company, the choice of accounting policies will affect its production and operations. In recent years, Huawei's market has expanded rapidly, and the share of overseas markets and China's domestic market has increased significantly. However, due to the fluctuation of the CNY exchange rate, Huawei's overseas operating income has been greatly affected and there are certain financial risks.

At the same time, Huawei invests more than 10% of its sales revenue in research and development each year. At present, more than 45% of Huawei's employees are technical R & D personnel. And a large amount of R & D investment will increase the company's period expenses, which is bound to have certain financial risks. Therefore, the accounting policy analysis of R & D expenditure can fully understand the improvement of Huawei's core competitiveness and risk control.

With the rise of Huawei in the world market, its goodwill has also increased, but it will also be affected by the external environment. For a technology company, goodwill is also part of the competition. At present, Huawei adopts an impairment test on goodwill. When goodwill is impaired, it will affect the current profit and increase profit volatility. Similarly, an increase in goodwill may also cause a false increase in assets, which may lead to an underestimation of assets and liabilities. Therefore, accounting policies and valuations for goodwill are very important.

(2) Analysis of key accounting policies and accounting estimates

a) R & D Expenses

Huawei has always attached great importance to technology research and development. According to the latest annual report released by Huawei, Huawei's 2019 is CNY 131,659 million. In 2019, Huawei has approximately 96,000 people engaged in research and development, accounting for approximately 49% of the company's total workforce.

Table 7 Huawei Research and Development Expenses from 2009 to 2018 (Unit: CNY Million)

Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Research and development expenses	13,340	17,653	23,696	29,747	31,563	40,845	59,607	76,391	89,690	101,509
as % of revenue	8.90%	9.70%	11.60%	13.50%	13.20%	14.2%	15.10%	14.60%	14.90%	14.10%

Source: Huawei 2009-2018 Annual Report

As we can from table 7 that Huawei's R & D expenses increased year by year from 2009 to 2018. In 2013, the company strengthened its internal operation

efficiency and improved the R & D expense ratio by 0.3 percentage points. In 2014, the company's steady operation increased investment in future-oriented technology, brand marketing, change and incentives. As a result, Huawei has significantly increased its R & D costs this year, from CNY 31,563 million to CNY 40,845 million, the cost increased by nearly 30% and the R & D expense ratio also increased by 1 percentage point. From 2015 to 2018, the company has continuously increased its investment in the future and innovation, such as 5G, chips, smart terminals, artificial intelligence, etc. and its research and development costs have continued to increase. However, due to the rapid growth of revenue, the R & D expenses in 2018 decreased by 0.8 percentage points compared with the previous year. This shows that Huawei's investment in research and development has generally stabilized and accounting policies should be accurate. Appropriate and sustainable R & D investment can enhance the core competitiveness and profitability and sustainable development of companies, especially for companies in the communications equipment industry such as Huawei.

b) Exchange losses

Table 8 Huawei Net Finance Expenses from 2009 to 2018 (Unit: CNY Million)

Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Net foreign exchange loss	(1642)	1,367	4,876	1,085	3,686	2,135	4,362	5,407	1,080	2,031
Other net finance gains	387	751	1,021	954	256	(680)	(647)	(1670)	(507)	(2284)
Total net finance expenses	(1255)	2,118	5,897	2,039	3,492	1,455	3,715	3,737	573	(253)

Source: Huawei 2009-2018 Annual Report

It can be seen from table 8 that in 2011, the exchange loss was relatively high compared to other years. This is because in 2011 Huawei began to expand new businesses, thereby increasing capital investment. However, due to macroeconomic

impact, competition among communications equipment manufacturers has intensified, which has led to Huawei's 2011 profit decline. At the same time, due to the appreciation of the CNY, exchange losses have increased. Under the multiple effects, Huawei's exchange losses in 2011 reached the highest in 2011-2015. After 2015, the increase in exchange losses was mainly caused by the depreciation of emerging currency markets.

2. Asset quality analysis

Asset quality analysis is to analyze the assets of the balance sheet, understand the quality of the assets of the enterprise, and analyze whether there are restrictions on the realization of liquidity, such as bad debts, mortgages, guarantees, etc., so as to determine the actual profitability and realization of various assets. Differences in the arrangement and use of assets by enterprises will affect their ability to realize profits and create value. The quality and virtuous circle of assets are the sources that determine whether an enterprise can maintain its competitive advantage for a long time. By analyzing the quality of the company's assets, all stakeholders can have a comprehensive understanding of the company's assets.

Table 9 Huawei's Asset Structure from 2009 to 2018 (%)

Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Goodwill and intangible assets	0.4	0.4	0.71	2.42	2.36	0.84	0.73	1.08	1.05	1.2
Property, plant and equipment	5.96	8.94	9.61	9.7	9.1	8.8	9.52	11.11	11.1	11.21
Long-term leasehold prepayments	0	0	0	1.12	1.13	1.08	0.89	0.93	1.02	1.04
Interests in associates and joint ventures	0.22	0.28	0.35	0.23	0.2	0.21	0.14	0.11	0.15	0.08
Available-for-sale equity investments	0	0.04	0	0	0	0	0	0	0	0
Loans	0	0.01	0	0	0	0	0	0	0	0

receivable										
Other investments, including derivatives	0	0	0.23	0.26	0.24	0.17	1.06	0.68	1.18	2.81
Deferred tax assets	3.69	4.03	4.69	4.67	4.74	4.82	4.54	3.82	3.67	2.59
Contract assets	0	1.30	0	0	0	0	0	0	0	0
Trade and bills receivable	0	0.06	0.02	0.43	0.14	0.14	0.56	0.85	0.49	0.54
Other assets	0.51	0	1.74	0.47	0.40	0.94	1.49	1.29	1.12	0.81
Non-current assets	10.77	15.07	17.37	19.30	18.31	17	18.95	19.87	19.79	20.38
Inventories and other contract costs	17.86	15.4	13.64	10.59	10.21	15.04	16.49	16.68	14.32	14.5

Source: own calculations. Data from Huawei 2009-2018 Annual Report

At the end of 2018, Huawei's total assets were CNY 665,792 million, of which the larger ones were: cash and cash equivalents of CNY 184,106 million, accounted for 27.65%; inventory of CNY 96,545 million, accounted for 14.5%; accounts receivables CNY 91,995 million, accounted for 13.82%; other investments CNY 81,751 million, accounted for 12.28%; fixed assets CNY 74,662 million; accounted for 11.21%. Observing the asset structure from 2010 to 2018, we can see that Huawei's investment projects in 2018 increased their expenses significantly and proportion rose rapidly. This is because in 2018, Huawei's investment in financial assets such as fund investment, debt investment and equity investment increased. In general, Huawei's asset structure has not changed significantly and the projects that account for a relatively large proportion have not changed significantly. The overall stability is relatively stable.

Table 10 Huawei's Asset Structure from 2009 to 2018 (%)

Contract assets	0	0	0	0	0	0	0	0	0	7.16
Trade and bills receivable	45.31	38.40	28.54	28.49	31.96	25.69	25.06	24.33	21.30	13.82
Other receivables	0	0	8.29	7.34	0	0	0	0	0	0
Other assets	5.12	0	0	0	5.95	8.04	5.86	6.29	5.02	4.21
Assets held for sale	0	7.8	0	0.16	0	0	0	0	0	0
Loans receivable	0	0.14	0	0	0	0	0	0	0	0
Other investments, including derivatives	0	0	2.66	2.13	3.5	9.04	3.94	5.1	4.87	12.28
Cash and cash equivalents	20.93	23.19	29.5	31.99	30.07	25.20	29.71	27.74	34.71	27.65
Current assets	89.23	84.93	82.63	80.7	81.69	83	81.05	80.13	80.21	79.62
Total assets	100	100	100	100	100	100	100	100	100	100

Source: own calculations. Data from Huawei 2009-2018 Annual Report

Secondly, in 2018, Huawei's current assets totaled CNY 530,114 million, accounted for 79.62% of total assets, far exceeding the proportion of non-current assets. It indicates that Huawei's assets have better liquidity. Secondly, the proportion of Huawei's cash and cash equivalents increased from 23.19% in 2010 to 27.65% in 2018. Although there were fluctuations during this period, they basically fluctuated around 30%, which indicates that the company's sufficient capital reserves can increase Huawei's defense risk ability.

3. Cash flow analysis

In addition to the asset structure analysis method mentioned above, there is also a cash flow analysis method for asset quality analysis. Cash flow information is an important channel to reflect the operating conditions of the enterprise, the adequacy of funds, the quality of assets, and the solvency of the enterprise. It can provide investors, creditors and enterprise managers with useful information when

making decisions.

Table 11 Huawei Cash Flow Situations from 2009 to 2018 (Unit: CNY Million)

Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Net cash from operating activities	21,741	31,555	17,826	24,969	22,554	41,755	52,300	49,218	96,336	74,659
Net cash generated from / (used in) investing activities	-5,219	-14,708	3,421	-5,426	-8,037	-26,209	-741	-28,524	-24,657	-93,880
Net cash used in financing activities	-8,384	-10,152	-4,774	-9,180	-7,126	-10,406	-19,763	-10,851	-16,936	26,926
Cash and cash equivalents at December 31	29,232	41,501	57,192	15,624	73,399	78,048	110,561	123,047	175,347	184,106

Source: Huawei 2009-2018 Annual Report

From the above table, we can see that the amount of operating cash flow is all positive and basically shows an upward trend year by year, but it has declined slightly in 2018. In 2018, the global economic growth slowed down which leading to the overall decline of the smartphone market. In the fourth quarter of 2018, global smartphone shipments fell by 7% to 394.5 million. This has affected Huawei's consumer business. At the same time, in August 2018, the United States announced that it had banned the U.S. government from purchasing equipment and services from Huawei and the United States did not trust Huawei's 5G businesses which affected Huawei's 2018 revenue. As a result, cash flow from operating activities also declined. However, the overall situation is good and has not affected Huawei's payment of the goods. Cash flow from investing activities fluctuated greatly and reached its maximum in these nine years in 2018. Reading through Huawei's annual report, it found that Huawei's investments are mainly short-term investment projects. The financing activity became positive in 2018, which indicates that Huawei is in a period of rapid development. In order to expand market share, the company still needs a large amount of additional investment, and the net cash flow from operating activities

may not be able to meet the required investment so they may need external funding. In general, Huawei has sufficient cash flow and the company's development is in the golden age.

4.4.3 Financial Analysis

1. Trend Analysis

The trend analysis is mainly to analyze the financial situation through the data changed trend of the same project in different periods. Trend analysis includes two analysis methods: fixed-base analysis and ring-by-moment analysis. The fixed-base analysis method is suitable for comparison between data with more years. Therefore, in the trend analysis, I will use the fixed-base analysis method, taking 2009 as the base year to analyze the changes in Huawei's income statement from 2009 to 2018.

From the change trend of the following figure, we can see: Huawei's total revenue has increased significantly since 2014, and its revenue in 2018 increased nearly 5 times compared to 2009. 2014 is a crucial year for Huawei's growth. Huawei seized the opportunity of 4G development. Both the operator business and the consumer business have a strong momentum of development. According to Huawei's annual report, in 2014, Huawei's operator business and consumer business reached CNY 192,073 million and CNY 75,100 million, respectively, an increase of 16.4% and 32.6% compared with 2013 and the consumer business development momentum is even stronger. In 2018, Huawei's consumer business revenue accounted for 48.4%, exceeding the operator's business revenue share for the first time, becoming Huawei's largest engine of revenue growth.

Table 12 Huawei's 2009-2018 Profit Trend Table (Unit: CNY Million) (%)

Year	2009	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Revenue	149,059	100	122.47	136.81	147.73	160.36	193.34	265	349.91	404.95	483.84
Cost of sales	90,090	100	113.44	141.5	147.09	156.52	178.43	255.65	345.7	405.68	491.76
Gross profit	58,969	100	136.26	129.64	148.7	166.22	216.13	279.29	356.34	403.84	471.72
Research and development expenses	13,340	100	132.33	177.63	222.99	236.6	306.18	446.83	572.65	672.34	760.94
Selling and administrative expenses	24,169	100	130.08	139.72	159.99	157.44	196.4	257.69	357.66	383.47	435.26
Other operating expenses, net	408	100	143.38	98.04	-339.71	-177.21	1209.07	-729.66	-53.68	-150.25	-447.06
Operating profit	21,052	100	145.72	88.27	98.13	138.36	162.48	217.49	225.7	267.83	348.12
Finance expenses	-1,255	100	-168.76	-469.88	-162.47	-314.1	-115.94	-296.02	-297.77	-45.66	20.16
Share of associates' and joint ventures' results (post tax)	163	100	6.13	139.88	145.4	14.72	-185.89	51.53	-171.78	-194.48	-65.03
Profit before taxation	22,144	100	128.92	56.25	83.01	113.63	149.26	189.61	198.96	253.47	332.58
Income tax	3,870	100	99.02	20.93	71.27	107.47	134.03	131.19	181.03	224.11	369.53
Profit after tax	18,274	100	135.25	63.74	85.5	114.93	152.49	201.98	202.76	259.69	324.75

Source: own calculations. Data from Huawei 2009-2018 Annual Report

Huawei's R & D expenses have soared all the way. In 2018, R & D expenses were seven times higher than in 2009. This shows that Huawei attaches great importance to technology research and development and its investment has been increasing. As revenue continues to increase, Huawei's cost of sales continues to increase. The cost of sales in 2018 was nearly five times that of 2009. As far as the amount of costs is concerned, there has been a gradual increase since 2009, but the growth rate has not been fast. This is mainly because Huawei's annual R & D investment promotes the birth of new products and technologies and is conducive to reducing product costs. On the other hand, Huawei has gradually become a large enterprise, which has the advantage of economies of scale in terms of equipment production and manufacturing. With the gradual expansion of Huawei's international market, Huawei has also invested a lot of money in product marketing and promotion, so sales and management costs have gradually increased.

Huawei's profit after-tax has gradually increased during these 10 years and is on the rise. The profit after-tax in 2018 was more than three times compared with

profit after-tax in 2009. In terms of amount, Huawei's net profit in 2018 was CNY 59,345 million but in 2010 it was only CNY 18,274 million, a rapid growth.

2. Ratio analysis

(1) Liquidity Ratios

Current ratio analysis refers to a company's ability to repay debt in the short term, which is an important channel for lenders and creditors to understand the company's finances.

Table 13 Huawei 2009-2018 Liquidity Ratios and Related Accounting Subjects (Unit: CNY Million)

Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Inventories and other contract costs	24,947	27,568	26,436	22,237	24,929	46,576	61,363	73,976	72,352	96,545
Cash and cash equivalents	29,232	41,501	57,192	67,180	73,399	78,048	110,561	123,047	175,347	184,106
Current assets	124,606	152,008	160,178	169,468	199,403	257,105	301,646	355,502	405,261	530,114
Current liabilities	82,771	91,110	103,450	105,631	124,223	178,539	212,627	239,271	286,758	359,250
Working Capital	41,835	60,898	56,728	63,837	75,180	78,566	89,019	116,231	118,503	170,864
Net cash from operating activities	21,741	31,555	17,826	24,969	22,554	41,755	52,300	49,218	96,336	74,659
Current Ratio	1.51	1.67	1.55	1.60	1.61	1.44	1.42	1.49	1.41	1.48
Quick Ratio	0.34	1.37	1.29	1.39	1.40	1.18	1.13	1.18	1.16	1.21
Cash Ratio	0.17	0.46	0.55	0.64	0.59	0.44	0.52	0.51	0.61	0.51
Operating Cash Flow Ratio	0.26	0.35	0.17	0.24	0.18	0.23	0.25	0.21	0.34	0.21

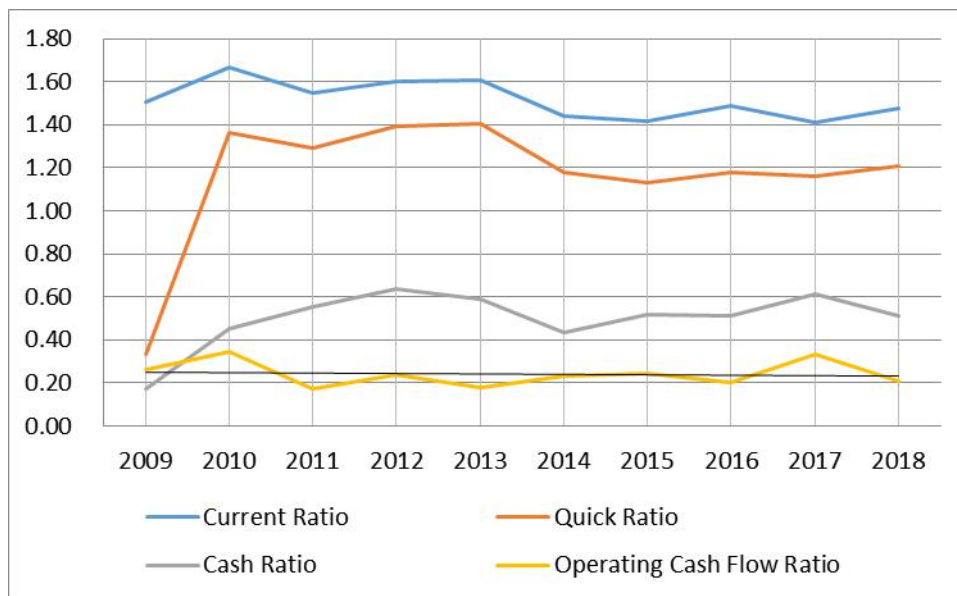
Source: own calculations. Data from Huawei 2009-2018 Annual Report

1.25-2 is generally a range of indicators to measure the short-term solvency of production enterprises. The lower the index, the weaker the company's short-term debt repayment ability; on the contrary, the higher the index, the stronger the company's repayment ability. From the table above, we can see that from 2009 to 2018, Huawei's current ratio has fluctuated between 1.4 and 1.7, and the fluctuation has been relatively stable. However, since 2013, Huawei's current ratio has shown a

downward trend and both are low At 1.5. This shows that Huawei's short-term debt repayment capability is declining and the debt repayment risk is increasing. The company needs to pay attention to it.

Quick ratio is the ratio of current assets to current liabilities after excluding inventory from current assets. It is generally believed that the quick action ratio is safer at 1: 1. When ratio lowers than 1 indicates that the company's ability to pay debts is low. It can be seen from the above figure that the quick action ratio has been declining since 2013 and gradually approaches 1. This is because Huawei has gradually grown after 2013 and its current assets, inventory and current liabilities have also increased correspondingly. Although the company's asset structure is more reasonable, if it is not taken seriously in the long run, the company's short-term debt repayment capability will inevitably decrease and its financial risk will increase.

Figure 6 Huawei 2009-2018 Liquidity Ratios Trend



Source: own calculations. Data from Huawei 2009-2018 Annual Report

The cash ratio determines the company's ability to pay in time. From the figure, we can see that from 2009 to 2018, the cash ratio experienced a trend of rising first, then falling briefly and then rising again. This shows that Huawei's ability to pay its

debts in cash has fluctuated slightly during these years. The cash ratio in 2018 was 0.1 lower than in 2017 and the fluctuation range was reasonable. However, the company also needs to strengthen its management in this regard and improve its short-term debt repayment ability.

The operating cash flow ratio measures whether the cash generated by the company's operating activities is sufficient to repay its current liabilities. The higher the ratio means the better ability to pay current liabilities. In the above table, except for the operating cash flow ratios of more than 0.3 in 2010 and 2017, the remaining years hovered around 0.2. This shows that if the company uses operating cash to pay short-term debt, there will be some pressure. The company's short-term solvency needs to be strengthened.

In general, Huawei's asset structure is relatively reasonable and its operating conditions are also very good. However, because Huawei has invested a lot of money in research and development and market development, the company's short-term debt repayment ability has been affected to some extent and has declined. More attention should be paid to corporate debt and cash flow and reasonable measures should be taken to prevent financial risks.

(2) Activity ratios (Efficiency Ratios)

Activity ratios are used to evaluate the turnover of corporate assets, inventory, and accounts receivable.

1. Asset Turnover

As can be seen from the below table, the turnover days of Huawei's assets undertook a fluctuant increase from 2009 and then began to decline after 2014. Until 2018, it rose to 332 days again, but the asset turnover rate declined. The annual growth rate of assets exceeds the growth of income, so asset turnover will decline. In general, the number of days of turnover has also decreased compared to the previous period, which indicates that Huawei's asset utilization efficiency has improved and its ability to profit from assets has gradually improved, which can increase corporate

revenue.

Table 14 Huawei Asset Turnover and Conversion Period from 2009 to 2018 (Unit: CNY Million)

Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Revenue	149,059	182,548	203,929	220,198	239,025	288,197	395,009	521,574	603,621	721,202
Total assets	139,653	178,984	193,849	210,006	244,091	309,773	372,155	443,634	505,225	665,792
Asset Turnover Ratio	1.07	1.02	1.05	1.05	0.98	0.93	1.06	1.18	1.19	1.08
Asset Conversion Period	337	353	342	343	368	387	339	306	301	332

Source: own calculations. Data from Huawei 2009-2018 Annual Report

2. Receivable Turnover

Table 15 Huawei Receivable Turnover and Conversion Period from 2009 to 2018 (Unit: CNY Million)

Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Revenue	149,059	182,548	203,929	220,198	239,025	288,197	395,009	521,574	603,621	721,202
Average Receivables	48,078	49,961	48,965.5	52,492.5	63,726	74,098	84,135	100,644	107,593.5	98,688
Receivable Turnover Ratio	3.10	3.65	4.16	4.19	3.75	3.89	4.69	5.18	5.61	7.31
Receivables Conversion Period	116	99	86	86	96	93	77	69	64	49

Source: own calculations. Data from Huawei 2009-2018 Annual Report

Accounts receivable reflect the turnover speed of the company's accounts receivable and the management efficiency of accounts receivable. From the calculation results, Huawei's accounts receivable turnover rate has gradually increased,

and accounts receivable turnover days have gradually decreased too. This shows that the average number of times that the company's receivables are turned into cash has increased during a certain period of time and the time required for the company to obtain the right to receivables to recover the amount and become cash has gradually decreased. The liquidity of the company's accounts receivable is relatively fast, which is beneficial to the company's use of funds.

3. Inventory Turnover

The inventory turnover rate reflects the inventory turnover speed, that is, whether the inventory liquidity and inventory capital are reasonable. Generally speaking, the higher the turnover rate, the higher the liquidity of the company's assets and the faster the inventory turns into cash or receivables.

Table 16 Huawei Inventory Turnover and Conversion Period from 2009 to 2018 (Unit: CNY Million)

Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Cost of sales	90,090	102,195	127,481	132,512	141,005	160,746	230,312	311,445	365,479	443,031
Average Inventory	26,138	28,400	27,002	24,336.5	23,583	35,752.5	53,969.5	67,669.5	73,164	84,448.5
Inventory Turnover Ratio	3.45	3.60	4.72	5.44	5.98	4.50	4.27	4.60	5.00	5.25
Inventory Conversion Period	104	100	76	66	60	80	84	78	72	69

Source: own calculations. Data from Huawei 2009-2018 Annual Report

From the above table, Huawei's inventory turnover rate is on the rise. This is because Huawei's market has gradually expanded and sales of mobile phones and other equipment have also increased. As a result, the liquidity of inventory is higher and the turnover days of inventory are generally in a downward trend. The production and operation efficiency of the enterprise is guaranteed.

In general, with the rise of Huawei's brand awareness, the expansion of the market, the continuous increase in sales and revenue. Huawei's operating capabilities have also continued to improve. However, it is worth noting that Huawei's asset turnover rate and asset turnover days fluctuate and the company should pay appropriate attention to strengthen asset management capabilities and improve the company's profitability.

(3) Debt ratios (Leveraging ratios)

Debt ratios are used to measure a company's ability to pay long-term debt. The higher the ratio means that the company's liabilities are excess assets and it is prone to financial risks. However, the company can also formulate a reasonable asset-liability ratio and use liabilities to fill funds to expand the company's operating scale. Debt ratio is also known as financial leverage. Too low a ratio means that the company cannot make good use of financial leverage to create benefits for the enterprise.

Table 17 Huawei Debt Ratio from 2009 to 2018 (Unit: CNY Million)

Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total Liabilities	96,337	109,584	127,621	134,982	157,825	209,788	253,086	303,501	329,609	432,727
Total Assets	139,653	178,984	193,849	210,006	244,091	309,773	372,155	443,634	505,225	665,792
Debt Ratio	68.98%	61.23%	65.84%	64.28%	64.66%	67.72%	68.01%	68.41%	65.24%	64.99%

Source: own calculations. Data from Huawei 2009-2018 Annual Report

From the above table, Huawei's debt ratio has been maintained between 60% and 70%. It fluctuated from 2009 to 2016 and then declined slightly after 2016. For Huawei, the overall asset-liability ratio is relatively stable and the level of financial leverage is also reasonable. The company can effectively use funds to protect the rights and interests of creditors and reduce financial risks.

Table 18 Huawei Long-term Debt Ratio to Equity from 2009 to 2018 (Unit: CNY Million)

Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Long-term Debt	8,490	10,264	13,270	16,077	19,990	17,578	26,501	40,867	38,338	66,170
Equity	43,316	69,400	66,228	75,024	86,266	99,985	119,069	140,133	175,616	233,065
Long-term Debt Ratio to Equity	19.60%	14.79%	20.04%	21.43%	23.17%	17.58%	22.26%	29.16%	21.83%	28.39%

Source: own calculations. Data from Huawei 2009-2018 Annual Report

Huawei's long-term debt ratio to equity fluctuated greatly, especially from 2016 to 2018, which dropped from 29.16% to 21.83% in 2017 and then rose again to 28.39% in 2018. Through observation data, we can find that the long-term debt increased and then decreased during these three years, and increased significantly in 2018, while the increase in equity also gradually increased from 2010, but the increase was not large and relatively stable. After reading Huawei's annual report, it's found that the significant increase in long-term debt in 2018 was mainly due to Huawei's increased investment in 5G, cloud, artificial intelligence and smart terminals, as well as future research and innovation, brands and channels.

(4) Profitability ratios

The profitability of an enterprise determines whether it can continue to operate. In the table below, we can see that all profitability indicators have dropped significantly in 2011. This was due to Huawei increased investment in expanding new businesses in 2011. However, due to the macroeconomic impact, market competition has intensified. At the same time, due to the increase in exchange losses, Huawei's profitability in 2011 was not ideal, and it fell in all aspects. After 2011, all indicators have risen because Huawei's business development momentum has been sufficient in recent years and consumer and operator businesses have developed better, both in terms of sales volume and sales channels.

Table 19 Huawei Profitability Ratios from 2009 to 2018 (Unit: CNY Million)

Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Equity	43,316	69,400	66,228	75,024	86,266	99,985	119,069	140,133	175,616	233,065
Total Assets	139,653	178,984	193,849	210,006	244,091	309,773	372,155	443,634	505,225	665,792
Revenue	149,059	182,548	203,929	220,198	239,025	288,197	395,009	521,574	603,621	721,202
Gross Profit	58,969	80,353	76,448	87,686	98,020	127,451	164,697	210,129	238,142	278,171
Operating Profit	21,052	30,676	18,582	20,658	29,128	34,205	45,786	47,515	56,384	73,287
Net Profit	18,274	24716	11,647	15,624	21,003	27,866	36,910	37,052	47,455	59,345
Gross Margin	39.56%	44.02%	37.49%	39.82%	41.01%	44.22%	41.69%	40.29%	39.45%	38.57%
Operating Margin	14.12%	16.80%	9.11%	9.38%	12.19%	11.87%	11.59%	9.11%	9.34%	10.16%
Net Operating Margin	12.26%	13.54%	5.71%	7.10%	8.79%	9.67%	9.34%	7.10%	7.86%	8.23%
Return on Assets	13.09%	13.81%	6.01%	7.44%	8.60%	9.00%	9.92%	8.35%	9.39%	8.91%
Return on Equity	42.19%	35.61%	17.59%	20.83%	24.35%	27.87%	31.00%	26.44%	27.02%	25.46%

Source: own calculations. Data from Huawei 2009-2018 Annual Report

Gross margin declined slightly in 2017 and 2018, because the increase in cost of sales reduced the profit margin. The operating margin and net operating margin continued to increase in 2017 and 2018 because the company's operating efficiency has improved, which has reduced the company's period expense growth rate. At the same time, benefiting from the increase in financial interest income, other net financial gains and losses have decreased substantially year-on-year and the company's net financial expenses have decreased significantly year-on-year. In general, Huawei is still in the growth stage and the company's profitability is strong, but Huawei should pay attention to the control and management of expenses during the period to further improve the profitability of the company.

ROA and ROE are both important indicators of corporate profitability. From 2009 to 2018, the trend of the two was basically the same and after 2015 they started to show a downward trend. The decrease in ROE indicates that the profitability of the

owner's equity has weakened. Reduced ROA shows that the company's competitiveness and development ability will be affected to some extent. In addition, the gradual increase in liabilities is also an important factor in reducing ROA.

4.4.4 Foreground Analysis

1. The development trend of communication industry

With the commercialization of 5G, it has gradually become the focus of the development of the communications industry. According to the "5G + Industrial Internet" plan issued by the Ministry of Industry and Information Technology of China: By 2022, a group of 5G key technologies for the specific needs of the Industrial Internet will be broken through and the industrial support capabilities of 5G + Internet will be significantly improved. Enhance the "5G + Industrial Internet" innovation application capability and resource supply capability. Form the integration of 5G and the industrial Internet to promote the digitalization, networking and intelligent upgrading of the manufacturing industry and high-quality economic development.

Now, the fourth industrial revolution driven by technologies such as artificial intelligence and cloud computing is happening. Various industries around the world are actively seeking new changes. The development speed of information technology will be faster and faster and the application of new technologies will provide more convenience for people. At the same time, the competition for technological innovation will become more intense, more and more capital will be invested and profit margins will be reduced. Therefore, competition between industries will become more intense. So for enterprises, if they want to gain a place in the industry competition, they need to control their costs, find new revenue growth points, explore new markets and improve their innovation capabilities in order to gain a competitive advantage.

2. Huawei's future development

Although Huawei has an international market, it is not developing very well in each market. There are still markets that need to continue to develop and new markets in many countries deserve Huawei to develop. For example, in the United States, Huawei's market share in the United States has always been very low, so in the future development, Huawei should continue to work hard to open up the United States market. For the European market, Huawei must continue to penetrate and continue to increase market share. In addition, Huawei focuses on the three major areas: fully connected networks, intelligent computing and innovative terminals. It continues to invest in products, technologies, basic research and engineering capabilities to promote technological innovation and strengthen the core competitiveness of enterprises to enable Huawei not behind other companies in the future.

3. Financial outlook analysis

During the development process, Huawei continued to modify and improve its financial risk management system and continuously optimized its capital structure, short-term liquidity planning and budgeting and forecasting system. To reduce foreign exchange risks, Huawei has established a comprehensive management mechanism, including foreign exchange management policies, procedures and operational guidance. These systems have continuously improved Huawei's financial management system. At the same time, Huawei's continuous reforms will increase the company's operating efficiency, reduce costs and expenses and expand profit margins. In addition, with the increase of profits, the size of the company will further expand. Huawei should strengthen the management of liabilities, avoid risks through the financial management system, and improve the company's ability to pay debts.

4.5 SWOT Analysis

4.5.1 Strengths

1. Policy

The Chinese government attaches great importance of communications industry and has repeatedly issued plans for the future development of the communications industry. The current focus is on the development of the 5G industry. Huawei has been a leader in China's domestic communications equipment manufacturing and has achieved remarkable results in 5G technology. It can seize this opportunity and expand the size of China's domestic market.

2. Cost advantage

Huawei has been continuously improving its internal financial management system and risk management system. At the same time, continuous internal organizational changes have reduced Huawei's management costs and production costs. In addition, as a China high-tech enterprise, Huawei can take advantage of China's low labor costs and sufficient raw materials to reduce the production cost of products. In terms of product manufacturing and logistics, Huawei has cooperated with many electronic equipment manufacturing suppliers and logistics suppliers around the world to establish multiple supply centers and transportation networks worldwide, which has effectively reduced manufacturing costs and transportation costs.

3. R & D capabilities

Huawei is one of the world's largest patent holding companies. As of December 31, 2018, Huawei has obtained a total of 87,805 authorized patents worldwide, more than 90% of which are invention patents. Every year, Huawei invests more than 10% of its sales revenue in research and development to ensure that it has sufficient funds for research and development. Huawei has always focused on ICT infrastructure and smart terminals to provide enterprises with a digital platform to promote corporate transformation and industrial upgrading. As one of the core contributors, Huawei and

industry partners have jointly completed the formulation of the first 3GPP 5G standard, which kicked off the 5G commercialization. At the same time, most of the employees recruited by Huawei in China are graduates of prestigious Chinese universities. This fundamentally guarantees the professional capabilities of Huawei employees, also brings vitality to Huawei's development and promotes technological innovation in enterprises.

4. Product diversification

Huawei has three different types of services, covering everything from mobile phones, tablets, computers and other electronic products to wireless networks, network energy, and digital platforms. This gives Huawei more options for its development. Huawei global enterprises and customers provide services to promote the popularization of broadband and ultra-broadband, intelligent connection and build a smart world where everything is connected.

5. Huawei's business philosophy

Huawei has continuously strengthened customer-centric quality management, aligned with customer needs, and satisfied customers with high quality and premium prices. At the same time, Huawei uses general information technology to serve the community and assume social responsibility. For example, the "Three-Star" solution will provide network services for 100 million rural people. Huawei has always complied with local laws and regulations, through selection, training and appointment of qualified managers to set up a subsidiary supervisory board to manage and supervise the operations of each subsidiary.

4.5.2 Weaknesses

1. Irregular management

Because Huawei's headquarter is in China, it is difficult to directly manage subsidiaries in international markets or foreign marketing branches, so it is easy to cause irregular management problems. Irregular management will inevitably increase the operating costs of enterprises. On the other hand, the lack of standardized

management will also have an impact on the expansion of the local market. Therefore, Huawei should design the corresponding management system, including personnel management, sales management and market management, based on the company's internal management system, drawing on the management experience of other foreign companies, and combining with the actual local conditions.

2. Non-transparent Information

Starting in 2018, because many countries believe that Huawei's information is opaque and non-public, Huawei has encountered a crisis of trust in the international market, which affected the company's overseas business to a certain extent. At present, although Huawei has signed contracts with many countries on 5G, the depth of cooperation is not consistent. For example: France has signed a 5G contract with Huawei, but currently only allows Huawei to participate in the construction of non-core parts of the network.

3. Solvency

From the perspective of financial analysis, the company's short-term solvency is declining and financial risks are increasing. With the rise of Huawei's sales volume and the expansion of the company's scale, the company's liabilities may rise, so the company's ability to pay debts may be affected and the company should pay attention to it.

4.5.3 Opportunities

1. Developing country's market

Developing countries have high demand for technology and the industry's entry barriers are not high. Huawei can use its own technological and scale advantages to explore new markets in developing countries, expand marketing channels and lay a solid foundation. For mature markets such as Europe and the United States, Huawei needs to further penetrate the local market to improve Huawei's popularity and customer loyalty.

2. Resource allocation

Huawei has an international market, which is a good advantage for Huawei's human, financial and material resources. Through vast market resources, information, technology and business experience can be obtained faster. It can also establish alliances with other companies and establish a complete resource allocation management system, thereby improving market share and the company's competitiveness.

3. Technology

The fourth industrial revolution is underway. The application of new technologies has injected new vitality into the future development of the communications industry. Huawei always pays attention to the R & D and innovation of technology. The annual investment in R & D funds ensures Huawei's core competitiveness and promotes Huawei's ability to develop its own business in all fields. Especially with the commercialization of 5G, Huawei's research on 5G has enabled Huawei to master many core technologies of 5G and better grasp the opportunities in the 5G competition.

4.5.4 Threats

1. Market saturation

The smartphone market is currently weak, with shipments gradually declined from 2018. As a result, companies have begun to look for new sales growth points, such as improving product performance and customer experience, competition has become fiercer. Competition in other areas of the communications industry, such as terminal markets and corporate networks, is also intense. Although Huawei has gained a certain market share by using its price advantage, other companies have seized the market by continuously improving their product performance, core technology and management systems. With long-term development, Huawei has to face the situation of shrinking profit margins, shrinking business scope, and cost reductions, while continuously investing a lot of funds to improve core technologies.

2. Supplier

Under the influence of the US government, the number of Huawei's available suppliers in the United States has decreased, forcing Huawei to switch the supplier's choice back to China. However, the technology of some suppliers does not fully meet Huawei's needs, so this is also an important influencing factor for Huawei's products.

3. Patent right

The competition for patent rights of enterprises has always been tense. According to Huawei's annual report, Huawei has adopted comprehensive protection measures to protect the patent rights of enterprises, but it still cannot prevent other companies from obtaining relevant information or patented technology by improper means. Although Huawei can defend its patent through intellectual property lawsuits, it still cannot prevent Huawei from incurring losses.

Table 20 SWOT Analysis

<p>Strengths:</p> <ol style="list-style-type: none"> 1. China government support communication industry development; 2. Huawei internal financial management system and risk management system reduce cost; 3. High R&D capability 4. Product diversification 5. Customer-centric quality management 	<p>Weaknesses:</p> <ol style="list-style-type: none"> 1. Irregular management 2. Non-transparent Information 3. Short-term solvency is declining
<p>Opportunities:</p> <ol style="list-style-type: none"> 1. Many developing country's market can develop 	<p>Threats:</p> <ol style="list-style-type: none"> 1. Market saturation 2. Some supplier may not meet

2. Take advantage of international market to improve resource allocation 3. Industrial revolution	Huawei needs 3. Scramble for patents
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Source: own analysis

Conclusions and Recommendations

From the above analysis, the following conclusions can be drawn:

Huawei's external development environment is mainly divided into two parts, one is domestic China and the other is the international market. The current development of the Chinese economy is relatively stable. The state has always vigorously supported high-tech enterprises and has issued many policies to support their development. The political and cultural environment is stable. Chinese domestic consumers have a high recognition of Huawei and high consumer loyalty. In the international market, especially in developed countries such as Europe and the United States, Huawei's development has been hindered by many obstacles. Many countries or companies do not trust Huawei, and believe that Huawei does not protect users' information enough and user's privacy is easily violated. However, with the development of 5G, Huawei has taken advantage of its advanced technical capabilities, cost advantages, sincere attitude and high-quality services, which has caused some countries to gradually change their attitude towards Huawei and is willing to let Huawei participate in 5G construction. For developing countries in the international market, Huawei has strong technical capabilities, and these countries have high technology needs and seek low-cost equipment. Huawei has great market development potential in these countries.

Huawei's current competitiveness is still very strong. Whether it is in the establishment and promotion of brand value or in terms of price, technology, company size, and corporate culture, Huawei has done very well so far. Huawei recognizes that the low-cost strategy is no longer suitable for the development of current enterprises. Consumers have gradually paid attention to the quality and performance of products. Therefore, Huawei has changed from a low-cost strategy to a core technology research and development strategy. Only by improving the enterprise's own innovation ability and grasping the core technology can it gain an advantage in the competition.

From the analysis results of Huawei's Harvard financial analysis framework, Huawei has effectively controlled the company's operating activities and financial risks through its internal financial management system. Huawei's asset structure is relatively reasonable and the annual R & D expenditures that are continuously invested are within the company's affordability. However, with the gradual increase of R & D expenses, Huawei's period expenses may increase accordingly. Therefore, Huawei must properly control the investment of R & D expenses. Huawei's current cash flow is sufficient, and short-term investment activities have increased. Financing activities may further increase as the company expands.

In addition, in terms of financial analysis, the company's short-term debt repayment ability is decreasing. But the company's asset turnover rate, inventory turnover rate and accounts receivable turnover rate are generally increasing. This shows that the company's ability to use asset profitability is constantly increasing. At the same time, in view of Huawei's internal financial management system, the company's operating efficiency is also constantly improving. After 2014, Huawei's market share has continued to increase. From the perspective of profitability, Huawei's revenue and profits have increased with the increase in corporate sales, and the momentum is strong. There is still much room for improvement.

Based on the above results, this article makes the following suggestions:

While taking advantage of China's domestic policies, Huawei must also seize market opportunities and further expand its market share in China. Improve company transparency and information disclosure, and increase trust in companies in overseas markets.

Maintain existing advantages in competition, use research and development technology to develop new products, research new areas, and master core technologies, thereby reducing the bargaining power of suppliers and widening the gap with competitors.

Enhancing the of enterprises solvency capability. The enterprise management

system can be used to combine financial statement information and debt contracts to formulate a reasonable debt repayment plan. Reasonably plan the repayment time of funds to avoid shortages in the capital chain. At the same time, it can reduce the production cost by learning and mastering the equipment technology of suppliers and taking advantage of the large-scale production of enterprises. Strengthen the expansion of marketing channels and actively develop new markets, such as: less developed countries that do not yet have a mature communications market. Improve the core competitiveness of enterprises, use product quality and performance to retain customers and increase corporate profits.

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Appendix

Huawei Balance Sheet from 2009 to 2018 (Unit: CNY Million)

Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Goodwill and intangible assets	553	719	1,381	5,078	5,753	2,597	2,725	4,795	5,327	7,964
Property, plant and equipment	8,317	16,008	18,631	20,366	22,209	27,248	35,438	49,307	56,089	74,662
Long-term leasehold prepayments	-	-	-	2,361	2,761	3,349	3,306	4,112	5,152	6,896
Interests in associates and joint ventures	311	509	683	493	481	655	528	484	750	562
Available-for-sale equity investments	-	67	-	-	-	-	-	-	-	-
Loans receivable	-	18	-	-	-	-	-	-	-	-
Other investments, including derivatives	-	-	454	549	584	540	3,961	3,003	5,965	18,725
Deferred tax assets	5,147	7,210	9,095	9,805	11,577	14,916	16,900	16,933	18,565	17,257
Contract assets	-	2,329	-	-	-	-	-	-	-	601
Trade and bills receivable	-	116	46	904	335	446	2,098	3,776	2,451	3,588
Other assets	719	-	3,381	982	988	2,917	5,553	5,722	5,665	5,423
Non-current assets	15,047	26,976	33,671	40,538	44,688	52,668	70,509	88,132	99,964	135,678
Inventories and other contract costs	24,947	27,568	26,436	22,237	24,929	46,576	61,363	73,976	72,352	96,545
Contract assets	-	-	-	-	-	-	-	-	-	47,675
Trade and bills receivable	63,282	68,734	55,330	59,829	78,005	79,580	93,260	107,957	107,595	91,995
Other receivables	-	-	16,070	15,407	-	-	-	-	-	-
Other assets	7,145	-	-	-	14,525	24,913	21,815	27,916	25,371	28,042
Assets held for sale	-	13,957	-	346	-	-	-	-	-	-
Loans receivable	-	248	-	-	-	-	-	-	-	-

Other investments, including derivatives	-	-	5,150	4,469	8,545	27,988	14,647	22,606	24,596	81,751
Cash and cash equivalents	29,232	41,501	57,192	67,180	73,399	78,048	110,561	123,047	175,347	184,106
Current assets	124,606	152,008	160,178	169,468	199,403	257,105	301,646	355,502	405,261	530,114
Total assets	139,653	178,984	193,849	210,006	244,091	309,773	372,155	443,634	505,225	665,792
Liabilities										
Loans and borrowings	8,490	10,264	13,270	16,077	19,990	17,578	26,501	40,867	38,338	66,170
Long-term employee benefits	3,512	6,266	8,392	9,686	9,608	9,731	11,533	19,652	-	-
Deferred government grants	933	1,354	1,857	2,218	2,746	2,565	1,965	1,534	1,340	1,209
Deferred tax liabilities	631	590	652	784	476	320	460	1,104	1,471	1,937
Other liabilities	-	-	-	586	782	964	-	1,073	1,702	4,161
Non-current liabilities	13,566	18,474	24,171	29,351	33,602	31,249	40,459	64,230	42,851	73,477
Loans and borrowings	7,887	2,695	7,057	4,677	3,043	10,530	2,485	3,932	1,587	3,771
Employee benefits	-	-	-	-	-	-	-	-	91,857	98,164
Income tax payable	3,696	4,203	2,323	1,653	4,034	5,947	4,213	4,100	4,390	4,191
Trade and bills payable	70,013	82,656	38,049	40,273	31,980	45,899	61,017	71,134	72,866	96,919
Contract liabilities	-	-	-	-	-	-	-	-	-	58,278
Other Payables	-	-	54,059	55,379	80,448	108,308	-	-	-	-
Other liabilities	-	-	-	-	-	-	133,779	145,448	95,825	87,683
Provisions	1,175	1,556	1,962	3,649	4,718	7,855	11,133	14,657	20,233	10,244
Current liabilities	82,771	91,110	103,450	105,631	124,223	178,539	212,627	239,271	286,758	359,250
Total liabilities	96,337	109,584	127,621	134,982	157,825	209,788	253,086	303,501	329,609	432,727
Equity	-									
Equity attributable to equity holders of	43,253	69,381	66,274	75,048	86,207	99,940	119,021	140,094	175,585	232,658

the Company										
Non-controlling interests	63	19	-46	-24	59	45	48	39	31	407
Total equity	43,316	69,400	66,228	75,024	86,266	99,985	119,069	140,133	175,616	233,065
Total equity and liabilities	139,653	178,984	193,849	210,006	244,091	309,773	372,155	443,634	505,225	665,792

Huawei Income Statement from 2009 to 2018 (Unit: CNY Million)

Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Revenue	149,059	182,548	203,929	220,198	239,025	288,197	395,009	521,574	603,621	721,202
Cost of sales	90,090	102,195	127,481	132,512	141,005	160,746	230,312	311,445	365,479	443,031
Gross profit	58,969	80,353	76,448	87,686	98,020	127,451	164,697	210,129	238,142	278,171
Research and development expenses	13,340	17,653	23,696	29,747	31,563	40,845	59,607	76,391	89,690	101,509
Selling and administrative expenses	24,169	31,439	33,770	38,667	38,052	47,468	62,281	86,442	92,681	105,199
Other operating expenses, net	408	585	400	-1,386	-723	4,933	-2,977	-219	-613	-1,824
Operating profit	21,052	30,676	18,582	20,658	29,128	34,205	45,786	47,515	56,384	73,287
Finance expenses	-1,255	2,118	5,897	2,039	3,942	1,455	3,715	3,737	573	-253
Share of associates' and joint ventures' results (post tax)	163	10	228	237	24	-303	84	-280	-317	-106
Profit before taxation	22,144	28,548	12,457	18,382	25,162	33,053	41,987	44,058	56,128	73,646
Income tax	3,870	3,832	810	2,758	4,159	5,187	5,077	7,006	8,673	14,301
Profit after tax	18,274	24,716	11,647	15,624	21,003	27,866	36,910	37,052	47,455	59,345

Huawei Cash Flow from 2009 to 2018 (Unit: CNY Million)

Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Net cash from operating activities	21,741	31,555	17,826	24,969	22,554	41,755	52,300	49,218	96,336	74,659
Net cash generated from / (used in) investing activities	-5,219	-14,708	3,421	-5,426	-8,037	-26,209	-741	-28,524	-24,657	-93,880
Net cash used in financing activities	-8,384	-10,152	-4,774	-9,180	-7,126	-10,406	-19,763	-10,851	-16,936	26,926
Cash and cash equivalents at December 31	29,232	41,501	57,192	15,624	73,399	78,048	110,561	123,047	175,347	184,106

Huawei's Asset Structure from 2009 to 2018 (%)

Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Goodwill and intangible assets	0.4	0.4	0.71	2.42	2.36	0.84	0.73	1.08	1.05	1.2
Property, plant and equipment	5.96	8.94	9.61	9.7	9.1	8.8	9.52	11.11	11.1	11.21
Long-term leasehold prepayments	0	0	0	1.12	1.13	1.08	0.89	0.93	1.02	1.04
Interests in associates and joint ventures	0.22	0.28	0.35	0.23	0.2	0.21	0.14	0.11	0.15	0.08
Available-for-sale equity investments	0	0.04	0	0	0	0	0	0	0	0
Loans receivable	0	0.01	0	0	0	0	0	0	0	0
Other investments, including derivatives	0	0	0.23	0.26	0.24	0.17	1.06	0.68	1.18	2.81
Deferred tax assets	3.69	4.03	4.69	4.67	4.74	4.82	4.54	3.82	3.67	2.59
Contract assets	0	1.30	0	0	0	0	0	0	0	0
Trade and bills receivable	0	0.06	0.02	0.43	0.14	0.14	0.56	0.85	0.49	0.54
Other assets	0.51	0	1.74	0.47	0.40	0.94	1.49	1.29	1.12	0.81
Non-current assets	10.77	15.07	17.37	19.30	18.31	17	18.95	19.87	19.79	20.38
Inventories and other contract costs	17.86	15.4	13.64	10.59	10.21	15.04	16.49	16.68	14.32	14.5
Contract assets	0	0	0	0	0	0	0	0	0	7.16
Trade and bills receivable	45.31	38.40	28.54	28.49	31.96	25.69	25.06	24.33	21.30	13.82
Other receivables	0	0	8.29	7.34	0	0	0	0	0	0
Other assets	5.12	0	0	0	5.95	8.04	5.86	6.29	5.02	4.21
Assets held for sale	0	7.8	0	0.16	0	0	0	0	0	0
Loans	0	0.14	0	0	0	0	0	0	0	0

receivable										
Other investments, including derivatives	0	0	2.66	2.13	3.5	9.04	3.94	5.1	4.87	12.28
Cash and cash equivalents	20.93	23.19	29.5	31.99	30.07	25.20	29.71	27.74	34.71	27.65
Current assets	89.23	84.93	82.63	80.7	81.69	83	81.05	80.13	80.21	79.62
Total assets	100	100	100	100	100	100	100	100	100	100