

RESEARCH ON THE DEVELOPMENT STATUS AND COUNTERMEASURES OF HUAWEI AT HOME AND ABROAD UNDER THE BACKGROUND OF BIG DATA

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Abstract: In recent years, the development of information technology (especially mobile Internet) has made the network a new business model for research in different fields. The sharing economy is growing rapidly, especially in areas such as food, clothing, housing and transportation. With the development of information technology, the growth rate of computer computing power is ten times that of the global economy, which has an important impact on the marketing of the enterprise market. Use this article to divide Xu Wei's "data stream" into the "data stream" in the bag. Educational practice Five-State Index type Huawei uses big data pieces and maintenance items as a supplier, just a small "exhibition company" designed to promote itself and the public trend. The content of the article describes the future development of Chinese companies' business model in the era of big data, which is very important.

Keywords: *Huawei Big Date; Sharing economy; Big data era*

I. INTRODUCTION

In recent years, big data has become a hot topic, it has moved from the original initial stage to the "golden stage". All walks of life gradually use big data as one of the innovative means, so big data has gradually become a new goal for companies to study in the future. This paper is based on several theoretical foundations: the first is David. Ricardo put forward that the theory of comparative advantage belongs to one of the key theories of this major combined with the background of the topic: the rapid development of information technology, Internet technology, the era of big data has come, how to seize business opportunities in international business activities, in the global trade in the dominant position, International business management in information, technology and other aspects of business activities is very important. The second is that the concept of business model innovation can be traced back to the famous Austrian American economist Joseph Schumpeter. The business behavior of enterprises is to carry out creative destruction constantly-to establish a new market pattern in breaking the old market pattern, and never to take the new market pattern as the goal. The third is technology commercialization, industrialization, scientific and technological achievements transformation theory as a reference. In order to study and analyze the future business model of enterprises under the background of big data, this paper focuses on the Huawei of technology companies based on previous research results. With the continuous exploration of innovation mode, Huawei company is chosen as a case and analyzed, and the development, problems and reform of Huawei business model under the influence of big data are analyzed from different angles.

II. GENERAL SUMMARY OF HUAWEI BIG DATA AT HOME AND ABROAD

2.1 Home

From the era of rapid transmission of information, digital layout is deepening, facilitating and accelerating world change. The Internet shortens the distance between time and space, and the big data industry provides opportunities for sharing results, deepening cooperation, creating new impetus, and jointly promoting the development of global industries in different countries and regions. The popularity of big data can fully improve efficiency. Against this background, in the domestic, Huawei development is good. On the "2020 China big data Enterprise 50" list, Huawei Chao Ali, Tencent, ZTE, Baidu and other enterprises, ranked first [1], as shown in Table 1.

Table 1 2020 Top 50 Big Data Enterprises in China

Top 10 Big Data Companies in China 2020	
Serial number	Enterprise
1	Huawei Technology Limited
2	Alibaba
3	Tencent
4	ZTE Corporation Limited
5	Baidu
6	Xiaomi Group
7	Xinhua Three Group
8	DiDi
9	The Dawn of Science
10	Jinshan Cloud

Data from China Business Research Institute released "2020-2025 China big data industry market prospects and investment opportunities research report

Furthermore, since 2007, the Huawei Government has been conducting system management in two phases. The first sustainable investment in the past 10 years has laid the foundation for China's digital innovation launched in 2017. At the same time, it also enters the second stage, that is, the requirement of data management digitization brings new challenges and development.

At home, at this stage, Huawei created a database to aggregate and connect data across the enterprise. By means of data service, data mapping, data security protection and privacy protection, Huawei achieve the goal of data exchange on demand and flexible self-help. By Huawei digital transformation, the following data values are realized. visible business, fast and accurate decision making: through data aggregation, you can achieve transparent and visual business state and provide the basis for supporting "fact" decision making. Artificial intelligence realizes business automation: through the digitization and algorithmization of business rules and integration into business processes, it gradually replaces manual judgment. Data innovation has become a differentiated competitive advantage: data-based user knowledge can discover new market opportunities.

2.2 Abroad

At present, the global big data enterprises are mainly divided into two camps. Part of the new enterprises with big data technology as the core, hoping to bring innovative solutions to the market and promote technological development. There are also some established manufacturers who originally manage database / data warehousing business. They intend to use their dominant position to impact the big data field and promote the existing installation foundation and product line reputation to a new wave of technology. Huawei belong to the former, according to the current world big data factory ranking [2], as shown in Table 2.

Table 2 World big data Enterprise Rankings 2019(Top 10)

World big data Enterprise Rankings 2019(Top 10)	
Serial number	Enterprise
1	IBM
2	HP
3	Teradata
4	Oracle
5	SAP
6	EMC
7	Amazon
8	Microsoft
9	Google
10	VMware

Data from may 15,2019 IT times weekly "15 of the world's most influential big data companies "

Obviously, Huawei is not in the top of the list, but Huawei big data still has international development. Here I would like to give two examples. The Huawei big data Analysis platform (FusionInsight-Universe Analytics) was awarded the "most innovative Telecom big data Cloud platform Award ". The summit awarded the Huawei "most innovative big data cloud platform award ", which is an affirmative [3] for Huawei

continuous innovation and helping operators build big data capabilities.

Second, Huawei data center in Guian district, Guizhou, Huawei high - level and focused talent training will be here, Management data are stored in more than 100 countries around the world. According to the reference data, Sixty per cent of Top10 Bank of China ,50 per cent of global Top50 operators and 30 per cent of the Government's Pingcheng project have chosen Huawei big data solutions, The programme has been widely used in a number of areas and serves nearly 40 countries and regions worldwide, With over 700 clients, nearly 300 business partners [4].

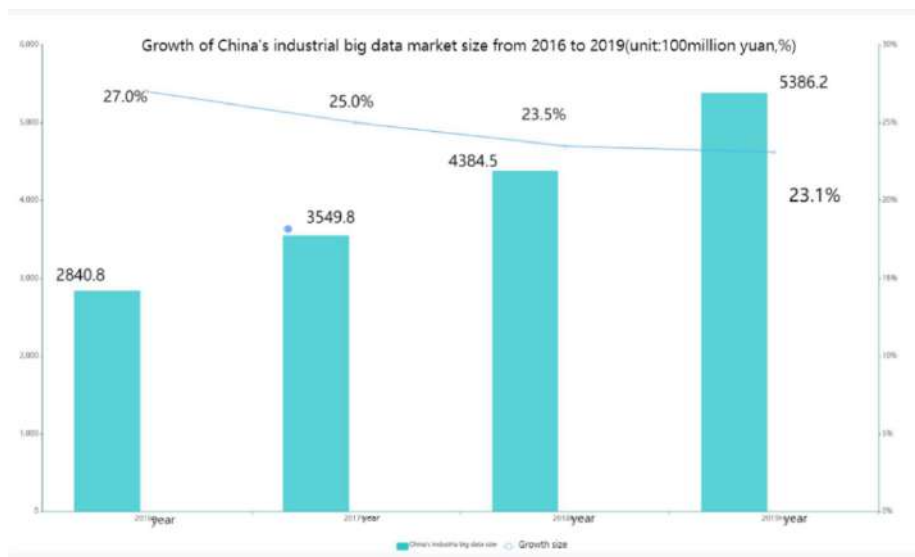
III. ANALYSIS OF HUAWEI BIG DATA AT HOME AND ABROAD

3.1 Policy

Policy support is one of the important factors for the development of macro environment in Huawei under the background of big data.

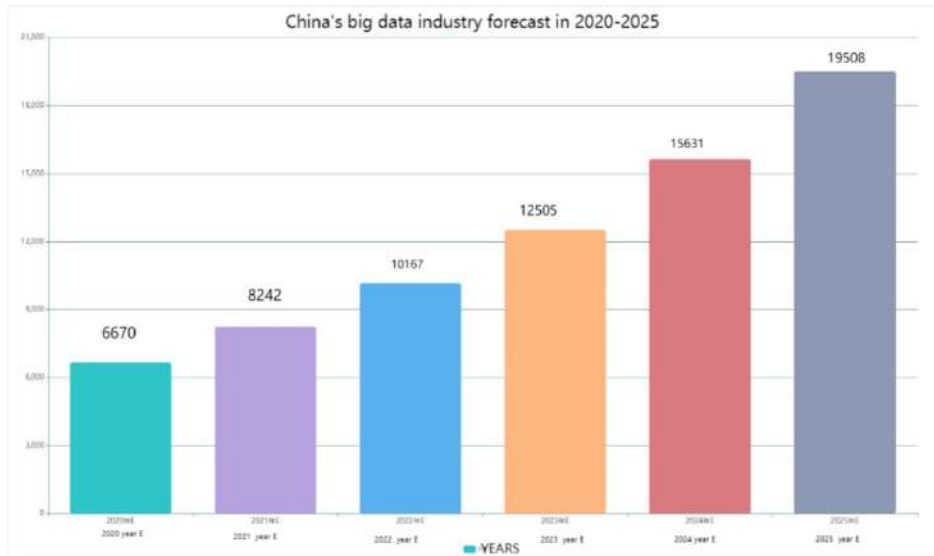
In recent years, the Chinese government has been implementing the big data sector policy. The big data action plan released by the State Council in 2015, To promote development, First, propose, develop and use big data [1], Realize big data in 5-10 years in the social, economic, people's livelihood, innovation, industrial ecology and other aspects of rapid development. Not only has this policy been announced, The Ministry of Industry Information also issued the Big Data Industrial Development Plan (2016-2020), The plan proposes technological progress by 2020, A safe and reliable information industry [5]. We can see that the national strategy involves big data, Break the country's previous big data development situation. With the expansion and development of the field of information and communication, Internet of things and mobile Internet, Global data trends continue to grow. Not just the big data industry, Big data analysis is also an infinite potential [6]. Today's "big data analysis ", Emphasis is placed on the increase and expansion of the "quantity" of the data. By raising requirements, A large number of rapid data growth in-depth analysis. Practical, Through the analysis of raw data, Looking for the cause, Through constant analysis of things, Continuous optimization, Looking for a breakthrough, Seeking universal law, To complete the sustainable development of all fields of society. Against the background of big data Huawei the external environment of development has strong potential for future development, as shown in Figure 1 and Figure 2.

Figure 1 Big data industry scale in China



Source: Institute of Prospective Industries

Figure 2 China's future big data market scale development forecast



Source: Prospective Industrial Research Institute

Foreign countries, Huawei big data development environment policy is also considerable, because governments around the world have realized the importance of big data. And sell their data and services as emerging companies in Huawei big data, and then give specific solutions. It is easier to commercialize big data and then obtain raw materials. Driven by the policy support of foreign countries, more and more companies think deeply about how to produce the commercial value of big data, and finally obtain the unique competitive advantage [7], as shown in Table 3.

Table 3 2019 Comprehensive arrangement of foreign big data policies

Comprehensive arrangement of foreign big data policy in 2019	
States and institutions	Policy overview
United States	Steadily implement the "three steps" strategy to create a big data innovation ecology facing the future
United Kingdom	Grasp the big data industry opportunities to meet the economic challenges after Brexit
EU	The European Parliament wants data-driven economies
Korea	Taking big data and other technologies as the core to deal with the fourth Industrial Revolution
Canada	The Government will launch a national big data strategy
Japan	Government participation, planning first

Data Source: April 13,2019 Fast Information Magazine , " Comprehensive Analysis of the latest Big Data Policies in Foreign Countries "

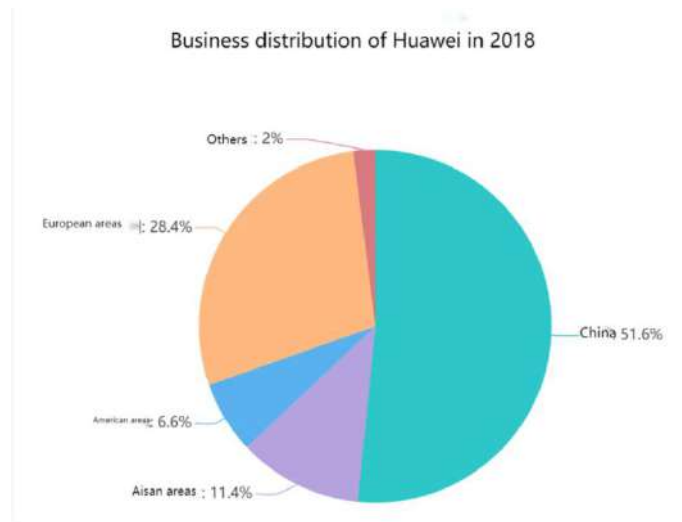
3.2 Economic

At home, taking the financial industry as an example, the Huawei big data analysis platform has been used on a large scale in ICBC, China Merchants Bank, China Construction Bank and Ping an Bank to help customers in the financial industry achieve business decisions, accurate marketing and user experience upgrading. Relying on cloud computing, big data and other emerging information technology, Internet financial services are rising rapidly, challenging the traditional financial service model of commercial banks with more innovative business models and better user experience. The traditional financial industry lacks the decision and service system based on big data analysis, still adopts the way of designing the product first, then the customer buys, and lacks the feedback and innovation mechanism of Internet finance based on big data, which leads to insufficient product innovation and low customer satisfaction. Traditional financial enterprises urgently need to reconstruct the decision and analysis system based on big data analysis to enhance competitiveness and customer satisfaction in product innovation, prediction and risk control.

At abroad, Huawei big data development needs to cooperate with other international enterprises. For this, Huawei also make corresponding method to solve. On the global conference of analysts, for example, star ring technology and Huawei formally signed a memorandum of understanding on industrial cooperation in the

field of data storage and big data, developing joint solutions, market nurturing and industrial advancement around star ring technology big data platform and Huawei massive data storage, and building data infrastructure to expand overseas market size [8]. And, Huawei the entire company in overseas development, its big data industry is also in the ideal plan, as shown in Figure 3.

Figure 3 Distribution of Huawei 2018 business area (figure represents Huawei sales revenue in the region for the year 2018 as a proportion of total sales revenue for the year)



Data Source: Annual Report 2018 of Huawei Investment Holdings Limited

3.3 Social

At home, Huawei big data has been good in the media and the masses. And in 2019, the Annual Evaluation Technology Co., Ltd. is the supplier of the year in the national project results for a comprehensive evaluation of the organization. The fourth Construction Engineering Bureau of China is one of the 48 suppliers of Gui'anHuayun data Center project with A rating, and the only supplier of Huawei Group that all the projects under construction have been rated A. State. This A rating not only fully recognizes the successful implementation of Huawei projects, but also ensures that the company will eventually obtain priority [9].

At abroad, Huawei big data is also accepted by foreign society. Mainly because Chinese brands in electronics, entertainment, clothing, cars, cosmetics, food and other six industries have shown a steady growth in attention. The jump in brand attention over the past decade also reflects the rise of Chinese brands from made in China to China's pride.

Among them, the mobile phone digital field can best reflect the development of Chinese manufacturing capacity, in this field China brand growth leading other industries. big data shows that brands such as Huawei, millet and OPPO, VIVO, while providing more options for users, also inject more "pride value" into the qualitative changes such as "independent research and development" and "core technology" of domestic enterprises ". Foreign consumers favor electronic products brands more.

3.4 Technology

Huawei Fusion Insight big data technology is one of the important technologies of Huawei. Huawei integrated platform based on enterprise big data query, storage and analysis can quickly screen and organize a large amount of information, analyze and analyze a large amount of information and data, so that enterprises can get useful from massive data information in a short time. furthermore, Fusion Insight have great effect on the collection, sorting, sensitivity management, analysis and security of technical data, and can solve various requirements in various situations. At the same time, deep learning algorithms and other machine learning (artificial intelligence) applications will be added to actively ensure the leading position of Fusion Insight. The ability of Fusion Insight is often different from most ordinary big data platforms. These differences can be expressed in different functions, Huawei Fusion Insight can be used alone or built into a platform. Among these technologies, the combination of diversification and individuation is Huawei to create artificial intelligence into practice and technology. Huawei in the field of big data continuous research and development, for the majority of customers to provide better services, to create a prosperous ecological circle.

In January 2019, Huawei released the ARM-based processor - Kunpeng 920 and Taishan server, This is the

market [10] for Huawei development of enterprise-level servers and data center chips for local ARM applications, big data, distributed storage, etc. And in May 2019, Huawei has also launched a basic artificial intelligence database for the public GaussDB and the best distributed storage FusionStorage8.0 and GaussDB databases to enhance Huawei Cloud capabilities, Through a series of operations, Huawei first apply artificial intelligence technology to warehouse management, thereby converting resources, business activities, and risk forecasting into fast versions of smart management. In June, Huawei released intelligent data processing methods I - FusionData, Merge HuaweiGaussDB databases, OceanStor storage, ROMA data access tools, FusionInsight big data, From simple processing to intelligent processing, And then to smart lifecycle management, This has improved the ability of large-scale data, And further improve the value of data.

IV. DEVELOPING ISSUES OF HUAWEI BIG DATA AT HOME AND ABROAD

1.1 Data Can't Be Effectively Mined and Utilized

With the increase of the amount of information on the Internet, it has entered the data age. From the point of view of the development of science and technology, "big data" is a natural product, but the development of big data analysis is not very mature in China. Enterprises can not only use big data analysis for some enterprises, even if data analysis is introduced, they can not expand data analysis in the whole field of operation and management under the condition of insufficient diffusion. For Huawei such large enterprises, every day the system of branches at all levels will generate a large number of various types of data, but at this time the data is scattered, this can not be connected to each other, the failure to achieve unified management mode will inevitably affect the maximum use of big data, reduce the value of big data. The traditional "preprocessing" is only simple data classification and processing, but in fact, a large number of unstructured data, mining, accurate classification of information in the main problem, involving some complex calculations and algorithms, must also be taken into account. Besides data processing, storage and retrieval, there is also a question of how to quickly retrieve data [8] when a company needs specific information.

1.2 Data Security and Privacy Issues

When people leave records on the Internet and data are collected, it is inevitable that they will be used by people, and the phenomenon of personal data leakage will produce the grey area of data black market. It reveals the harmful effects of big data transactions and warns some companies. When collecting and analyzing big data, enterprises should also pay attention to the security of data, especially for large companies such as Huawei, which will inevitably affect the credibility of the company and endanger its development. If this problem will make the public distrust of Huawei, thus reducing the use of Huawei products, it should avoid revealing personal privacy, so as not to have a bad impact on enterprises.

1.3 the Problems of Big Data in Other Enterprises

If the amount of data is huge, the processing and extraction of data is already a difficult thing, but there are still some problems, that is, Huawei big data users are not a class, but enterprises or individuals from all walks of life, from finance, services, manufacturing, government, research, etc. This problem brings challenge [11] to the development of Huawei big data.

V. SOME SUGGESTIONS FOR HUAWEI TO RESPONSE TO THE PROBLEM

1.4 Increased Utilization of Data

The value of big data is inseparable from circulation. In the field of basic data circulation, we can see that the big data trading industry has entered a stage of development through various reports. Sharing mode is a kind of operation mode which can make goods, data and services have sharing channels at the same time. In general, it is to optimize the allocation of resources. This form is similar to the circulation of big data, which is an important reason why sharing economy can solve the problem of big data transaction. I think the shared economy model in big data: API economy is a good starting point to solve problems.

API refers to the initials of the Application Program Interface, that is, the application interface, which can realize the data output through the API interface without distortion, and can access the data output format accurately and quickly through the unified data call mode. Of course, the output of data through API is not only fast and accurate, but also flexible, which is more convenient for data owners and users to trade by order or data flow. And the API one-to-one information feedback mode not only ensures the efficiency of data transmission, but also ensures that the information is not leaked.

Huawei should introduce new solutions that provide rich open interface API. With the advent of the tide of digital transformation, industrial transformation is also continuing. Huawei through big data analysis, the introduction of EC-IoT solutions. In this scheme, the terminal communication module provides the basis of intelligence and interconnection, the edge computing gateway provides services, the agile controller uses the open interface to connect with different industry application systems, and the cloud management architecture is used to realize the connection and efficient management of different industry terminals. Through technological

innovation, the scheme provides open interfaces API/eSDK open interfaces with industrial application systems with different partners, increases industrial adaptability and develops new industrial scenario [12].

1.5 Addressing Data Utilization and User Security Issues

Database is an important support for enterprise application, In the face of data that can not be effectively exploited, Huawei published GaussDB database, A world class analytical database, Can show a large amount of data processing and analysis capabilities, To provide a computing platform for large data management enterprises, The platform is cost-effective, And can support most data decisions and BI systems, To provide better analysis and decision-making services, GaussDB series of products include GaussDB OLTP, GaussDB OLAP database and GaussDB HTAP database. In September 2019, Huawei announced a partnership with open source, Develop brand database products, At the same time plan and name openGauss, open source version Full launch in June 2020, This database can reach nearly 70% of the business coverage [13].

As for data security, I think that with this potential problem, Huawei should work with a number of companies to implement measures to protect data security. Huawei's main partner in security and database security, Kai Star, joined the Huawei Terminal Security Award in December 2018; later added Tianrong Alpha Laboratory.

I want to improve the technology, as well as continuous leak filling, actively achieve Huawei big data security and intelligence.

1.6 Huawei's Big Data to Provide a More Secure Data Platform for Other Enterprises

At the level of technology development, data mining technology and business intelligence technology have been actively applied in most fields. These can be said to be more mature data analysis and processing technology. As in the field of e-commerce, the application of these data analysis techniques can actively promote the operational efficiency of enterprises in the field of e-commerce, further expand development, and expand profits at the same time. However, new technologies such as personalized recommendation engine and unstructured database will affect the popularization rate because of the high threshold of their technology and the high cost of operation, which will make the utilization rate of domestic enterprises not high and can not be applied to deeper enterprises. For some enterprises encountered the above situation, can use Huawei Cloud to solve. Founded in 2005, Huawei Cloud belongs to Huawei Company. Through cloud management platform, users use self-service to realize the utilization of resources. Huawei provides cloud computing IT infrastructure services to the public, not just users, but some companies can also estimate their business through Huawei Cloud. Through cloud computing, enterprises can make full use of the characteristics IT basic resources and facilities in cloud computing, and effectively help users reduce the cost of operation by charging fees according to demand. Enterprises can use huge cloud computing resources to quickly change their own conditions and achieve real flexible and efficient utilization [14].

VI. CONCLUSION

To sum up, wait and see the future. Huawei company is not only committed to the use of data in today's big data era, in the past Huawei the company has been prescient, the establishment of data storage, but now only more reasonable and full use of its data to achieve business model innovation and change. Big data is a "sword" for Huawei. It can make Huawei find the direction and use the information resources to expand their own fields, and actively cooperate with other enterprises to achieve win-win business. Until now, Huawei may be in the leading position in the field of technology. For example, Huawei and Shenzhen municipal government have carried out comprehensive cooperation in many basic industrial fields, such as artificial intelligence and industrial Internet, and are working hard to promote the digital transformation and further upgrading of Shenzhen industry. Huawei take the digital economy as the starting point, using 5 G、 artificial intelligence and cloud computing and a series of new means to help Shenzhen to become a digital city, committed to the public service leading, development priority city, for the people comfortable, live and work in peace and contentment good environment. For example Huawei using big data to help Shenzhen Baoan International Airport to carry out "operation control, security and service" three areas of model innovation, to build "airport travel face ", "airport safety net" and "an airport operation map" these three scenarios. Since then, passengers in Shenzhen Baoan International Airport security inspection, only brush a face can pass quickly, or even take out the identity card. Obviously, these advances are achieved through the use of big data.

Big data is the main trend of this era, in the past Huawei through a keen sense of smell to seize the opportunity, now big data in the stage of the times occupy a large module, Huawei the various applications of big data appear in front of us. In the future, Huawei big data is also facing the impact of the trend of the times, data collection has been realized, the future is the active use of big data, Huawei companies and Shenzhen government actively build intelligent city, This will also be an important trend for future urban development. The second development direction is the "Internet of things ", big data is the collection and analysis of data, the Internet of things is information exchange, information between things, and the Internet of things needs to rely

on the Internet, that is, big data as the basis. Artificial intelligence and speech recognition technology in the third direction, this intelligent technology needs a lot of information to pave the way, artificial intelligence needs to rely on algorithms, effective algorithms need a summary of all kinds of information, Then use the technology to collect the information to complete effective recognition, so that intelligent [17] can be further.

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