Research on the Impact of Logistics and E-commerce on JD.com

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Abstract. ESG (Environment, Social, and Governance) considerations take significant weight in valuing a company for investors. They are essential to show each company's growth and sustainability. As the generations change, more and more companies take ESG seriously and start advancing their products to gain more customers and build a sustainable brand image. In this report, ESG is primary factor in evaluating of JD.Com Inc. In the annual report of JD.Com Inc., it can be seen that there are three main segments of the operating income period, and two business segments account for the main part. Therefore, in this report, people will analyze the basic competitive situation of the two business sectors of the company and the judgment of competitive strategy respectively through Porter's Five Forces model. Analyze whether JD.Com Inc. is a company on the rise, the industry, and future prospects. This company belongs to an industry with highly predictable cash flow, so in this report, discounted cash flow valuation model (DCF model) will be used to analyze JD.Com Inc. Whether is at a reasonable valuation price.

Keywords: E-commerce, logistics, strategy.

1. Introduction

JD.Com Inc. is the third largest e-commerce platform in the world and the second largest in China. [1] In 2014, JD.Com Inc. was listed in the United States, and in order to further improve the supply chain system, it was listed on the Hong Kong Stock Exchange in June 2020. A secondary listing. In the list of the global retail industry ranking released by Deloitte in 2023, JD.Com Inc has surpassed Alibaba to become the largest retail company in China and is the 7th largest retailer in the world. [2] It mainly provides B2C type of services, mainly self-operated model, featuring quality assurance and fast logistics. According to the its 2022 annual report, the operating revenue reached 151.6 billion dollar, of which the three main business segments are JD retail, JD logistics, Dada, Total adjustment and new business segments, including JD Finance, Jingxi, overseas businesses and so on. [2], these three segments each account for 88.88%, 13.13%, 0.77%, -4.97% and 2.08% as the total revenue respectively. JD Group began to build its own logistics in 2007, and officially established JD Logistics Group in April 2017. In May 2021, JD Logistics was listed on the main board of the Hong Kong Stock Exchange. The integration of logistics service supply chain is the core of JD logistics circuit. JD logistics mainly focus on quick, clothing, home appliances furniture, 3 c, automobile, fresh and so on six big industry. 2022 annual report showed that the main business is divided into two pieces of customers and other customers, the integration of supply chain, respectively, 56.36% and 43.64% of total revenue JD logistics contains storage network, an integrated transport network, the last kilometer distribution network, big, cold-chain logistics network and cross-border logistics network as of June 30, 2023, JD logistics operating more than 1600 warehouse, warehousing a total area of more than 32 million square meters. In fiscal year 2022 annual report of the annual revenues of $19.916 billion. JD Finance, which provides a variety of financial services, including consumer finance, supply chain finance, payment, wealth management, etc. JD technology development for JD group and its partners to provide technical research and development, data analysis, artificial intelligence and other services. JD Health is the largest online healthcare platform in China. Jingxi, a discount shopping platform owned by JD.com Group. Dada group is instant retail and distribution platform. It has two core business platforms, JD Home and Dada Express, which account for 66.29% and 33.71% respectively. The 2022 financial report shows that the annual operating revenue is 1.358

billion US dollars. In June 2014, Dada was officially launched. On June 5, 2020, officially listed on NASDAQ exchange Dada group. On August 22, 2022 evening news, Dada group officially return to JD Group.

2. ESG Considerations

ESG, short for Environmental, Social and corporate Governance, is an investment concept and enterprise evaluation standard that focuses on corporate environmental, social and corporate governance performance rather than traditional financial performance. It is also an important standard to measure whether listed companies have enough social responsibility. In the analysis, for the value of the company, mainly adopted ESG model and the analysis of DCF model model, [3] model of DCF model flaw is that he too much importance to the history of the enterprise. The role of financial statements and financial performance in the value of enterprises, thus ignoring the environment, social responsibility, corporate governance and other non-financial factors reflected in the ESG concept, many traditional investors in their investment philosophy, mainly based on the future earnings and current assets of enterprises, including but not limited to price-to-book ratio, price-earnings ratio, net interest rate and other indicators. And these indicators are usually based on the enterprise's annual financial table calendar year, and in the present, under the condition of sustainable development concept prevailing, ESG has become to an important influencing factor of the enterprise value, at the same time, the data show that ESG information in today's mainstream institutional investors, has become a major investment selection factors. [4] It is very important to evaluate the investment risk of JD.com Inc, and can help people understand some financial information that we do not know in the financial statements of JD.com Inc. For this report, ESG played a decisive role in judging the sustainable development of the company and helping to make a better judgment on the development of the company. JD.Com Inc. had completed the installation of photovoltaic power generation systems in the first batch of 12 intelligent industrial parks, and put 20000 new energy logistics vehicles in more than 50 cities across China by the end of 2021. Among them, JD.Com's "Asia No. 1" Xi'an intelligent industrial park was certified as the first "zero carbon" logistics park in China; In terms of carbon reduction technology innovation, by the end of 2021, recycled packaging such as green flow boxes had been used for 200million times, and led the industry to reduce the consumption of disposable packaging by nearly 10billion; By comprehensively promoting the issuance of electronic invoices, JD issued more than 2.8 billion electronic invoices in 2021, saving paper is equivalent to cutting down more than 310000 adult trees. 44.6 billion yuan will be spent on compensation and welfare for frontline employees in 2022. In 2022, compared with 2021, JD Logistics' investment in circular packaging bags increased by 25% quarter-on-quarter, and the annual cycle was 240 million times, saving 82.47 million one-time woven bags. The cumulative delivery times of recyclable express packaging have exceeded 220 million times [3].

3. Porter's 5 Forces

3.1. Treat New Entrants

China's Internet B2C e-commerce industry is currently in a period of rapid development [5], which has attracted the attention of many Internet enterprises and even traditional enterprises. This is very likely to lead to the competition of existing Business-to-Consumer (B2C) e-commerce enterprises and the scramble for market share, which will eventually lead to a decline in the profitability of the B2C e-commerce industry. [1] JD, as the second largest e-commerce platform in China, has a strong brand, which will lead to high barriers to entry. At present, its potential entrants include some traditional retail industries and related Internet industries.

3.2. Customer Bargaining Power

Buyers have little bargaining power because JD logistics' target customers are high-end consumers who are not price sensitive [6]. Major e-commerce companies have recently started a pricing war and lowered product prices in an effort to split the market. Additionally, many B2C e-commerce businesses have expanded their product and service offerings through group buying, which has increased customers' negotiating power.

3.3. Bargaining Power of Suppliers

Small and medium-sized businesses or individual sellers' software technology and human resources are the major sources of JD suppliers. Given the high cost of self-operated e-commerce, small and medium-sized businesses and individual sellers will inevitably continue to rely significantly on B2C e-commerce companies and employ third-party e-commerce platforms to grow their online businesses. Therefore, B2C e-commerce companies will have significant negotiating leverage over small and medium-sized businesses or individual sellers [7]. Due to habit or concerns about the quality of the products, some buyers prefer to purchase high-end or digital goods at physical malls or other terminal businesses. The danger posed by C2C e-commerce to B2C e-commerce has steadily grown as a result of the leading C2C e-commerce websites improving their credit systems and gaining the confidence of a growing number of consumers [8].

3.4. Competition between Companies in Existing Industries

The main competitors of JD Mall in the B2C e-commerce industry include Tmall Mall, Suning e-commerce, Dangdang, No. 1 store and VIP shop. From the perspective of market share, different from the highly centralized pattern of the Consumer-to-Consumer (C2C) e-commerce market, B2C market share is relatively scattered.

3.5. Treat New Entrants

The logistics service provider belongs to the incremental market. Due to the relatively high initial investment in fixed costs of freight and warehousing systems, entry barriers are relatively high. Alibaba's rookie network is the largest potential competitor of JD Logistics. In order to achieve this goal, the rookie network has created an alliance partnership based on the rookie platform. Its partners include mainstream logistics express companies other than JD Logistics.

3.6. Customer Bargaining Power

Buyers do not have much bargaining power, because JD logistics' target customers are high-end consumers who are not price sensitive. At the same time, there is no company in the Chinese market that operates in the form of JD warehousing logistics.

3.7. Bargaining Power of Suppliers

The primary sources of supply for JD Logistics are in the areas of transportation, warehouse, software technology, equipment suppliers, and human resources. Due to the large volume of goods used by JD logistics, the ability of fair bidding can be used to allow suppliers to compete, so that suppliers can maintain stability, and maintain a long-term and stable cooperative relationship with suppliers, so as to improve their bargaining power.

3.8. Threat of Substitute Products or Services

JD logistics and Cainiao network are also providers of overall logistics solutions. Alibaba Cainiao network is the largest potential competitor of JD logistics. At the same time, there are substitutes for the traditional express industry, such as SF express, ZTO. express, JD and other express industry giants.

3.9. Competition between Companies in Existing Industries

JD Logistics denies that SF is its competitor. JD Logistics said that SF is a comprehensive express logistics service provider, and JD Logistics is positioned as a supply chain solution and logistics service provider. Compared with SF, JD logistics has obvious advantages in warehousing and distribution services, large goods logistics services, logistics technology services and other businesses, and can provide customers with integrated supply chain logistics services.

4. Valuation

The whole express industry will grow in the long run. [9] This can be seen from the growth of operating income in the annual reports of ZTO. express, SF Express and JD logistics. As the leading logistics enterprises in China, people will use these three companies as their evaluation of the future prospects of China's logistics industry. The annual reports from 2018 to 2022 show that the operating revenue of these three companies has achieved positive growth and maintained at about 20%. From the annual report listed in 2022 [10] it can be seen that the revenue of JD logistics [11] is increasing each year, in 2020-2022 annual report showed that three years of operating income of 11.244 billion respectively, 16.417 billion and $19.916 billion. The average annual growth rate of operating revenue in the three years was about 41.64%. However, the net profit is always in a state of loss. At the same time, the gross profit is much lower than that of other companies, but this cannot be used as a main reference. This is because the JD logistics differs from that of the other and all the logistics company's business models which makes the gross profit margin is very difficult to than other logistics companies. In front of ESG consideration mentioned to support business electricity, JD logistics warehousing area is far too big, so build the integrated logistics system through barriers to effectively improve the industry but also reduce the profit. The annual report shows that net assets per share from JD Logistics actually keep rising every year, and its gross profit margin also keeps rising every year. In addition, the entire e-commerce industry will also grow in the long run. This can be seen from the growth of operating income in the financial reports of Alibaba [12], PinDuoDuo [13] and JD. In the financial disclosure of 2018-2022, it is learned that the GMV (gross merchandise value) of these three Chinese e-commerce giants has maintained positive growth, which has slowed down in 2022. The operating income of these three enterprises has maintained positive growth during 2018-2021. The growth rate in 2022 has declined, but it is not a reference due to the external factors affecting China due to COVID-19. JD and Alibaba posted an average annual growth of 38.4% from 2018 to 2021. In the annual report from JD.com Inc listed in 2018-2022 [14] can be seen that JD's operating income is increasing year by year, The operating revenue from 2020 to 2022 is 114.285 billion US dollars, 149.22 billion US dollars and 151.652 billion US dollars respectively. Its net profit is also increasing year by year. From 2018 to 2022, it is -407 million, 1.702 billion, 7.56 billion, -700 million and 1.405 billion respectively. However, net profit attributable to the parent company is declining rapidly in 2021, but this can not be used as a main reference. From the operating profit of JD, the operating profit in the third quarter of 2021 was 396.2 million dollars, it was 3.957 billion dollars in the same period last year, a year-on-year decrease of nearly 35 billion dollars. JD retail achieved an operating profit of 1.184 billion dollars in the third quarter, an increase of 17.9 million dollars or 18% over the 100 million dollars in the same period last year. Operating revenue and net profit have improved significantly in each quarter of 2022. From the perspective of JD retail business, JD is making money, which also shows that its profits are relatively stable at present.

5. DCF Model

The Discounted Cash Flow Model (DCF) is calculated by discounting free cash flow, which reflects that the intrinsic value of the company is suitable for those industries with high cash flow predictability. In the first half of this report, ESG assessment and the analysis of the two major industry sectors and company prospects involved in the whole JD Group are carried out. This helps

to judge the future growth rate and the stage of rapid development. The DCF model will be used to determine the value of JD.com Inc. According to JD.Com Inc annual report [15], From 2017 to 2019, JD.com Inc business cash flow of $4.127 billion respectively, $3.034 billion, $3.547 billion, JD.com Inc operating cash flow to reach $6.519 billion in 2020, JD.com Inc operating cash flow to reach $6.638 billion in 2021, In 2022, JD.com Inc business cash flow reached $8.381 billion, 2020 to 2021 in operating activities cash flow growth has obvious fell by only 1.75%, but considering China covid19 will affect the growth rate of 2020 to 2021 into the model to calculate. The most recent annual report published is the annual report of 2022, so researchers started to calculate from 2022, the operating cash flow of JD.com Inc in 2022 will reach 8.381 billion US dollars, so the operating cash flow of the first year will be 8.381 billion US dollars. By calculating average annual cash flow growth ratio of JD.com Inc from 2017 to 2020 and from 2021 to 2021, it came to 25.14%. Therefore, average growth rate of cash flow from JD.com Inc shows in the first year of operation at 25.14%. Considering the rapid growth of JD.com Inc and other factors in the future and the rise of gross profit in the future, considering the rapid growth of e-commerce and logistics industry in the future, as well as the possible economic downturn in the next five years. Expected operating cash flow growth rate of 18%. And considering the electronic commerce and logistics industries still have plenty of room for growth, at the same time considering the ESG JD group rating researchers think this phase of rapid growth will continue for 3 years. In the sustainability stage, no company can always maintain a growth rate that exceeds that of other economies. From 2013 to 2021, the average annual growth rate of GDP was 6.6%, [16] during the same period of 2013 to 2021, the average annual growth rate of world GDP was 2.6%, and the average annual growth rate of developing economies was 3.7%.

6. Conclusion

Therefore, sustainable operating activities cash flow growth rate of JD.com Inc. is estimated at 2.7 on average in this report. Considering that JD.com Inc. is an integrated supply chain enterprise with a stable business model, the rigid demand of the e-commerce and logistics industry, the impact of the inflation rate and new retail model, as well as ESG rating. The discount rate is estimated to be 10% in this model. In the end, the calculated discounted value of the rapid growth period reached $28.978 billion, while the discounted value of the permanent stable in the growth period reached $145.546 billion. The total valuation is $174.5 billion. Compared with the current market capitalization from JD.com Inc (2023-09-06) of $53.192 billion, this shows that JD.com Inc is a seriously undervalued company. Although there are many other external factors in the real stock market. In this report, it provides an in-depth analysis of JD.com Inc. The first is an analysis of the reported operating income. Two major business segments are selected and Porter's 5 Forces model is used to conduct in-depth analysis on the five dimensions of the two business segments. This helps to better understand the two industries of e-commerce and logistics and the development of JD.com Inc in this industry. This is followed by an analysis at the valuation. With the help of DCF model, the discounted value of JD.com Inc is calculated. Judged the rationality of JD.com Inc market. In addition, people have given many considerations to the ESG value of JD.com Inc by collecting ESG risk rating data from ESG reports and analyzing it sentence by sentence. Therefore, researchers determine the way the company produces its products and is environmentally friendly and whether it has the attributes of sustainability.

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