

A Study on the Profitability of China's E-commerce Platforms in the Post-epidemic Era

-- Taking JD.com, Inc. as an Example

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ABSTRACT

As one of the products of the global economic development in the new era, E-commerce is now tending to the stage of rapid development, and it plays a vital role in the economic development of China and even the whole world. Especially after the COVID-19, the development of online retailing has entered a new climax. But the problem is that the existing research and data is mainly based on the effect of the world economic environment and the influence of changes in supply and demand of the entire retail industry, but very few cases take the analysis of the typical electric business platform's financial statements, to analyze the epidemic situation in China, which is a particular economy. Therefore, our research can help consumers better understand the factors that affect the profitability of E-commerce business in the post-epidemic era, and put forward reasonable suggestions to improve or fix the corresponding problems. We mainly adopted three methods, which are Literature analysis, Case Study, and Comparative analysis (vertical). After adopting the above three methods to analyze JD.com, Inc.'s financial statement, we find some problems in its profitability. For example, there are some problems in cost control, asset arrangement and planning, and even in the strategic choice and brand building of the enterprise. To solve these problems, we provide measures such as market positioning, intangible asset management, personalized service, supplier relationship, and business expansion to help enterprises of the same type better adapt to the impact of the post-epidemic era. This study should benefit a series of E-commerce platforms in the post-epidemic era, especially on the issues related to profitability development of online retail platforms in the specific economy of China.

Keywords: Post-epidemic Era, Electric Business Platform, JD.com, Inc., Profitability, Countermeasures.

1. INTRODUCTION

E-commerce as a rapidly growing industry in the 21st century is expected to obtain a huge number of consumers in China, which is one of the fastest-growing developing countries all around the world. By the end of 2020, there are over 3.78 million E-commerce companies in China [1], 74 of them are public companies [2]. The plenty number of suppliers and the mature supply chain grants customers to purchase most goods that are in demand online. E-commerce provides customers a more convenient way to search directly for goods and services in demand, and the goods can be delivered few days after the placement of an order, which is a safer way for shopping during the pandemic as well. Online consumers

in China grow to about 710 million by March 2020, constitute 78.6% of all internet users in China, according to the research by China Internet Network Information Center (CNNIC) [3]. Moreover, Xinhua Net indicates that online retailers are changing youth's consumption habits. Consumers are attracted to shop on Tiktok live streaming or through short, interesting videos with a link of the display window, consumers can browse and purchase products they like that are introduced by the video [4]. Along with the growth of online consumers, the transaction amount of E-commerce businesses in China reaches 37.21 trillion yuan, increases at a rate of 4.5% compared to the amount in 2019 [5]. The data collected above reveals the positive growth trend and potential development of the E-commerce industry of

China. However, in the year 2020, the pandemic makes severe negative impacts on the global economy. The damage is predicted to be at least 2.9% of all economies' GDP in the world and estimated to be 4.5% GDP loss [6]. E-commerce is an industry with a remarkable influence on China's economy and a large number of consumers, which is important for us to analyze the consequences caused by the COVID-19 pandemic. Any change of data that is likely to be overlooked may cause a significant impact on the overall industry and economy.

Wang et al applied some analytical models and indicated that the model has predicted that China's economy in 2020 will be impacted severely by the COVID-19 pandemic. They believed that there would be a loss of 4.8 trillion yuan in the first quarter of 2020, and the loss would be declining year-to-year. The huge impact of the pandemic on the economy predicted by Wang may give a negative signal of the profitability of E-commerce in China in the post-epidemic era [7]. Moreover, in the retail industry of China, Deloitte China and the China Chain Store & Franchise Association reported that over 90% of the businesses surveyed say the COVID-19 pandemic has impacted customer numbers severely, and 37% of the enterprises say their customer numbers have more than halved [8]. And they researched that over 60% of retail businesses expected to need additional financing within the next year. The retail industry is closely combined with the online retail industry, which is most likely to be E-commerce. However, GlobalData analyzed that E-commerce sales in China are expected to grow to compound annually at 12.4% from 2021 to 2024, and the sales are predicted to be US\$3.0 trillion by 2024 [9].

Nevertheless, most researchers make research on the topic of impacts of the pandemic on economies, decreasing demand of customers, the retail industry, and sales of E-commerce to predict future economies. It is hardly ever to see researchers investigate the profitability of E-commerce in a specific economy, which is China, especially in the post-pandemic era. It is important to obtain a deep understanding of one of the industries with most consumers, to improve the operation of the industry and fix existing problems, to help grow the economy.

We are tending to research the impact of COVID-19 on the profitability of E-commerce retailers in China. The profitability and factors that need to improve the profitability of E-commerce companies should be analyzed through the financial report of the entity. We are going to analyze the financial report of a representative E-commerce corporation in China to extract dependable data in our research. The expected output of our research is to analyze and report the factors that affect the profitability of E-commerce businesses and how they can be improved or fixed, and the result may also be the evidence of predicting the profitability of E-commerce in China under similar circumstances.

2. METHOD

2.1. Literature Analysis Method

Literature analysis is an overview of the previously published works on a specific topic. It refers to a full scholarly paper or a section of a scholarly work such as a book, or an article. Through using this method, it can provide the researcher with a general image of the existing knowledge on the topic under question [10]. The sources of the literatures will be the database of GoogleScholar and some business or analysis websites, which contains research papers that include data or analysis related to the Chinese online retailing market. These data can provide us strong supporting evidence for our analysis of the industry to make it more dependable. Moreover, we may need the financial reports and annual reports from the E-commerce industry, or a specific business (e.g., JD.com, Inc.), to obtain detailed information about the business.

2.2. Case Study Method

The case study involves an up-close, in-depth, and detailed examination of a particular case or cases, within a real-world context [11]. For this research, we are going to apply JD.com Inc. as a case analysis. JD.com, Inc. ranked third in the Chinese E-commerce industry and 12th globally. Its growth rate has exceeded 200% for seven consecutive years [12]. Compared to the two largest platforms in the Chinese market, JD.com may not have a huge number of customers and suppliers like Tmall and Taobao, but it is a pure E-commerce business that consists of this operating mode. Although Alibaba Group has dominant leadership in the Chinese market, there are too many businesses in a wide range of industries under the group. The result of the E-commerce analysis on Alibaba may contain severe misleading data. However, JD.com, Inc. has its financial reports specifically focused on this industry. This corporation becomes to the most representative business in Chinese E-commerce. In addition, as a growing business, there may be more potential problems to be discovered since the operation of most businesses in the industry is not fully developed. Therefore, the study on such a case may help us to prevent potential risks of the E-commerce industry and predict relative profitability.

2.3. Comparative Analysis (Vertical)

Comparative analysis refers to the comparison of two or more processes, documents, data sets or other decision-tree analytics are forms of comparative analysis [13]. In this research, we will use the annual reports and financial information of an E-commerce enterprise (JD.com) in a range of several years. The annual reports of JD.com in multiple years can help us to observe and monitor the information and changes of the reports before

the pandemic, during the pandemic, and in the post-pandemic era. Moreover, the change in the mode of operation or management may also affect the profitability of the firm. Thus, the comparison of the reports from one business can not only help us to predict and analyze the profitability of the industry if the business is represented to the overall industry but also provide us a clear vision of how the pandemic influenced the profitability of the business during the three-period mentioned above.

3. RESULT

3.1. *The Development Status of China's E-commerce Platforms in the Post-epidemic Era*

Under the impact of Covid-19, people had to take measures like isolation to keep themselves safe, which has led to a further shift in shopping behavior from offline to online. The list of problems posed by the epidemic is definitely endless. However, it has also brought some unexpected benefits.

For example, the advantages of self-operated e-commerce platforms have emerged in advance. These E-commerce platforms have strong supply chains, which allow them to secure supply at a stable price and to close the loop within their own logistics systems. This mode will effectively acquire a large number of new users during the epidemic period and after the end of the epidemic period and is expected to achieve the continuous retention of these new users [14]. This is undoubtedly great news for e-commerce platforms.

3.1.1. *Main Business Category*

During the epidemic period, all kinds of fresh electricity continued to grow steadily, with demand exceeding supply, among which, JD Home's daily activity exceeded 1 million, Hema Dingdong Maimai both exceeded 400,000, and new users continued to grow [15]. It is no surprise that the fresh industry can usher in a blowout growth period due to the impact of the epidemic "unified distribution" policy, a large number of users gradually formed the

Table 1. Profitability index analysis

	Net profit rate on sales	Net interest rate on assets	Net interest rate on equity	Rate of return on total assets	Operating profit margin	Cost margin
2018	-0.61%	-1.27%	-3.65%	-1.42%	-0.57%	-0.59%
2019	2.06%	5.20%	11.82%	5.07%	1.56%	2.78%
2020	6.62%	14.49%	22.26%	14.50%	1.65%	7.75%

Table 2. Other relevant financial data

	EPS	Accounts receivable turnover days	Inventory days
2018	-0.87	10.70	33.40
2019	4.18	5.40	31.81
2020	16.36	3.21	28.21

shopping habit of "delivering food to your door".

In addition, more and more consumers will be affected by the outbreak and will attach greater importance to and rely on sanitary and disinfection products.

The year 2020 is a key point for such outbreaks. The shortage of medical supplies, such as "face mask shortage", will foster users' shopping habit of hoarding basic medical and health products.

3.1.2. *The Scale of E-commerce Is Further Concentrated*

As can be seen from the performance of Alibaba, Suning, and JD, leading enterprises will not be affected in special periods, but will more easily show advantages [16]. The excellent logistics service system enables them to not only gain people's hearts but also gain the market in the process of anti-epidemic protection and supply. As a result, big companies will have to spend more money

to expand their market share, and their market concentration will increase dramatically. On the contrary, small and medium-sized enterprises that have not actively sought a new way out can only pray passively that the epidemic will pass, and some may even face business difficulties.

3.2. *Analysis on the Profitability Status of E-commerce Platforms in China -- A Case Study of JD*

The success of JD's operation is inseparable from its accurate value positioning. JD always believes that the change of the enterprise comes from consumers. To this end, JD has been reducing the profits generated by intermediate links to meet consumers' demand for low prices.

For JD.com, product, price, and service are the three cores of the enterprise. JD has been committed to attracting customers with high-quality and low-price

products and satisfying customers with high-quality service. As a result, customers can enjoy the price 15% to 25% cheaper than offline retail, and can also enjoy timely home delivery service [17]. It is this that makes JD online shopping platform shows great growth under the impact of the epidemic. **Table 1** is a comparison of some important indicators of Jingdong in the recent three years.

3.2.1. The Data Analysis

The three years' common profitability analysis data were shown in Table 1 with some auxiliary data in Table 2. What is worth mentioning is that Net interest rate on equity shows a consecutive upward trend and the growth rate is relatively enormous from -3.65% to 22.26%. And we can further decomposition the influencing factors of Net interest rate on equity (ROE) into the earning level of assets and the leverage level of the enterprise. The former is determined by the sales and profits of the enterprise, while the latter is affected by the debt structure of the enterprise.

In terms of sales and profit, we can continue to break down the determinants of net profit on total assets into two parts.

Net interest rate on total assets = net interest rate on sales * asset turnover rate (1)

It is clear that the net profit margin on sales has gone up quite nicely in 2019-2020, by about 221%. The rise in net profit is inseparable from the increase in sales revenue and the reduction in costs. Based on the selection and use of appropriate strategies, JD's bargaining power to manufacturers also increases while its sales volume increases. However, the investment in the logistics system has also greatly increased 178% in 2020, which we believe is one of the key issues affecting the operating profit margin. This is also apparently reflected in the 2019-2020 operating profit margin, which is basically unchanged. Therefore, cost control is one of the urgent problems for JD.

When it comes to the efficiency of utilization of assets, JD's performance is commendable, reflecting in the apparent rise in the net interest rate on assets and the rate of return on total assets, which have risen 179% and 186% respectively. Accounts receivable turnover days continue to shorten from 10.7 to 3.21 (As shown in table 2. Although the decline in inventory days is smaller, by comparison, this is still an excellent sign. Thus, it can be seen that the reasonable planning of the asset group will directly affect the leverage level and then affect the return on equity of an enterprise. Therefore, the management and control of assets is another difficult problem that Jingdong needs to solve.

3.3. Problems with the Profitability of Chinese E-commerce Platforms -- Take JD.com as an example

All in all, through the comparison and study of a series of relevant financial data, we believe that the cost control and the arrangement and setting of assets are some of the key problems that JD is now facing. At the same time, for the enterprise, brand building and customer loyalty issues are also worthy of attention. There may be other problems at the same time, but in terms of the above points, maybe these other problems are less urgent and less important.

4. DISCUSSION

In order to address the issues summarized, a number of optimization measures are proposed to improve the profitability of China's E-commerce platforms below.

4.1. Improve the Overall Capabilities

4.1.1. Generic Strategies

As the epidemic has accelerated the development of E-commerce platforms, competition in the industry has become increasingly fierce. Thus, Jiang pointed that it is important to develop a sound development strategy [18]. Du presented that for Jingdong, the excessive application of its low-price strategy has led to low profits and even losses in recent years. Thus, it is necessary for enterprises to fully understand their situation, including the market situation, market positioning, and the strengths and weaknesses of the enterprise, to formulate a reasonable development strategy. Ultimately, to achieve in the fierce competition in the industry, to enhance the comprehensive strength of the enterprise.

4.1.2. Brand Building

Branding is also part of a company's intangible assets. Doing a good job of branding is also consolidating the assets of your business. Currently, for Jingdong, an E-commerce platform insists on providing timely logistics services as well as guaranteeing authentic products. This is the memorable point of its brand and the value of the brand. Therefore, in the fierce competition in the industry, besides Jingdong's self-shop, Jingdong also needs to strengthen the supervision of third-party shops while safeguarding its own business. To ensure the reputation of the brand. Customer loyalty can also be increased through brand building.

4.1.3. Customers' Loyalty

Cultivating customer loyalty is essential for business development. Companies need to provide personalized and quality products as well as services to their target

customer groups. After collecting valid information from users, products and services are targeted to stimulate their potential needs. At the same time, it is important to know the evaluation and satisfaction of the target customer group to adjust the strategies. This indirectly adds value to the brand.

4.2. Control Costs

Cost reduction is the factor that most directly affects sales revenue as well as gross sales margins. Therefore, controlling costs is very important to improve the profitability of China's e-commerce platforms. Through analysis, costs can be reduced in the following two ways.

4.2.1. Cost of Goods

The cost of their products can be reduced by selecting the right suppliers and third-party shops and by maintaining good relationships with them. The first step is to select suppliers and third-party shops. The company should assess their reputation, prices, and other aspects and then make your choice. The next step is to maintain a good relationship with them. Improve communication with them as well as develop their sense of identity and belonging to the platform. Make them feel that the platform can deliver the expected or beyond expected returns. Therefore, selecting and cultivating a good relationship with them can lead to lower prices and then lower costs.

4.2.2. Cost of Logistics and Storage

The platform can reduce the cost of logistics storage through efficient distribution rates. Categorized goods, categorized management. Collect the needs of users in different regions and confirm procurement as well as storage planning. At the same time, with the development of Jingdong Logistics, the route of distribution should be optimized promptly to reduce the transit links for the transportation of goods, thus reducing the high cost of its logistics and improving the efficiency of transportation. Transport resources can also be integrated through cooperation with other logistics companies. Finally, it should also focus on the training of its logistics team to reduce its operating costs.

4.3. Expand Business

With the impact of the epidemic, people's shopping needs have changed. Platforms need to focus on the changing needs of users and choose new expansions of new main businesses as well as other businesses to increase sales already achieving steady asset growth.

4.3.1. Main Business

With the impact of the epidemic, many new needs have emerged. For example, fresh produce, hygiene, and disinfection products as well as medicines and epidemic prevention supplies. In addition to strengthening the sales of the goods it already sells, the platform should also pay attention to the changes in the market already demanded by users and selectively expand its sales business accordingly, such as fresh produce. This will expand its main business and increase its sales revenue.

4.3.2. Other Business

For Jingdong, it can increase the revenue of other businesses by optimizing its financial platform. At the same time, its financial platform can be enriched by its financial support. These funds can bring in a certain amount of interest income. And through these funds and the collection of information, the platform can do a good job of investing and financing accordingly. It is possible to obtain a stable return and grow the assets of the business steadily.

5. CONCLUSION

5.1. Conclusion

To sum up, the epidemic has made online shopping more common. Self-operated E-commerce platforms have a steady supply of good quality products at low prices. The growth of e-commerce companies selling fresh produce, hygiene, and disinfection products was the most pronounced. The advantages of leading companies, such as excellent logistics, were more evident during the epidemic, further expanding the market share of leading companies. In the case of Jingdong, for example, two problems were found. One is the low profit due to high cost. The second is the inability to preserve or even grow assets effectively. So, in this paper, some suggestions are made to optimize and improve the profitability of Chinese e-commerce platforms. First, it is necessary for companies to clearly position themselves, find the right direction, and develop a reasonable development strategy. Through brand building, improve brand reputation and increase intangible assets. At the same time, grasp customers and increase their loyalty. Secondly, control to reduce business costs, including the cost of self-owned goods and the cost of logistics and warehousing, so as to improve the gross profit margin of sales. Finally, find the right time to expand the main business and increase the sales volume. At the same time, expand other businesses and make full use of investments to ensure stable growth of business assets. Gradually achieve the goal of improving the profitability of China's e-commerce platform.

5.2. Limitation

The paper also has limitations, as the sources of the literature are secondary data. The next study can obtain more realistic, reliable, and accurate information through on-site research to analyze the current situation and profitability of Chinese E-commerce platforms based on the impact of the epidemic. The impact of the epidemic is long-term and the three-year period chosen may be relatively short. The next study could choose a longer period for longitudinal comparisons.

REFERENCES

- [1] Xinhuanet. (n.d.). 2020 E-commerce Industry Enterprise Data Report: Tell you a real "e-commerce arena". http://www.xinhuanet.com/fortune/2020-11/11/c_1126726647.htm.
- [2] Ma, Y. (2021, March 29). China: Number of public e-commerce companies by TYPE 2020. Statista. <https://www.statista.com/statistics/1085747/china-number-of-public-ecommerce-companies-by-type/#statisticContainer>.
- [3] Prospective Industry Research Institute. (2020, July 2). Market status and development trend analysis of China's online shopping industry in 2020 Live streaming e-commerce will become the new growth driver of the industry. <https://bg.qianzhan.com/trends/detail/506/200702-81e635aa.html>.
- [4] Ling, J. W. (2020, August 24). The e-commerce economy is changing the consumption habits of young people. http://www.xinhuanet.com/tech/2020-08/24/c_1126403995.htm.
- [5] Huang, H. (2021, June 9). China's e-commerce transaction volume reaches 37.21 trillion yuan in 2020, a year-on-year increase of 4.5%. China Service Trade Guide. <http://tradeinservices.mofcom.gov.cn/article/tongji/guonei/qitatj/202106/117090.html>.
- [6] Szmigiera, M. (2021, June 11). Topic: Coronavirus: Impact on the global economy. <https://www.statista.com/topics/6139/covid-19-impact-on-the-global-economy/>.
- [7] Y.Wang, Z. Fang, W. Gao, COVID-19's impact on China's economy: a prediction model based on railway transportation statistics [J]. Disasters, 2021 DOI:10.1111/DISA.12476.
- [8] COVID-19's impact on China's consumer products & retail industries: DELOITTE GLOBAL. Deloitte. (2021, June 30). [https://www2.deloitte.com/global/en/pages/about-](https://www2.deloitte.com/global/en/pages/about-deloitte/articles/covid-19/covid-19-impact-on-china-consumer-products-retail-industries.html)
- [9] E-commerce market in China will reach US\$3 trillion in 2024, forecasts globaldata. GlobalData. (2021, April 20). <https://www.globaldata.com/e-commerce-market-china-will-reach-us3-trillion-2024-forecasts-globaldata/>.
- [10] Wikimedia Foundation. (2021, July 12). Literature review. Wikipedia. https://en.m.wikipedia.org/wiki/Literature_review.
- [11] Wikimedia Foundation. (2021, July 28). Case study. Wikipedia. https://en.m.wikipedia.org/wiki/Case_study.
- [12] Fu, C. (2021, April 1). 2021 Chinese e-commerce website ranking: Inventory of the top 15 Chinese e-commerce platforms. TMO Group. <https://www.tmogroup.com.cn/more/china-ecommerce/26559/>.
- [13] What is Comparative Analysis? Comparative Analysis Definition. (n.d.). <https://www.teradata.com.cn/Glossary/What-is-Comparative-Analysis>.
- [14] Three Gold, Under the epidemic, several thoughts on the e-commerce industry, DOI:<https://www.woshipm.com/it/3398024.html>
- [15] Hi Business, What is the development trend of Taobao e-commerce after the epidemic, DOI:<https://www.hishang.com/ganhua/10402.html>
- [16] Innovation cases, Three trends of e-commerce in the post-epidemic era, DOI:<https://xw.qq.com/cmsid/20200422A0OK2A00>
- [17] Research on JD e-commerce Model and profitability, DOI:<https://www.docin.com/p-1763353119.html>,chunnelid=com.tencent.mobileqq,backparm=mqq://whatever,iconid=3
- [18] J. Jiang, Analysis of Jingdong's Profitability and Countermeasures Research from the Perspective of Five Forces Model. Mall Modernization, 17, 2016 pp. 20-21. DOI:10.14013/j.cnki.scxdh.2016.17.012.