

# Analysis of the operation efficiency of new foreign trade forms under the background of digital economy

## -- Taking Amazon as an example

Yuqin Gong

School of Economics, Guangzhou College of Commerce, Guangzhou 511363, China.

gong\_yu\_qin@163.com

**Abstract.** Based on the digital economy, this paper puts forward a new business model of foreign trade export, and takes Amazon as an example to analyze the operation efficiency and propose the reform of the operation mode which provide personalized value-added services for businesses on the basis of investment attraction and change direct sellers into service platform. In view of the economic utility brought by the datamation and intelligent operation mode of Amazon, combining with the current operation situation of our cross-border export enterprises, this paper puts forward practical suggestions on improving the export logistics system of foreign trade and diversified services for export of foreign trade.

**Keywords:** Operation efficiency; Export logistics system of foreign trade; Personalized value-added services.

## 1. Literature review

The network and intelligence of digital economy promote the international trade mode to enter the 3.0 era. That means integrating and optimizing supply chain resources and reducing intermediate links will provide transaction services of the whole industrial chain from upstream industry to downstream consumers (Haixiao Li,2020) [1]. For foreign trade enterprises taking the express train of digital economy, the digital system can help them more accurately grasp the demand of consumers, alleviate the information asymmetry between supply and demand, lower transaction costs, and provide new ideas for improving trade efficiency (Yanze Cai, Xinshu Gong,2022) [2]. In particular, traditional export enterprises threatened by trade protectionism gradually enhance themselves innovation and competitiveness in the face of uncertain risks due to the impact of digital economy(Shuangshuang Shan,Yundi Dai,2022)[3].According to the frontier gravity model, the development of digital economy can effectively reduce the loss rate of service trade and improve the efficiency of China's service trade export, taking China's service trade export as an example(Li Gao, Liu Wang,2022)[4]. In addition, foreign trade export enterprises can timely understand the personalized needs of consumers and offer related products through the appropriate introduction of digital technology (Yisa Wu, 2022) [5], which improve consumer recognition and satisfaction, and greatly reduce the workload of foreign trade enterprises staff, effectively reduce the cost of labor (Yuqing Zhao,2022) [6]. As a result, under the digital economy, foreign trade and export enterprises show vigorous vitality. According to the China E-commerce Report 2019, the total value of goods relying on digital technology reached 186.21 billion yuan, an increase of 38.3% year-on-year. Whether or not the capital operation of foreign trade enterprises is running efficiently under the power of digital economy, which let us discuss more. The following will analyze the new mode of foreign trade business and its capital operation under the digital economy.

## 2. New forms of foreign trade enabled by digital economy

In view of the current situation of rapid development of international trade, the new form of foreign trade is a digital and intelligent upgrade on the basis of the traditional export mode. With the change of the international pattern and the lack of information asymmetry or third-party services, a series of unavoidable contradictions will inevitably occur between buyers and sellers. Therefore, Under the

background of digital economy, a new model of foreign trade business is derived, which serves both buyers and sellers with high efficiency and intelligence, helping to reduce their friction rate. The new form of foreign trade derived from the digital economy mainly has the following three forms:

### **2.1 Digital cross-border e-commerce**

Cross-border e-commerce platforms that introduce digital technologies implement precise targeted marketing strategies, streamlined logistics and digital customs clearance systems. The precise marketing strategy is different from the price war marketing strategy such as in-site coupons and full reduction activities, but the user preference demand prediction can be realized from multiple perspectives such as the region, age, interest and hobbies of the crowd on the basis of the big database. Streamline logistics system is mainly based on the current cross-border electric business platform to C customer group is given priority to. When cross-border electrical business in the face of huge amounts of customers from different countries, Routing scheme of logistics provide LCL service, which Load some goods into empty containers to reduce the vacancy rate of containers. After the goods are transported to the destination port, the cross-border e-commerce platform client will update the terminal logistics transportation situation synchronously, so that customers can track the logistics. Digital customs clearance is proposed to control the quality of goods. This system can improve the efficiency of customs clearance and supervise and manage the import and export of goods comprehensive.

### **2.2 Comprehensive foreign trade service system**

Derived from the small and medium-sized foreign trade enterprises to Demand diversification, small volume of foreign trade business and foreign trade process specialization and many other phenomena, Foreign trade comprehensive service system provide foreign trade enterprises with additional export service on the basis of digital, more personalized link of import and export related services, such as the international logistics transportation, through the internal and external capital chain, etc. Especially, International logistics transportation is based on the buyer's order and according to the evaluation platform provided by logistics companies, transportation cycle, logistics costs and other factors, the seller one-click to select the appropriate logistics scheme for goods transportation, and tracking the goods. The internal and external capital chain is the service provided according to the payment scenario, payment channel and account period demand of the buyer and seller. No matter which means of payment customers adopt, they can realize one-click selection on the foreign trade comprehensive service platform, so as to help export enterprises save export costs and improve export efficiency. When the supplier receives the order from the purchaser, the order, delivery date and related changes will be immediately reflected in the ERP.

### **2.3 Digital market purchasing model**

Digital market purchasement is based on ERP system to connect buyers and sellers to achieve an efficient and professional foreign trade degree. With the platform as the axis, one end is connected with buyers, the other end is connected with suppliers. However, purchasers only need to check the quantity, specifications and standardized quality standards of the orders on the platform. If the supplier fails to meet the requirements of the purchasers, the system will automatically give an early warning to both parties to remind the staff to intervene.

## **3. Analysis of Amazon's operating capacity under the new foreign trade mode**

### **3.1 Amazon's business model under the background of digital economy**

With the development of the digital economy, Amazon's business model continues to provide merchants with diversified value-added foreign trade services based on its big data and cloud computing.

Firstly, Professional foreign trade comprehensive service system. The main business of Amazon cross-border e-commerce platform is to provide diversified foreign trade services for shops (settled in Amazon E-commerce), namely, online store rental + traffic realization + warehouse rental. After merchants entered Amazon platform, the shops need to pay a certain amount of deposit on the platform. If the shops have any illegal operations, Amazon platform has the right to deduct the deposit and require it to replenish funds. Stores on Amazon need a certain amount of traffic to increase store sales for which the amazon platform with its unique station traffic provide services, without stand outside advertising to promote. According to the keywords defined by merchants, Amazon platform integrates data resources and pushes customer groups to the stores in a targeted way, so as to improve the product exposure rate, increase the page views and conversion rates of Listing, and improve the transaction volume of merchants' products. After the transaction is concluded, Amazon platform will provide merchants with FBA logistics. Merchants just need to click "Change to Fulfill by Amazon". FBA logistics system and digital information system will automatically provide merchants with integrated logistics, customs declaration and tax service. For Amazon FBA header logistics, Amazon cross-border platform automatically provides the whole process of picking, packaging, terminal delivery, and electronic customs declaration and tax. At the same time, Amazon has a relatively perfect logistics system, which can ensure that customers can receive the goods within 3 days, and the customer experience is good and the satisfaction is high.

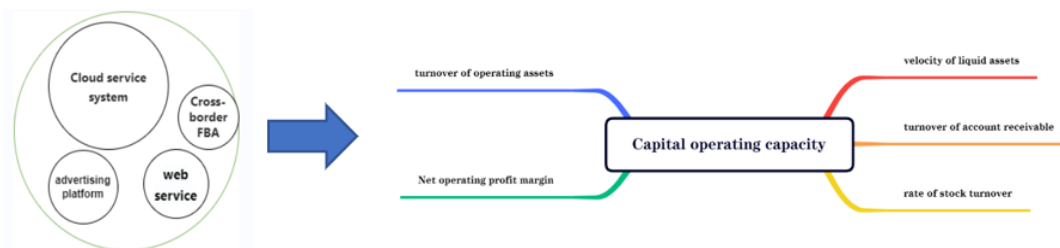
Second, Amazon Cloud Technology intelligent data service system, the concept of which is to help enterprises "think globally, operate locally". On the one hand, based on small and medium-sized foreign trade enterprises facing massive data in the international market, Amazon cloud technology provides them with a more intelligent data storage mechanism, namely, cloud service system. The cloud service system offer personalized data filtering services on the basis of minimizing the cost of data storage to customers, carries out intelligent marketing, precise push and provides real-time business prediction services based on multi-dimensional user portraits, and further promotes the collaboration between R&D and transaction; On the other hand, the big data service specially built by Amazon Cloud Technology -- "Smart lake Warehouse", can help customers to carry out complex data processing and processing, stimulate the connection between each base point data, cope with the dynamic change of data scale, optimize data quality in real time, and further improve operational efficiency.

Data is the most important factor of production in the 21st century. Amazon provides customers with a full range of services based on data, which not only reduces costs and improves efficiency for small and medium-sized Internet enterprises, but even once pushes relevant customer enterprises into the first tier of enterprises. In addition, the technological update and iteration of Amazon, which does not stick to cross-border platforms but expands its business in an all-round way based on data, also enhances the stickiness of users and enterprises and promotes the development of Amazon.

### **3.2 Analysis of Amazon capital operation efficiency under the new foreign trade mode**

#### **3.2.1 Capital operating capacity index**

Foreign trade export enterprises are the main force of Chinese export enterprises. The performance of enterprise operation ability is not only the comprehensive performance of measuring the efficiency of the company's assets operation, but also the standard of enterprise economic benefits. Fig.1 shows THE relationship between the operating capability indicators of the enterprise to evaluate the operating status of the enterprise. Furthermore, the operating income of an enterprise is the core element of the capital operating ability index. In the aspect of analyzing the profitability of an enterprise. The higher the ratio of net operating profit margin, the stronger the profitability of the enterprise; otherwise, the smaller the profitability. In analyzing the efficiency of working capital, the turnover rate of working assets is based on the proportion of operating income in working capital (current assets - current liabilities) to discuss the efficiency of assets operation.



**Fig. 1** Capital operating capacity

The higher the turnover rate of assets, the more sales revenue each yuan of working capital brings, the higher the efficiency of capital use. Conversely, it is manifested as insufficient capital and may fall into business solvency crisis. Besides, the higher the value of the last three operating indicators, the faster the capital running speed of the enterprise and the better the sustainable operation condition of the enterprise.

### 3.2.2 Capital Operation Efficiency Analysis - Amazon

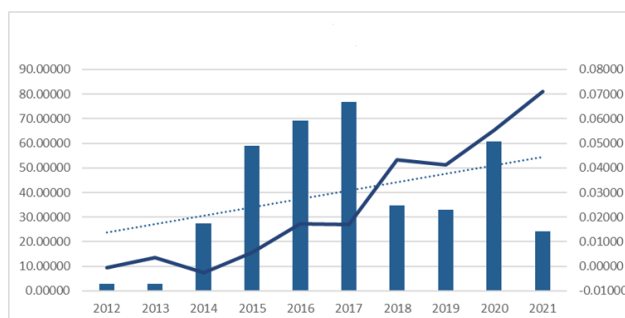
Great changes have taken place in the capital chain of enterprises, when the application of data and cloud platforms brings new business opportunities for domestic and foreign cross-border e-commerce platforms. The following will take the enterprise operation indicators as the guide, combined with the senior cross-border e-commerce platform under the new foreign trade format and the concept of cloud computing, big data and all things connected—Amazon, which analyze enterprise operation under the new foreign trade format.

#### (1) Turnover of working assets

As shown in Fig.1, Amazon's operating income is mainly derived from the Amazon Cloud Services business line, supplemented by the advertising platform's traffic realization services, network bridging services, and its own FBA logistics system. In the nearly 10 years of the development of the digital economy, Amazon takes data information and the number of customers covering the world as its main operating income. As shown in Fig.2, the turnover of working assets showed an upward trend of volatility, rising from 2.28% in 2012 to 24.325% in 2021, with a growth rate of about 22%. Especially in 2015 to 2017, as a cross-border dividend year, Amazon's turnover of working assets reached the highest of 76.86%. And in 2020-2021, the company's working assets decreased slightly due to the impact of the pandemic, but they were still on the rise overall. Working capital is the foundation of a business can continue to operate normally, but also the key to expand business through multiple channels. With its perfect network system, Amazon serves all small and medium-sized enterprises and promotes their capital to run efficiently.

#### (2) Net operating profit margin

Operating net profit rate is the proportion between the enterprise's net profit and operating revenue. As shown in Figure 2, the ability of Amazon to create net profit from 2012 to 2021 showed an overall upward trend, turning from negative growth to positive growth. And From 2020 to 2021, despite the global impact of the pandemic, the rise of international trade protectionism, and the complex international landscape, Amazon's cross-border e-commerce platform maintained positive growth, even recording a net growth rate of 0.07% in 2021. Meanwhile, amid the prevailing digital economy, Amazon reported a net profit of \$14.3 billion in the fourth quarter of 2021, up 98% from the same period last year. The main profit came from Amazon's service business for cross-border merchants and overseas small and medium-sized enterprises. On the one hand, based on the cross-border e-commerce platform, Amazon's Prime membership fee for merchants has increased from \$119 to \$139 from 2021 to 2022. In addition to , the advertising and promotion fees of merchants' CPC charging mode on the platform and Amazon's warehousing and logistics transportation fees have become the important profit points of Amazon platform. On the other hand, the cloud service rental, big data storage and learning provided by Amazon cloud technology enterprises for small and medium-sized enterprises have all brought net profit growth points for the operation of Amazon enterprises and promoted the upward development of enterprises.



**Fig. 2** Operating assets turnover, operating net profit margin

### (3) Accounts receivable, inventory and current asset turnover

The speed of capital flow is an important index to evaluate the capital return of enterprises. Accounts receivable turnover represents the average number of times cash is made in a year. As the turnover of accounts receivable increases, it means that the time for companies to collect their money is faster. The application of Inventory turnover, flow index of asset turnover is consistent with the accounts receivable turnover ratio, for which the difference is that with the increase of turnover times, the time from purchase to sale of goods is shorter, and the product flow between input and output is faster, while the turnover rate of current assets is with the increase of turnover times, and the liquidity of current assets is enhanced.

Based on the application of indicators of operating capacity-related turnover, the Amazon platform receivables turnover, current assets turnover and inventory turnover increased in volatility year by year from 2012 to 2021. According to Figure 2, before 2017, the turnover times of accounts receivable turnover ratio was less than 10, and the time to collect funds was relatively long. However, with the diversification of business volume and the company's policy factors based on the macro environment, the turnover ratio of accounts receivable reached 20.59 times in 2021, which means that the average amount of money collected from the revenue of the enterprise is about 18 days. The efficient capital flow of enterprises boosts the development of enterprises. The turnover rate of current assets takes 2016 as the cut-off point. After 2016, it breaks through the index of "1" and stabilizes around the turnover efficiency of 3 times, indicating that Amazon has enhanced its profitability and improved the comprehensive efficiency of using current assets. As for the inventory turnover rate, Amazon accelerated the rate of inventory turnover year by year. In 2021, it realized the conversion of inventory into cash or accounts receivable in an average of 43.16 days a year, and the inventory occupation level decreased year by year.

## 3.3 Amazon operation effect to China's export enlightenment

### 3.3.1 Reform the operation model of cross-border e-commerce platforms

China's local cross-border e-commerce platform is both a cross-border seller and a cross-border platform, which connects suppliers and end customers. Faced with the problem of long account period proposed by suppliers, Chinese cross-border e-commerce platforms have introduced an incentive mechanism to shorten the account period of suppliers in order to consolidate the good cooperative relationship between cross-border platforms and suppliers. Based on the arrival time of overseas remittance, the choice of remittance method, coupled with the emergence of overseas warehouses in recent years, a large amount of cash flow restricted, cross-border e-commerce will face losses. In this regard, the reform of operation mode, from direct sellers into the platform to provide services, provide personalized value-added services for businesses on the basis of investment attraction. For example, for cross-border e-commerce platforms, importing traffic from overseas social platforms not only reduces capital risks, but also use its digital economy as a guide to maximize the benefits of digital economy. At the same time, in order to reduce the financial pressure of sellers on the platform, the cross-border e-commerce platform can provide special small loan business to solve the problem of

financial pressure caused by Chinese sellers in the peak season, so as to realize the healthy operation of shops and long-term development.

### 3.3.2 Perfect foreign trade export logistics system

A sound logistics service system can promote the rapid development of cross-border e-commerce and promote the construction of digital economy. There are two ways to improve the overseas logistics service system as follows: 1) establish functional overseas warehouses; As the hub of cross-border logistics, overseas warehouses use digital systems to control storage volume, save storage costs, speed up commodity transportation time and improve customer satisfaction. Equipped with compound talents to improve logistics service information technology. 2) At present, the information technology level of cross-border e-commerce enterprises needs to be improved and scientific measures are needed to improve the information technology level of logistics. On the one hand, we should learn from the development experience of advanced logistics information technology, popularize artificial intelligence and Internet of things technology have realized the information management of cross-border logistics and transportation. On the other hand, the construction of a one-stop service platform, the integration of logistics transportation in all aspects of the data, improve the degree of information, timely handle of various problems in logistics transportation.

### 3.3.3 Diversified foreign trade export services

Data platform, such as cloud service, intelligent supply chain management, support foreign trade export program, in order to better build a new comprehensive foreign trade service digital network. At present, for the cloud service system, such as Alibaba, Tencent and other well-known enterprises in China's Internet industry to deploy energy-efficient green data centers around the world, in terms of computing similar to Amazon's Nitro, the use of advanced cloud service technology, pay attention to the basic computing capacity. In terms of data storage, the data platform enables users to remotely own data storage centers through the Internet, creating a new world for the Internet of everything. For the smart supply chain, the warehouse management digital system and supplier management system are introduced to improve the storage and transportation service and management ability of the smart supply chain, track the information of the logistics supply chain at home and abroad, and provide better services for the cross-border transportation of products.

platform	year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Amazon	turnover of account receivable	4.44	3.90	3.66	4.05	4.56	19.44	17.78	17.15	17.35	20.59
	rate of stock turnover	2.62	2.25	2.02	2.06	2.03	8.13	7.73	7.99	8.06	8.34
	velocity of liquid assets	0.85	0.83	0.83	0.92	0.84	3.34	3.16	3.18	3.24	3.15

Fig. 3 Three index showing (unit: times)

## 4. Summary

This paper mainly describes the new form of foreign trade under the digital economy, which take the Amazon cross-border e-commerce platform as an example, the head enterprise in the new business form of foreign trade, comprehensively analyzes the operation mode of Amazon's digital and intelligent foreign trade integrated service system and the working capital efficiency under its operation mode with the help of capital operation indicators. In this respect, according to the operation effect of Amazon, this paper puts forward relevant suggestions for the improvement of China's local cross-border trade, so as to promote the development of China's foreign trade diversification.

## References

- [1] Haixiao li. Strategy analysis of Digital Economy promoting international trade transformation and upgrading. Magazine introduction. 2020, No6, P.78-79.
- [2] Yanze Cai, Xinshu Gong, Mei Jing. Digital economy, innovation environment and manufacturing transformation and upgrading. Statistics and Decision making.2021, No.7, P.20-24.
- [3] Shuangshuang Shan, Yundi Dai. Development path and optimization strategy of export trade transformation under the background of digital economy. Business economics research.2022, No10, P.150-153.
- [4] Li Gao, Liu Gao. The Development level of Digital Economy and the export efficiency of China's service trade -- Based on data from OECD countries. Special Zone Economy. 2022, No5, P.60-63.
- [5] Yisa Wu. Research on the transformation and upgrading path of small and medium-sized foreign trade textile enterprises in Shaoxing City under the background of digital economy. Science and technology economic market. 2022, No5, P.19-21.
- [6] Qingyu Zhao. On the transformation and development strategy of small and medium-sized enterprises under the background of digital economy. National circulation economy.2022, No14, P.57-59.