



Research on the Business Model of Supply Chain Enterprises in the Era of Big Data

Yiwei Liu*

Business School, University of Exeter, Exeter, England

**Corresponding author. Email: Y1991@exeter.ac.uk*

ABSTRACT

With the development of the times, the application of big data on the Internet has gradually formed an era of the Internet of Everything. The advent of big data has made the invisible hand regulating markets less mysterious. We had to rethink the entire business ecosystem. Below, we take Alibaba, a supply chain enterprise, as an example to study and discuss the impact of big data on enterprise development through some literature and cases. We found that the integration of big data can not only provide better-personalized services for consumer groups but also give full play to its value in the context of the era of big data.

Keywords: *Big data, Supply chain companies, Business models, Business analysis*

1. INTRODUCTION

Big data is a hot topic of research nowadays, but few studies have been conducted to study business models based on big data. Business model analysis in the era of big data is also a hot topic today. This paper takes the supply chain management model in the B2B environment as the main research object, and firstly introduces the connotation of the B2B supply chain. Then analyze the supply chain management mode construction ideas, principles, strategies and methods. Based on these theoretical studies, using the example of Alibaba, this paper examines and analyzes a supply chain management model in line with the development of Alibaba.

2. OPERATIONAL CHARACTERISTICS OF SUPPLY CHAIN ENTERPRISES IN THE ERA OF BIG DATA—TAKE ALIBABA AS AN EXAMPLE

Alibaba is a leader in my country's e-commerce industry. In particular, artificial intelligence (AI), blockchain, and big data analytics emerge as new technologies that can shape how B2B relationships are managed[1]. Alibaba started its business and development in 1998. Today, Alibaba has changed people's consumption habits and spending patterns, ushering in a new era of online shopping. Alibaba's

business myth is based on the rapid growth of e-commerce in China. E-commerce companies of the same type as Alibaba are also growing rapidly, such as Jingdong, Vipshop and WeChat Pay. First, practitioners should realise that the growth of the digital universe continues to outpace the growth of human analytic ability[2]. Given the competition in the services market, the supply chain is now an important part of business competition. For Alibaba, one of the criteria for assessing future competition in the market is to refine and reshape the existing support chain management model in order to steady improve Alibaba's core competencies.

2.1 The connotation of B2B supply chain

B2B (business-to-business) integrates industries such as finance and logistics, providing merchants with transaction information and trading services through a virtual, non-physical trading platform (see Figure 1). B2B e-commerce models key include: This mode is based on the horizontal transaction mode of the intermediate market. It is a mode that entrepreneurs representing all walks of life are concentrated in one place. Education Alibaba is a typical horizontal trade model; The vertical trade mode is divided into upstream, middle and downstream. The main body mainly refers to the industry or industry. The suppliers, manufacturers and distributors of upstream, middle and downstream form the complete production process of products. B2B accounts for the main share in the current trade volume

of China's e-commerce market. Indeed, it is well known that companies should strive to keep existing customers

rather than acquire new ones[3]. B2B maintained a growth rate of about 50% from 2013 to 2015.

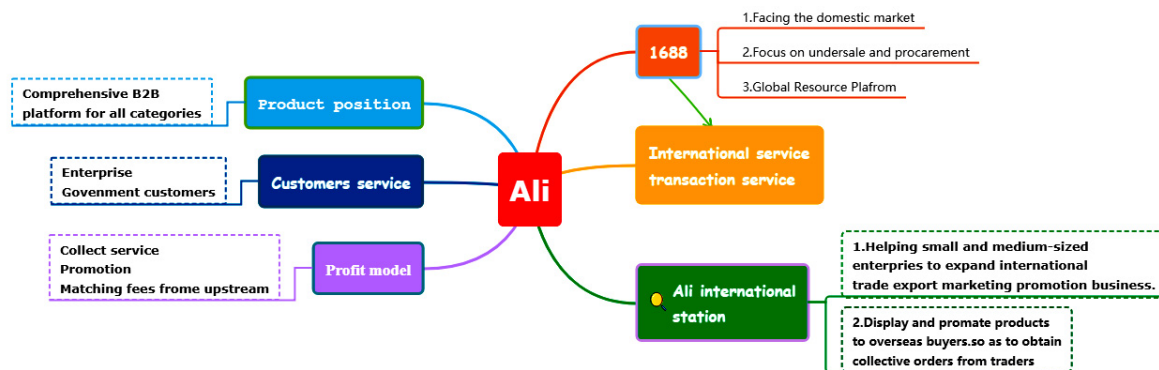


Figure 1. Alibaba B2B operation model

The supply chain consists of many links, including manufacturers, suppliers, retailers, distributors and end users, which requires commodities to shift from raw material procurement to final products in the hands of consumers. It is connected with a complete functional network to form a supply chain. Supply chain management involves all aspects of enterprise activities. Every enterprise is a department, and all management is supply chain management. Effective supply chain management can reduce operational risk, shorten cash flow time and improve enterprise profitability. If the B2B organization's pedigree includes B2C activity parallel to that of their customers but not competitive, this can give them an advantage in marketing, but if their B2C activities start to encroach on the B2C activities of their customers, this may cause conflict and loss of business[4]. B2B supply chains are therefore based on e-commerce. Enterprises or merchants use the Internet trading platform for purchasing, selling and the coordination of suppliers and customers, including logistics, information flow and capital flow. The construction of a supply chain management model for e-commerce platforms is studied. In this model, the smoothness of indirect connections will directly affect operational efficiency, and the emergence of big data has undoubtedly solved this problem effectively. In terms of the application of big data in the docking, it not only enables real-time data interaction between the supply chain system and inventory management, logistics and distribution systems, but also enables production in the face of different customer demands and changing market conditions. The processes are closely linked. It effectively avoids product retention problems caused by low production and sales turnover, reduces inventory costs, eases financial costs and management burdens, and promotes the achievement of sustainable development goals.

2.2 Change the sales model

In the past, Alibaba's sales model was mainly based on a producer-driven model, where producers decided which products to produce and consumers chose whether to buy them according to their needs. In the context of the Big Data era, producers are more focused on designing and improving products according to consumers' needs, and a virtual alliance of manufacturers and product suppliers will design and improve products to better meet consumers' needs, according to their actual needs, or even provide customised services to consumers. The key aspect of this approach is also the integration of consumer feedback on the value of the data being collected, ultimately poor-quality data can be discarded and the feedback loop can then serve better adverts within the session[5]. This shift from producer-driven to consumer-driven is also one of the key features of supply chain business operations in the Big Data era. Companies can use big data to collect timely price data and consumer feedback, which in turn allows them to adjust and optimise product prices and features. E-commerce platforms have emerged. The development of the supply chain management model for e-commerce platforms should meet three requirements: improve the supply chain system's ability to deal with emerging issues, improve core supply chain competitiveness and effectively reduce supply chain transaction costs.

First of all, we need to establish a reasonable circulation of materials network. The components of the circulation of materials network mainly include raw materials, distribution centers, supplier warehouses and distributors. The multi-link and multi-distribution nature of circulation of materials requires a lot of transportation and storage resources. Establishing a reasonable circulation of materials network can reasonably allocate these resources and avoid waste due to non use or idling. In addition, the circulation of materials network can also make full use of other resources, such as information

resources and computers, so as to reasonably allocate resources, reduce infrastructure investment and reduce huge construction expenditure.

Secondly, consumer value is the perception of all the company's products and services by customers, which promotes sustainable development and improvement of the supply chain. so in order to understand the value of customers correctly, customers require suppliers to continuously improve their supply chain in order to gain a greater competitive advantage.

2.3 The boundary of each node enterprise tends to be blurred

So-called Big Data is simply a set of data that is difficult to capture, manage and process in a given time frame using traditional software tools. The results of the study are more useful for informing business decisions and a category of information assets that promote rapid business development. The identified that CSR activities can be helpful in the relationship outcomes of the transactions between firms[6]. For supply chain enterprises, big data is an important tool to enhance core competitiveness, which can prompt both parties to obtain the most applicable market information at the most appropriate time, reduce intermediate links in the flow of goods and lower operating costs. Improve the overall efficiency of the enterprise. In the era of big data, capital and information flow have become two key factors for enterprise development. These two kinds of data and information are organically combined with the company's business, enabling the company to make progress in responding to market changes and consumer needs. Make quick decisions while ensuring the scientificity and accuracy of the results. Then, according to the results, all node companies work together to complete products or services that meet the needs of consumers. As organisations in the supply chain collaborate with each other for longer periods of time, the levels of cooperation become deeper. After a long period of consolidation, the boundaries between organisations will become increasingly blurred. Operations will inevitably be re-integrated to form one big virtual enterprise. Alibaba's cash flow is divided into two phases: payments, settlements and transactions. These two processes occupy a very important place and role in all e-commerce transaction activities. They connect businesses and consumers to conduct e-commerce transactions. Important guarantee. Alibaba has set up Alipay for payment and billing. Alipay is an intermediary trading platform and a third party guarantee. Alipay has become an important payment method in e-commerce. Alipay has promoted the development of Alibaba's capital flow. Alibaba is committed to building the flow of information from a long-term perspective. Alibaba collects information from multiple websites, and users can quickly get the

latest information about Alibaba trading platform. In addition, Alibaba has also introduced a "Trade Link" chat tool for information and trade exchange between companies. Smooth communication and communication allow transactions between companies to run smoothly. Alibaba then launched an "honest link" based on membership that allows companies or customers to become members and publish relevant information for online and offline advertising.

3. CHALLENGES FACING ALIBABA GROUP'S SUPPLY CHAIN CONSTRUCTION

In the context of the big data era, the development of various industries has an extremely high demand for data and information, and has even become the most critical part of enterprises to achieve their own sustainable development goals. As a supply chain enterprise, it should not follow the traditional business development model, but should adjust its business development model according to the needs of the general economic market environment and enterprise development in order to optimise its own supply chain system. Specifically, the business development model innovation of supply chain enterprises in the era of big data should focus on developing and improving the following aspects:

Since the company's inception Alibaba's growth has been relentless. And building the largest supply chain services platform in China and the world seems within reach. However, Alibaba's efforts to integrate supply chain management resources and restructure the chain management model. The new offer is not fluid. and also face enormous challenges and risks.

First, Alibaba uses the idea of the Internet to reform the supply chain management model. This innovative development has a far-reaching impact on Alibaba and even China's supply chain management model. However, some problems cannot be ignored. Alibaba is not specialized in supply chain business, but its supply chain integration is based entirely on large amounts of money. This unprofessional building, based solely on external forces, is inherently risky. In addition, many Chinese companies and individuals are not mature enough in e-commerce awareness to fully rely on online operations. From this perspective, it will affect the economies of scale of Alibaba's e-commerce business.

Secondly, Alibaba acts as a third party in supply chain management, i.e. as a third party in supply chain management. Not all logistics goods belong to Alibaba; Alibaba owns only a small portion of its assets. Although Alibaba has invested a lot of money in integrating the supply chain, it has hardly benefited from it. With this in mind, Alibaba can find a more effective solution than investing in third-party logistics.

Therefore, there are problems and variables in the way of reorganizing Alibaba's supply chain management.

4. SUGGESTIONS ON ALIBABA'S CONSTRUCTION OF SUPPLY CHAIN MANAGEMENT MODEL IN BIG DATA ENVIRONMENT

4.1 Follow the build principles

The supply chain management model should be designed based on three design principles: integrity, efficiency and information technology. No matter which service provider, even Alibaba with strong strength, must strictly abide by these three principles under B2B conditions. The supply chain model can better optimize all aspects of the supply chain, such as cash flow, logistics, and data flow. To enable supply chain companies to communicate freely improve the responsiveness and sensitivity of market indicators, and improve overall competitive advantage. Get the most economic benefits at the lowest cost.

4.2 Integrate into customer relationship management system

The supply chain management model should include that the competition between information and communication technology companies is very fierce. The authority requires that if Alibaba wants to participate in the competition of procurement details, it will be strengthened by integrating it into the authority's system. Customer consideration is the basis of electronic development, and establishing a solid relationship with customers is one of them. About meeting the different needs of customers and attracting.

4.3 Improve the system to build the supply chain

Describe the structure of Alibaba's supply system. Alibaba is currently striving to integrate its supply chain management system, but it is improving and improving. Therefore, Alibaba's supply chain system should be further divided to create an internal and external supply chain system. A company can only develop better when both inside and outside. The core of internal supply chain management is supply chain planning (SCP) and ERP. ERP mainly combines Alibaba's purchase management, order management and other business processes. SCP is mainly the integration of a purchase plan, an action plan and various decision-making activities. An external supply chain system connects every company in the supply chain through e-commerce. The e-commerce platform enables us to implement effective data collection and feedback, streamline

relevant plans and strategies, and effectively integrate the company's internal and external supply chain.

4.4 Staffing

Service allocation of customers and technicians by geographical location. Alibaba is domiciled in Hangzhou, Zhejiang Province Alibaba's core technical and customer service personnel are also concentrated in its Hangzhou headquarters. However, Alibaba's strategic development map has spread throughout the country and even the world. Personnel concentration is inconsistent with the strategic development model. Therefore, if the situation allows Alibaba may reasonably distribute the geographical distribution of its technical personnel and customer service to reduce costs. Improve technical service levels and service efficiency, and accelerate customer dependence and market demand. Meanwhile, decentralized staffing will improve the accuracy and speed of market research in different regions. Establish timely regulations to improve corporate sustainability and gradually expand competitive advantage.

4.5 Establishing a single supply chain alliance

Although Alibaba is currently the largest internet company in China, it does not stop at growth and progress. Its strategic goals for continued growth and continued growth are evident. As Alibaba continues to grow, its supply chain will continue to expand. In more and more places in the supply chain, effective interaction, communication and cooperation need comprehensive management. Its members include different retailers and suppliers of various materials related to the retail industry and other related organizations. At the same time, Alibaba will need to organically combine its internal supply system with external supply system to enable it to operate in the best way and help it obtain a higher competitive advantage in the case of intensified competition. Continue to lead China e-commerce company

5. CONCLUSION

Competition between companies is an important part of supply chain competition. With increasing competition in the market, Alibaba, China's largest e-commerce company, is also facing major challenges. To achieve sustainable development, Alibaba must improve and redesign the existing supply chain management model and continuously improve Alibaba's competitiveness. Subsequently, the current situation and existing problems of supply chain management in Alibaba are analyzed in detail. Alibaba's supply chain integration is based on capital. This non-professional construction, which depends entirely on external force, has certain limitations. In addition, Alibaba has invested a lot of money in integrating the supply chain, but

revenues are very low. Currently, these issues are related to Alibaba's supply chain management.

Therefore, the development of supply chain enterprises is facing unprecedented opportunities and challenges in the era of big data. In order to better adapt to the market law of the new era, the main task of enterprises is to establish a scientific and effective business development model from their own needs and development direction, and reposition themselves at the same time. This is the only way for us to occupy a place in the data-based market economy and achieve good results.

REFERENCE

- [1]Gligor David M.,Pillai Kishore Gopalakrishna,Golgeci Ismail. Theorizing the dark side of business-to-business relationships in the era of AI, big data, and blockchain[J]. Journal of Business Research,2021,133:
- [2]Yang Yang, et al."You have not been archiving emails for no reason! Using big data analytics to cluster B2B interest in products and services and link clusters to financial performance." Industrial Marketing Management 86.prepublish(2020): doi:10.1016/j.indmarman.2019.01.016.
- [3]Heli Hallikainen, et al."Fostering B2B sales with customer big data analytics." Industrial Marketing Management 86.prepublish(2020): doi:10.1016/j.indmarman.2019.12.005.
- [4]Wright Len Tiu, et al."Adoption of Big Data Technology for Innovation in B2B Marketing." Journal of Business-to-Business Marketing 26.3-4(2019): doi:10.1080/1051712X.2019.1611082.
- [5]Abdul Jabbar, et al."Real-time big data processing for instantaneous marketing decisions: A problematization approach." Industrial Marketing Management .prepublish(2019): doi:10.1016/j.indmarman.2019.09.001.
- [6]Kim Kyung Hoon,and Moon Hakil."Innovative digital marketing management in B2B markets." Industrial Marketing Management 95.(2021): doi:10.1016/J.INDMARMAN.2021.01.016.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

