

# The Stability and Promotion Strategy of Virtual Logistics Alliance in Xi'an International Trade and Logistics Park Based on Computer Application

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**Keywords:** virtual logistics alliance; stability; Xi 'an International Trade and Logistics Park;

**Abstract:** With the development of e-commerce, online trading market has been growing rapidly. So the virtual market, virtual transactions, virtual logistics and other emerging industries have also developed rapidly. Virtual logistics alliance starts from the supplier's value chain, which is directly distributed to the buyers through the virtual processing of logistics enterprises, and the traditional way of transport, storage and other intermediate links are eliminated. In this paper, taking the virtual logistics alliance of Xi'an International Trade and Logistics Park as an example, the structural equation modeling method was adopted, and then, the influencing factors of the stability of the alliance and the five influencing factors studied by the promotion strategy in this research were analyzed deeply. The influence of the degree of continuous cooperation on the stability is relatively large, which is the key factor to determine whether the virtual logistics alliance is stable. And the stability of the virtual logistics alliance makes the members keep a small fluctuation in a period of time.

## 1. INTRODUCTION

At present, the world economy is about to usher in a major turning point, countries are carrying out a new round of economic restructuring, the technological development and the formation of large multinational companies play a vital role, which is also the main trend of the current economy (Zhang W, et al. 2016) [1]. In this process of continuous development, some emerging technologies and emerging industries also came into being, and the modern virtual logistics is born in this context. As the world's most advanced organization and management way, the virtual logistics has been adopted by the vast majority of enterprises, which has become the pillar of major companies. As a result, virtual logistics is increasingly critical in the world economy, and the impact on the world economy is growing. Moreover, its degree of development has been recognized as the primary criterion for measuring the national modernization and comprehensive national strength (Hu M, et al. 2014) [2].

Driven by the rapid development of science and technology, the major companies launched a battle for the third profit source. According to statistics, the annual output value of the logistics industry in China can reach more than 100 million yuan, furthermore, the output value increases year by year, and the growth rate is also increasing. It can be seen that the logistics industry prospects are good, the development space is huge.

## 2. STATE OF THE ART

Virtual logistics (Virtual Logistics) is to use the modern logistics technology and e-commerce platform to achieve its flexible function. Different logistics companies join the same virtual alliance, however, their competitive relationship can't be changed, which is determined by the essential characteristics of the market economy, and the cooperation also has a fixed scope of cooperation. Although all of the people create the overall efficiency of the alliance together, the logistics companies still take to maximize the individual interests as the goal, the cooperation is a measure, and the competition is the goal. Realizing the importance of the individual interests of the members

of the virtual logistics enterprise alliance optimal allocation benefits makes the interests of the whole alliance transform into the personal interests of the logistics enterprises, which becomes the most important link in the profit distribution of the alliance.

Recently, some scholars have built an assessment system that includes qualitative and quantitative indicators. Qualitative indicators include corporate image, culture and management compatibility, team cooperation and development space. Quantitative indicators include the size of regulatory costs, the improvement of service capabilities, the development of corporate technology, financial performance and information levels (Jiang X, et al. 2016) [4]. On the basis of the advanced algorithm of cloud center of gravity, a complete evaluation model is established, and the purpose is to conduct the comprehensive assessment on the partner evaluation in the virtual logistics alliance. This method is based on the evaluation index system of the cooperative partners. The decision matrix is formed according to the evaluation state values given by the experts, and the allocation is carried out by synthesizing the integration power data, besides, each index weight, the cloud model of cloud index are calculated by cloud theory. The model can solve the requirements for loose coupling and dynamic logistics characteristics, and moreover, it can also better achieve the logistics and information technology.

### **3. METHODOLOGY**

#### **3.1 The concept of virtual logistics alliance**

Logistics is the services field that involves a wide range, the link is multiple, the business volume is scattered and the logistics business activities occur at any time. Logistics services enterprises have their limitations to provide services objects and scope, the logistics needs are large, which is difficult to find logistics services, resulting in idle and waste of a lot of resources. In this case, the virtual logistics enterprise alliance is established. The purpose of virtual logistics is to further integrate and use resources, improve efficiency through the organization, trade, service and virtual management network, and provide more convenient and efficient logistics network services for the production and circulation enterprises, so as to achieve convenient and efficient logistics network business activities, high-speed logistics operation, high security, high reliability and low cost (Liu F, et al. 2016). Compared with the operation of a single logistics enterprise, virtual logistics enterprise alliance often leads to unfair profit distribution, so it's necessary to maintain the stability of virtual logistics enterprise alliance, so as to find a more reliable strategy for long-term cooperation and development. Today's virtual logistics enterprise alliance uses its own advantages to gather all information, strengthen the supervision of the network system, which gradually develops into a very advanced logistics model.

#### **3.2 The formation mechanism of virtual logistics alliance**

The formation of the logistics alliance is not a natural selection process but the cooperative action adopted according to the expectations of companies to the future logistics market. Partners have the opportunity to create new value through inventory synergies in time and space repositioning. Study on the formation motivation of logistics alliance at home and abroad can be summed up in two categories: increasing the corporate profits and enhancing the competitiveness. According to the statistical analysis of 158 valid samples, the top nine motivations for the formation of the logistics alliance of enterprises include: increasing the resource utilization (89%), creating new business opportunities for the resource supplement (80%), expanding the existing market share (73%), opening up new market products/services (71%), in a long period of time, it is impossible to develop or replicate the unique contribution of a partner (41%). As a result, most of them are in line with the domestic and foreign scholars' research on the strategic alliance motive. However, there are differences in the order of importance of factors. According to the survey, in three important motives, domestic enterprises first tend to pursue the scale effect and fully use the resources, while the internalization skills and the desire to develop differentiated capabilities are relatively weak (Yang X, et al. 2016) [6].

### 3.3 The establishment of virtual logistics alliance stability model

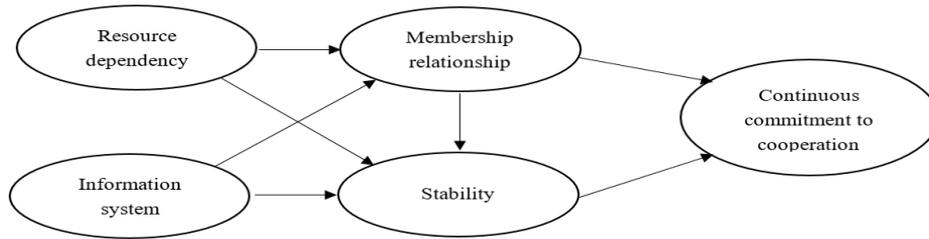


Fig.1 The study model of the virtual logistics alliance

After establishing the virtual logistics alliance model, because the alliance has a high attraction, many companies that have not joined the alliance before want to join the alliance organization, and the virtual logistics alliance team will continue to grow. Of course, with the constant development and change, there is a small fluctuation between alliance members and interest relationship within a certain range, and this is also one of the natures of virtual logistics alliance.

The following is the significance test result of the path coefficient:

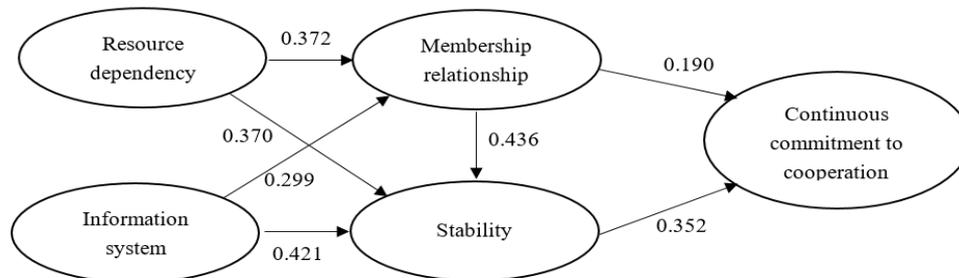


Fig.2 The final calculation of the model

## 4. CONCLUSIONS

In this paper, the virtual logistics alliance in Xi'an International Trade and Logistics Park was taken as an example, and the structural equation modeling method was adopted; then, the influencing factors of the alliance stability and five influencing factors studied by the promotion strategy in this study were analyzed deeply; moreover, the impact of the degree of continuous cooperation on the stability was relatively big. In terms of internal consistency, at the aspect of the resource trust, The results show that the greater the comprehensive reliability is, the better the internal consistency of the measurement model is. In five influencing factors studied in this study, the impact of the degree of continuous cooperation on the stability is relatively large, which is the key factor to determine whether the virtual logistics alliance is stable. Then, the stability of the virtual logistics alliance can make members of each group maintain a small fluctuation in a certain period of time.

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