

Advantages and Countermeasures of Integrating Supply Chain Management under the Internet of Things Technology on Complex Theory to Promote the Clustering of Cultural Industries

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Abstract: With the development of the Internet of things technology, various industries in our country have also entered a period of rapid development, but the cultural industry is still in a stage of slow development to a certain extent. This article is based on the data of China Publishing Group Corporation's integrated supply chain in the past five years, combined with complex theories and Internet of things technology, to analyze the opposing model of the integrated supply chain. This paper takes the actual efficiency of the integrated index structure in the Internet of things technology on the uncertain data flow as the research object, and based on the Internet of things technology, studies an efficient and efficient method of query processing for the integrated supply chain on the unknown network traffic based on the opposition model. Sampling the data in the sliding window of the uncertain data stream and establishing an opposite model, converting the data stream into a parameter stream in the uncertain object probability density function; the opposite model establishes the TPL tree index structure, this algorithm is to reduce the calculation. It uses the parametric flow of the opposite model. This method first obtains the set of local clustering results at the distributed nodes, and then performs the local clustering optimization on the union of the local clustering results again to obtain the global TPL result set. The experimental results show that, compared with the unintegrated traditional enterprise supply chain integration method, this method can not only effectively model the cultural industry clustering to assist the construction of cultural industry clusters, but also can effectively prune the unintegrated parts and improve the culture, the efficiency of industrial clustering.

1. Introduction

With the widespread application of complex theory and technology, the clustering of cultural industries can be accurately transmitted between the member nodes of the supply chain through

complex theory, which greatly improves the information flow management and cultural management in the supply chain management. The development of the Internet of things has achieved very good results today, and the achievements of the Internet of things have been widely recognized internationally. Although the green Internet of things started slowly and its early development foundation was poor, in recent years, under the active promotion of governments at all levels, relevant companies have actively cooperated and dared to try, especially the top companies in the industry, which have taken over policy guidance and market resource allocation coordination. Standards and regulations complement each other to form the foundation of the green IOT industry system and lead the development of China's new manufacturing industry.

Zhang S analyzed the contradictions of value-added dynamic cooperative alliances between single supply chain networks in complex supply chain networks, and on this basis, analyzed the dynamics between single supply chain networks based on the value-added in complex supply chain networks [1]. Xia X combines the non-uniform growth characteristics of the supply chain network growth, and uses the individual selection behavior of enterprises and the transaction costs between supply chain management enterprises as the driving factors for evolution [2]. Baktir AC and others regard the supply chain network as a process of dynamic flow of the supply chain. Each node is regarded as a transformer. When the logistics passes through a node, it will change, it can be simulated by a first-order differential equation, and then the most Robust method, optimal control method can reach the optimization goal of supply chain [3]. Zhang Y proposed a new network efficiency calculation method for the problem of reduced operating efficiency under uncertain conditions [4].

Li W's research found that the horn effect (ie, information amplification effect) in supply chain management is related to the nature of the supply chain network topology. A good supply chain structure can reduce the horn effect, while improving stability and resistance to attacks [5]. Li F established a systematic method for detecting cascading effects, proposed rules for defining important nodes in the supply chain network, and proposed a dynamic node importance evaluation method, and then calculated the maximum value [6]. Wu D et al. revealed the root cause of IOT risks through the evolution of simple IOT network modeling, and the endogenous risks driven by the endogenous forces between the cultural industry and the internal environment led to internal risks [7]. The information sharing provided by Wang B for enterprises can improve the performance of the supply chain, but at the same time it also faces the problem of disclosing information for cooperative enterprises in other chains to maximize their benefits [8]. Rozewski P simulation proves that the efficiency of corporate learning in small world networks is higher than that of conventional networks and random networks [9].

This article analyzes the problems of supply chain management through modern complex theory and technology supply chain management thinking, and proposes countermeasures to achieve the "efficient", "standard" and "intensive" supply chain management goals for the cultural industry. According to the opposing model of the integrated supply chain, analyze the clustering of consumers and manufacturers. Combining complex theory to analyze the cluster advantages of the supply chain integration effect, and discuss the integration data model of China Publishing Group Corporation in the past five years.

2. IOT Technology and Supply Chain Management

2.1 Integration Method of Supply Chain Management under Complex Theory

Complex theory consists of a large number of interacting sub-theories. When interacting, these sub-theories continue to exchange culture and information with the environment, resulting in unpredictable overall behavior [10]. There are many members in the supply chain, including new

and old companies, subsidiaries, suppliers, etc. These organization members influence each other and promote each other's development. The supply of the network consists of chains of various different industries in this field. Many upstream principles attributed to the distributor group are many different types of business processes [11]. The business relationship between nodes in the supply chain is the cooperation and competition between units. In each location network through the supply chain, there is a certain number of companies [12]. These companies also provide services to the core companies in the entire supply network to meet their production, planning, logistics and procurement needs. In both cases, there are opportunities to take care of the situation under the premise of maximum wealth. This is exactly what they care about. Therefore, when the enterprise is at risk, in the entire society, members of the network may be the interaction between supplies has a certain degree of complexity [13]. In the value-added process of the entire supply network, the market is changing and unpredictable. The supply chain will continue to be reorganized according to market demand, and new and old companies will alternate. Due to the entry of new companies, the competitiveness of some old companies is declining. In order to maintain a balance in the dynamics and ensure the supply of the entire network, Chinese companies must further strengthen product development in a theoretical environment and be prepared to respond to the impact of the Internet at any time preparation.

According to the characteristics of the supply chain network structure, the supply chain network can be reassigned to another developer who can be proposed by a different network structure. In fact, the grace period of a network supply chain can be explained by examples, so that we can see whether they meet the requirements, enter a small network or happen to reach a non-standard. As long as it stays in the same position, it is very effective in the supply chain of many things [14]. Operation is the core of a series of rapid decisions in the supply chain process. The site is located in the middle of an undisturbed supply network, which reflects the nature of the supply chain. Through the network, determine the key nodes in the supply chain network, protect and focus on the nodes that enhance stability [15]. After determining the key to all initiatives, the most important thing is the core operation. Maintaining sufficient market competitiveness, human resources and a stable operating system can effectively reduce the impact of rapid changes in the core business of the entire supply chain. Use all network extensions to analyze the internal mechanisms of the enterprise and coordinate network behavior [16]. The dynamic evolution of the supply chain network, the dynamic mechanism and characteristics of the supply chain network expansion should be carried out according to the rules and habits and all dynamic networks, which lays the foundation for the effective operation of the subsequent supply network. The supply chain includes data communication networks and knowledge sharing processes, as well as business processes and entry plans [17].

2.2 IOT System Integrated Supply Chain Technology

The multi-layer system development framework is based on all learning, all advanced theoretical frameworks, B/S management mode, and does not need to maintain customers. The Internet architecture to the client layer enables users to interact with enterprise business system data and display the results according to specific business rules. According to theoretical specifications, all customer-based application store chains do not belong to the supply chain. The entire supply chain theory will display all specifications from the sequence of the composite example in the order of the defined theoretical things. Java is based on the supply chain and all theories things are dynamically generated in any model [18]. EJB components can perform the following functions. A client application receives information, processes the information according to business rules, and is used in the system to send data storage, retrieve data from the data storage system and send it to the

client's business process results. The EJB components running in front of the enterprise rely on the EJB container to manage transactions, life state transitions and multithreading of storage resources [19].

The configurable application software and configurable design and real-time supply chain platform are based on modularity. Users can choose the functional modules to be implemented according to their own needs. At the same time, SMEs in the cluster can be exposed to the same environment while sharing information [20]. Integrate external management systems to achieve real-time integration of enterprise internal logistics, information flow, capital flow, and work flow. When the management and organizational structure of the enterprise changes, all walks of life become important software suppliers. Smith believes that there is no need for secondary development. Only system maintainers can configure these components to complete the efficient supply chain management and agile platform simulation parameters [21].

2.3 Supply Chain Management

The concept of chain stores has developed into the behavior of expanding production and delaying the production of enterprises. It is the middle part of the supply chain of core enterprises [22]. The members of the network are residential suppliers, manufacturers and distributors, sellers, and both ends of ORL [23]. Usually, the service supply chain is a form of network, and the chain leading to the management department is to more effectively integrate the supply chain indicated by the sales manufacturer into a product, thereby tending to the service level, and at the same time, the supply chain the cost is minimized [24]. The management cost of a set of gold is accompanied by a correct measurement standard, and a reasonable production cost can meet the advantages of the cultural industry [25]. Therefore, in the process of product production and sales, strengthen the cooperation between enterprises, use supply chain management to reduce inventory, reduce production and cost allocation, and form a supply chain management effect, thereby achieving the goal of reducing company costs. The misconception of total cost is eliminated, and the elimination process is also optimizing the structure of the cultural industry. The general supply chain model is shown in Figure 1.

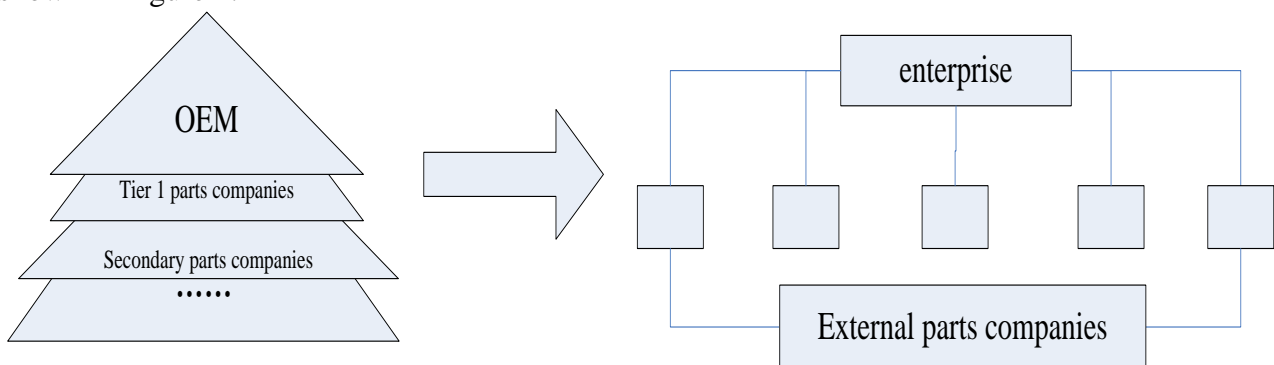


Figure 1: Transition from vertical integration to horizontal integration

2.4 Opposition Model of Cultural Industry Clustering

When the cultural industry opposes the H cluster, the manufacturing cluster opposes it. Considering that the manufacturing costs of group 1 and group 2 are 1 and K respectively, $0 < k < 1$. In this way, a rich consumer group is obtained in the X1 and X2 consumer groups, and the consumer group is 2:

$$U_1 = \begin{cases} s - p_1 - x_1 \\ x - p_2 - (1 - x_1) \end{cases} \quad (1)$$

$$U_2 = \begin{cases} s - p_1 - kx_2 \\ x - p_2 - k(1 - x_2) \end{cases} \quad (2)$$

Suppose $x_i (i=1, 2)$ is the critical consumer, then the second-stage opposing solutions can be obtained from equations (1) and (2) as:

$$x_1 = \frac{p_2 - p_1 + 1}{2} \quad (3)$$

$$x_1 = \frac{p_2 - p_1 + k}{2k} \quad (4)$$

Therefore, the profit functions of manufacturing cluster A and manufacturing cluster B are respectively:

$$\pi_B^{LH} = \frac{(p_1 - c_1)(p_2 - p_1 + 1)}{2} + \frac{(p_1 - c_1)(p_2 - p_1 + k)}{2k} - e(1 - \zeta)t \left[\frac{p_2 - p_1 + 1}{2} + \frac{p_2 - p_1 + k}{2k} \right] \quad (5)$$

$$\pi_B^{LH} = \frac{(p_2 - c_2)(1 - p_2 + p_1)}{2} + \frac{(p_2 - c_2)(k - p_2 + p_1)}{2k} - et \left[\frac{1 - p_2 + p_1}{2} + \frac{k - p_2 + p_1}{2k} \right] \quad (6)$$

So the first-order condition is:

$$\frac{\partial \pi_A^{LH}}{\partial p_1} = \frac{p_2 - p_1 + 1}{2} - \frac{p_1 - c_1}{2} + \frac{p_2 - p_1 + k}{2k} - \frac{p_1 - c_1}{2k} - e(1 - \zeta)t \left[-\frac{1}{2} - \frac{1}{2k} \right] = 0 \quad (7)$$

$$\frac{\partial \pi_B^{LH}}{\partial p_2} = \frac{1 - p_2 + p_1}{2} - \frac{p_2 - c_2}{2} + \frac{k - p_2 + p_1}{2k} - \frac{p_2 - c_2}{2k} - et \left[-\frac{1}{2} - \frac{1}{2k} \right] = 0 \quad (8)$$

Thus, the equilibrium price of the second stage and the optimal profit of the two manufacturing clusters are:

$$p_1^* = \frac{2k}{k+1} + \frac{2c_1 + c_2 + 3et + 2et\zeta}{3} \quad (9)$$

$$p_2^* = \frac{2k}{k+1} + \frac{c_1 + 2c_2 + 3et - et\zeta}{3} \quad (10)$$

$$\pi_A^{LH} = \frac{2k}{k+1} + \left[\frac{1}{2} + \frac{1}{2k} \right] \left[\frac{c_2 - c_1 + et\zeta}{3} \right]^2 + \frac{2(c_2 - c_1 + et\zeta)}{3} \quad (11)$$

$$\pi_B^{LH} = \frac{2k}{k+1} + \left[\frac{1}{2} + \frac{1}{2k} \right] \left[\frac{c_1 - c_2 - et\zeta}{3} \right]^2 + \frac{2(c_1 - c_2 - et\zeta)}{3} \quad (12)$$

Manufacturing cluster A chooses strategy H, while manufacturing cluster B chooses strategy L. The consumer surplus obtained by the two types of consumer groups buying goods is the same as in scenario 1. Therefore, the second stage of the opposite solution is still:

$$x_1 = \frac{p_2 - p_1 + 1}{2} \quad (13)$$

$$x_2 = \frac{p_2 - p_1 + k}{2} \quad (14)$$

Both manufacturing cluster A and manufacturing cluster B choose strategy L. The consumer surplus obtained by the purchase of goods by the two types of consumer groups and the second-stage opposing solution are unchanged, so that the second-stage equilibrium price and two manufacturing clusters are obtained. The optimal profits are:

$$p_1^* = \frac{2k}{k+1} + \frac{2c_1 + c_2 + 3et - 2et\zeta}{3} \quad (15)$$

$$p_2^* = \frac{2k}{k+1} + \frac{c_1 + 2c_2 + 3et - 3et\zeta}{3} \quad (16)$$

$$\pi_A^{LH} = \frac{2k}{k+1} + \left[\frac{1}{2} + \frac{1}{2k}\right] \left[\frac{c_2 - c_1}{3}\right]^2 + \frac{2(c_2 - c_1)}{3} \quad (17)$$

$$\pi_B^{LH} = \frac{2k}{k+1} + \left[\frac{1}{2} + \frac{1}{2k}\right] \left[\frac{c_1 - c_2}{3}\right]^2 + \frac{2(c_1 - c_2)}{3} \quad (18)$$

According to the above analysis, the opposing payment matrix in the second stage is obtained, as shown in Table 1:

Table 1: Payment matrix of manufacturing cluster

A \ B	L	H
L	π_A^{LL}, π_B^{LL}	π_A^{LH}, π_B^{LH}
H	π_A^{HL}, π_B^{HL}	π_A^{HH}, π_B^{HH}

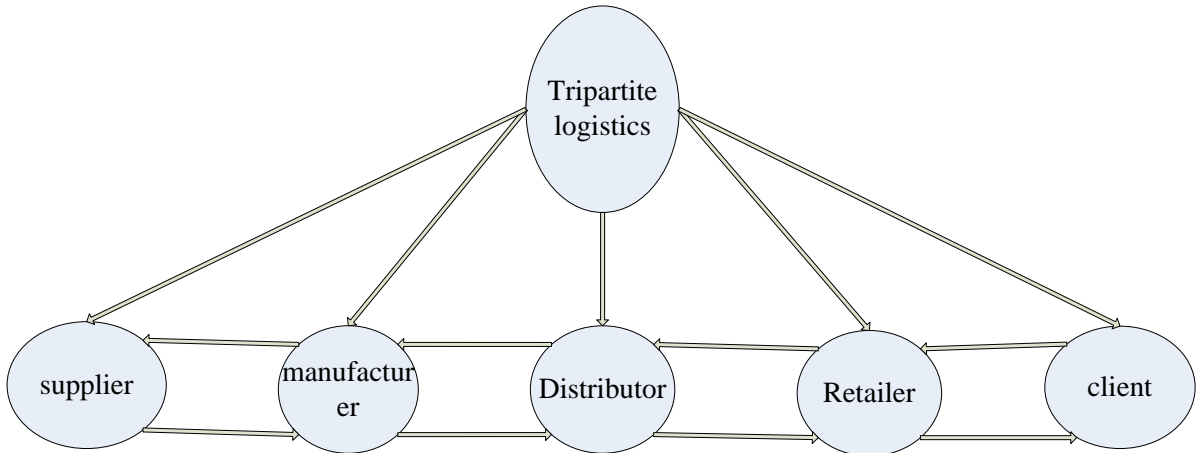


Figure 2: Automobile supply chain structure diagram

The structure of the supply chain is shown in Figure 2. The supply chain is a chain where a series

of completed or uncompleted value-added services or semi-departmental products and original culture become the mainstream and deliver perfect products to users. And has the most important original culture supply chain, these original cultures all come from part of the automobile industry, lorem manufacturers, and for all these vehicles, part of its distributors, retailers and end customers.

3. Integrate the Supply Chain and Promote the Design of Cultural Industry Clusters

3.1 Objects

This article takes China Publishing Group's cultural chain integration process as the research object, obtains China Publishing Group's supply chain model data for the past five years, imports the supply chain opposition model, and compares the process data from the production of publications to consumers.

3.2 Design of Detection Steps

(1) Assess the characteristic effect of the integrated supply chain model

The price is stable in the natural network journal of the complex program chain, and is tied to the supply chain, which is the supply of the network complex. This type of supply chain network is a multi-dimensional perspective, which is passed to the end-of-product supply chain. The thoughts and actions of corporate culture, as well as many issues related to supply chain risks, according to the characteristics of the network supply chain, store the supply chain network on another network, and propose marketing strategies to adapt to different local conditions and structures. For example, if you see that the network meets the requirements of a small supply network or a non-standard network, you can analyze the supply chain. Therefore, although it fits the situation in terms of utility, it can determine the specific supply chain of richer things. The intermediate nodes of all network nodes will improve its stability without the need to fix the enterprise, and the node-to-step edge is attached to the node.

(2) Assess the Impact Itself and the Countermeasures Integrated into the Supply Chain

Determine and formulate emergency plans through the node community, ignore the impact of the supply chain, and effectively respond to uncertain events. The supply chain information exchange network includes knowledge and experience of business processes and decision-making processes. Due to this type of interaction and effective multi-directional connections, it is necessary to conduct reasonable internal research on each node in the supply chain. Internally and externally, when using a method that is smoother than the uncertainty of the supply chain to objectively predict the actual impact of life, there are a variety of judgment methods. Through analyzing everything to encourage the supply chain network, technology to improve the network's anti-risk ability. Although the supply chain network will show the ability of self-adaptation and self-regulation, it still depends on the designed value chain in the final analysis. External factors hinder people's ability to lose motivation. Based on all the analysis of the supply chain network, we have established a supply chain model that can reduce supply chain failures and improve performance, thereby improving its ability to resist risks and overall operational efficiency.

4. Advantages and countermeasures of Integrating Supply Chain Management to Promote the Clustering of Cultural Industries

4.1 Advantages of Integrating Supply Chain Management to Promote the Clustering of Cultural Industries

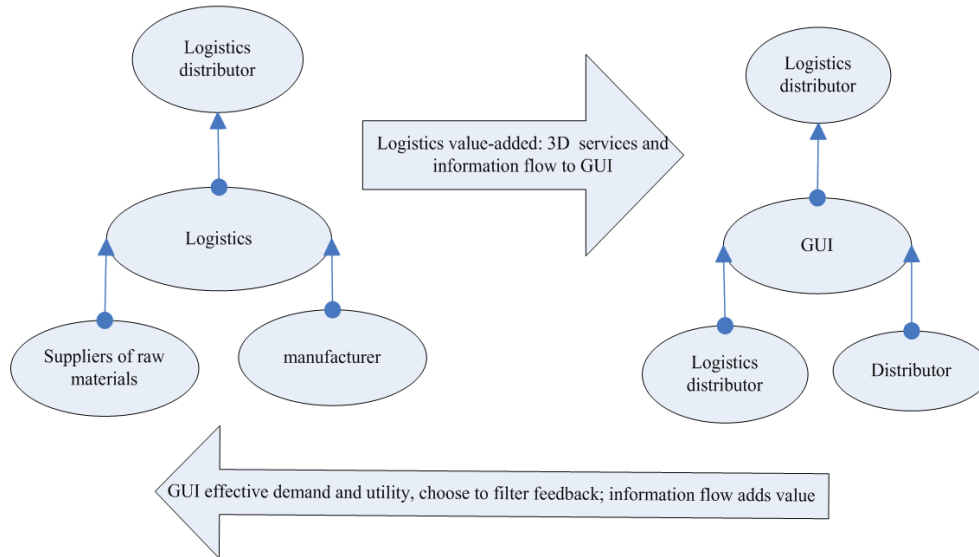


Figure 3: The value-added process of the supply chain

As shown in Figure 3, the value-added-processing-value-added process of the supply chain reflects the two chains. The first is the logistics value-added process, which starts with data suppliers and manufacturers changing services to distribute logistics and distribute it to consumers. In this process, by optimizing the distribution logistics supply chain, preparing for the various data provided to consumers through the organization's supply chain, this can reduce the cost of process conversion, thereby improving the effectiveness and efficiency of the entire supply chain. The second is the value-added processing of data flow, which refers to the effective demand for various products, services and information utilities. These products, services and information will not be passed from consumers to the supply chain through information sharing practices and related technical support. Among other participants in. All participants use the knowledge acquired through the supply chain to guide the production of products and the provision of services, reduce or avoid overproduction, outdated production, and ineffective accumulation of inventory, and at the same time, all the benefit distributors obtained from various manufacturers through the supply chain, to gain a better understanding of the entire supply chain, production efficiency and productivity. The production efficiency data of the supply chain is shown in Table 2, and the integration and complexity of the supply chain are shown in Figure 4.

Table 2: Delivery effect data of integrated supply chain model

Production side	Pipeline 1	Dealer	Pipeline 2	Distributor	Retailer	client
1	7	2	3	4	4	5
2	2	3	3	6	6	2
3	1	4	4	3	3	1
4	3	6	5	6	6	4
5	3	3	3	7	7	5

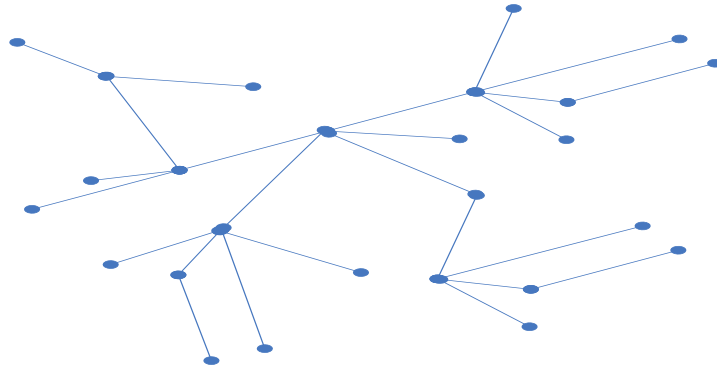


Figure 4: The complexity of the supply chain structure

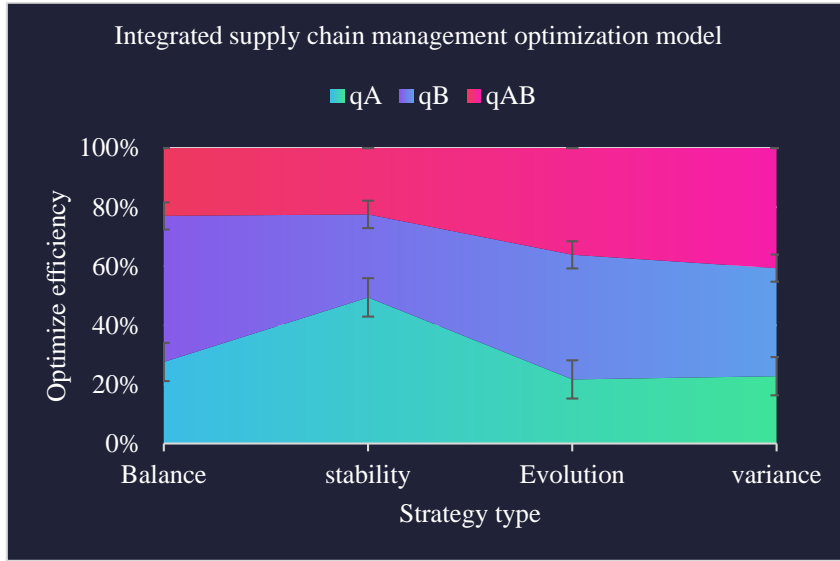


Figure 5: Integrated supply chain management optimization model

As shown in Figure 5, in the integrated supply chain management optimization model, because (0,0), (0,1), (1,0) and (1,1) are the balance points of systems (3) and (4), therefore, by analyzing the local stability of the corresponding Jacobian matrix of the system, the local stability of the equilibrium point of the system can be investigated. Calculating the partial derivatives of q_A and q_B with respect to Q_A respectively, the Jacobian matrix can be obtained as:

$$J = \begin{bmatrix} \frac{\partial \bar{q}_A}{\partial q_A} & \frac{\partial \bar{q}_A}{\partial q_B} \\ \frac{\partial \bar{q}_B}{\partial q_A} & \frac{\partial \bar{q}_B}{\partial q_B} \end{bmatrix} = \begin{bmatrix} (1-2q_A)(\pi_A^{LH} - \pi_A^{HH} + q_B \Delta A) & q_A(1-q_A)\Delta A \\ q_B(1-q_B)\Delta B & (1-2q_B)(\pi_B^{LH} - \pi_B^{HH} + q_A \Delta B) \end{bmatrix} \quad (19)$$

Among them:

$$\Delta A = \pi_A^{LL} + \pi_A^{HH} - \pi_A^{LH} - \pi_A^{HL} \quad (20)$$

$$\Delta B = \pi_B^{LL} + \pi_B^{HH} - \pi_B^{LH} - \pi_B^{HL} \quad (21)$$

The effect of interactive animation with the help of Internet technology

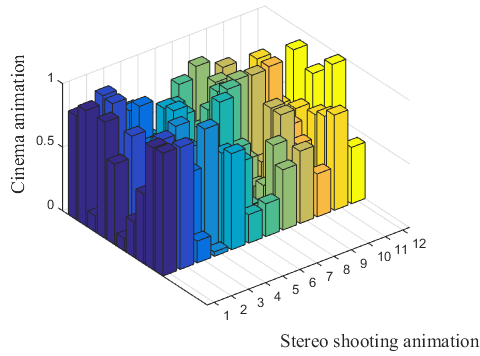


Figure 6: The effect of interactive animation with the help of Internet technology

The model stability relationship diagram is shown in Figure 6, and the corresponding relationship number table is shown in Table 3.

Table 3: Model stability relationship table

Num	qA	qB	qAB	A	B	πA	πB
1	0.8147	0.9572	0.6787	0.6948	0.7094	0.7513	0.8143
2	0.9058	0.4854	0.7577	0.3171	0.7547	0.2551	0.2435
3	0.1270	0.8003	0.7431	0.9502	0.2760	0.5060	0.9293
4	0.9134	0.1419	0.3922	0.0344	0.6797	0.6991	0.3500
5	0.6324	0.4218	0.6555	0.4387	0.6551	0.8909	0.1966
6	0.0975	0.9157	0.1712	0.3816	0.1626	0.9593	0.2511
7	0.2785	0.7922	0.7060	0.7655	0.1190	0.5472	0.6160
8	0.5469	0.9595	0.0318	0.7952	0.4984	0.1386	0.4733
9	0.9575	0.6557	0.2769	0.1869	0.9597	0.1493	0.3517
10	0.9649	0.0357	0.0462	0.4898	0.3404	0.2575	0.8308
11	0.1576	0.8491	0.0971	0.4456	0.5853	0.8407	0.5853
12	0.9706	0.9340	0.8235	0.6463	0.2238	0.2543	0.5497

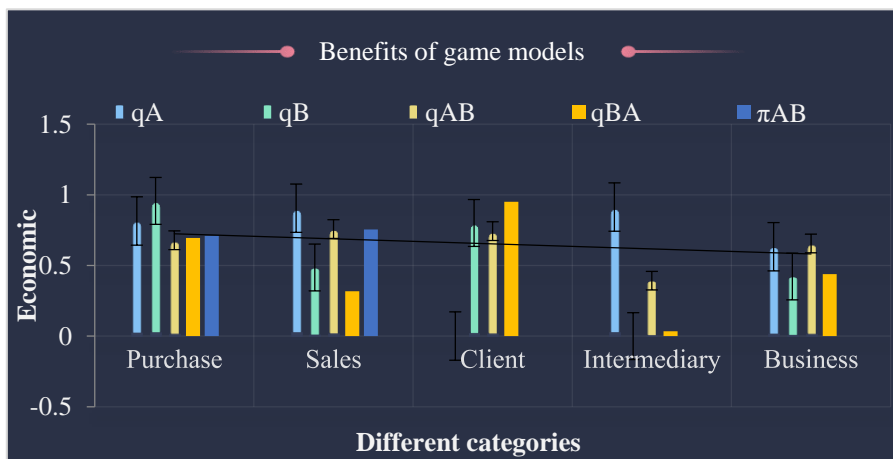


Figure 7: Benefits of game models

As shown in Figure 7, the development of China's economy requires the support and cooperation of the main members of the market economy structure system. Economic development is closely related to the cultural industry. At this moment, the first is the investment of cultural capital in the production process of the enterprise, and then this can be done, that is, it can effectively improve the

market position of the cultural industry, and take action to obtain the maximum profit with the most efficient operation method. Fully integrate the goals of culture and clustering, and promote the rapid development of cultural industry clusters. By promoting the industrial prosperity of the cultural industry and promoting the economic and social prosperity of the industry, it will drive and support the transformation and upgrading of the cultural industry and the industrial development goal of high-quality development. A series of favorable policies and measures not only clarified the status of the cultural industry, but also adopted active and feasible measures for the development of the cultural industry. This has greatly promoted the development of cultural industries, consolidated the economic foundation for the development of cultural industries, and further promoted the development of cultural industry clusters.

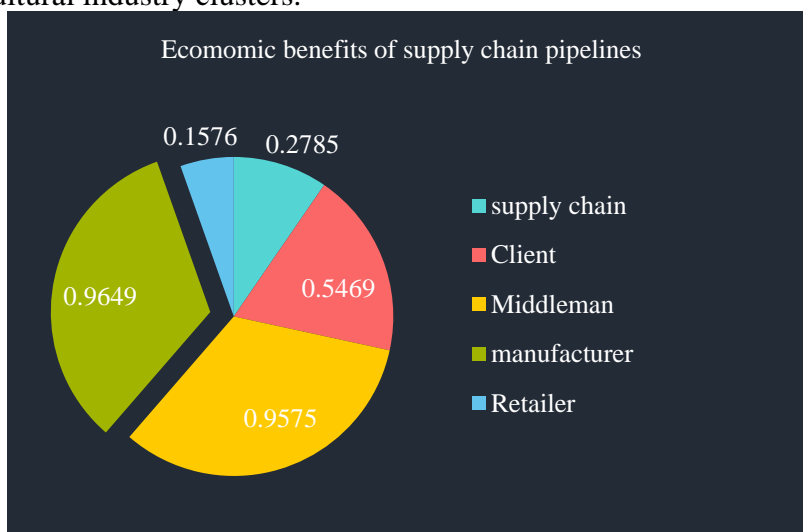


Figure 8: The economic benefits of supply chain pipelines

As shown in Figure 8, the use of supply chain management to integrate industrial clusters is a conceptual innovation. The new supply chain management helps companies improve under the current fierce competition in the cultural industry market, and enables industrial clusters to form a supply chain enterprise scale effect. To benefit from the incremental path of economic innovation-oriented cultural industry clusters, improve the efficiency of supply chain management, distribute logistics to industrial branches through professional third-party logistics (TPL), and each enterprise's energy production process takes many ways link. For example, purchasing, manufacturing parts, product production, and product sales are inseparable in all aspects. The collaborative work of products can occupy a dominant position in the market, and the comprehensive utilization of high and low cost channels can significantly reduce the cost of the cultural industry. The development of cultural industry clusters can only create new space for the development of cultural industry clusters with a clear direction, accurate positioning, and clear thinking. The development of cultural industry clusters must advance with the times, must advance with the times, and be unified with the people's cultural thinking, in order to inherit and promote culture under the industrial situation. Due to the development and competition needs of cultural industry clusters, it will maintain a high degree of sensitivity to the development and changes of the cultural market, and can adjust the development direction of the cluster in time. As mentioned above, the development of integrated supply chain management should also keep pace with market demand and adapt to the development of the cultural market.

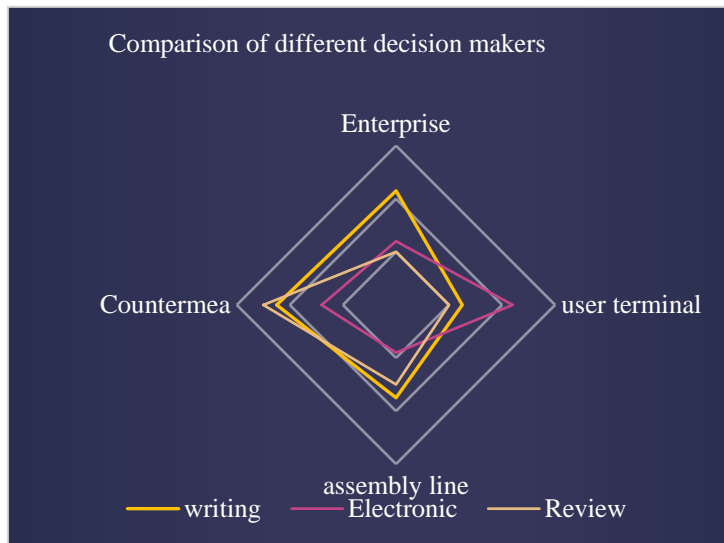


Figure 9: Comparison of different decision makers

As shown in Figure 9, considering that culture itself is an industry in clustered enterprises, a complete supply chain can reduce costs. Realize the industrialization of cultural clusters in an enterprise group to enhance the industrial market and the competitive advantage of the entire group. Specialized supply chain management to promote industrial division of labor and optimize structure. The cultural industry cluster takes regional culture as the cornerstone of development, and forms a cluster scale through the development of related cultural industries. The formation of cultural industry clusters can greatly promote the development of regional rural tourism. It is feasible to fully rely on the advantages of cultural industry clusters and combine the development of cultural industry clusters with the advantages of regional rural tourism development. Researching and exploring the development model of cultural industry clusters and regional rural tourism integration is of great significance to the development of cultural industry clusters and the prosperity of regional rural tourism.

4.2 Countermeasures for Integrating Supply Chain Management to Promote the Clustering of Cultural Industries

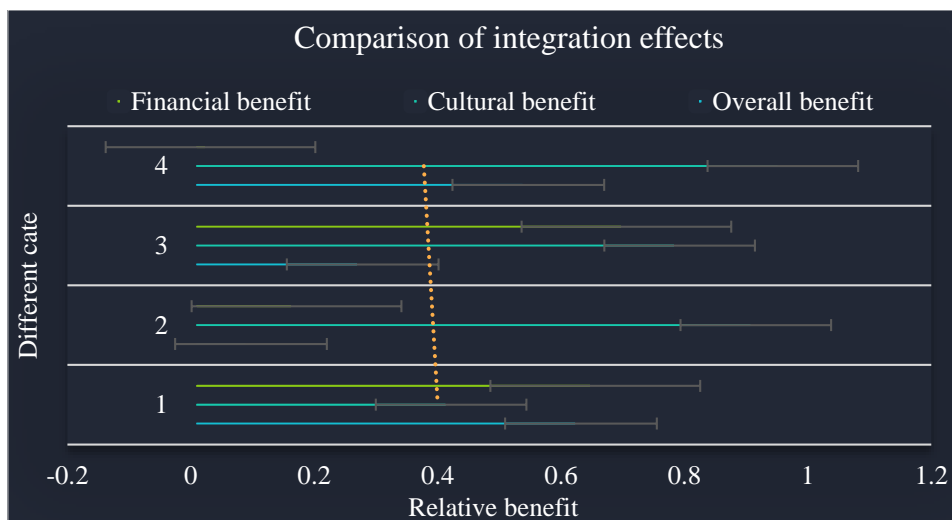


Figure 10: Comparison of integration effects

As shown in Figure 10, the development of cultural industry clusters can promote the connection of cultural industries. It will use cultural creativity as an attraction to promote the development of regional catering, transportation and service industries, and expand the cultural industry cluster to surrounding industries. The development of tourism products is not about the design and sales of a single product. It requires higher comprehensive capabilities in tourism and related industries. Bringing into play the role of cultural industry, rural tourism products will present a new development model of cross-field development and innovation. The connection of cultural industries provides more space for the development of rural tourism products. The packaging and design of rural tourism products can be carried out in various fields such as culture, entertainment, sports and leisure. Due to the in-depth development of cultural industry links, the added value of the developed rural tourism products will also be greatly increased. The increase in the added value of rural tourism products will drive the development of regional rural tourism economy and bring more funds for regional rural tourism. Correspondingly, the development of regional rural tourism economy will bring more impetus to the development of rural tourism products and provide support for the realization of a virtuous circle. The production benefits of the integrated supply chain are shown in Table 4.

Table 4: Data technology effect data of integrated supply chain model

Production side	Pipeline 1	Dealer	Pipeline 2	Distributor	Retailer	client
1	6	5	4	5	9	8
2	2	4	4	2	3	6
3	4	3	3	5	7	2
4	8	5	5	6	2	2
5	0	5	4	7	0	9
6	6	5	4	4	9	8

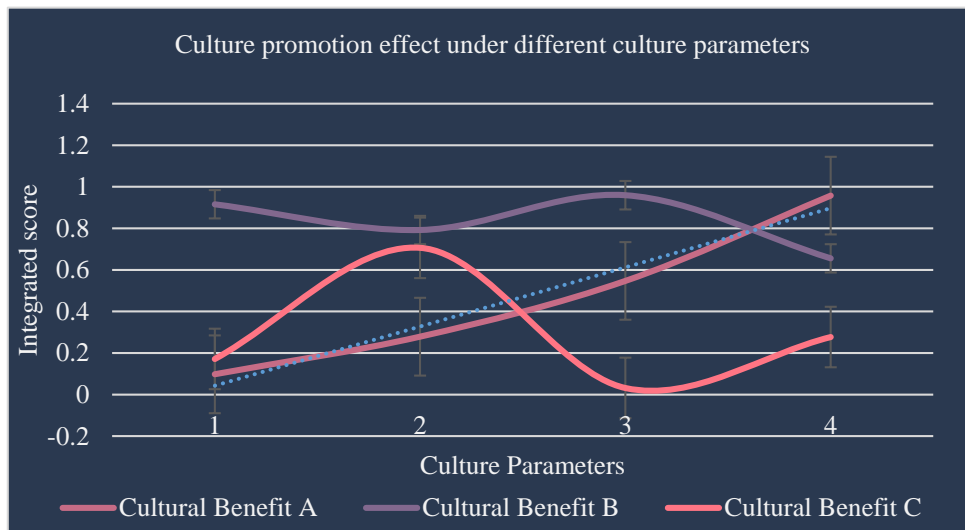


Figure 11: Cultural promotion effect under different cultural parameters

As shown in Figure 11, the production and management of the cultural industry is not traditional assembly line production and commodity management. It has clear direction and strong pertinence. This is an industry type that fully integrates innovative ideas into industrial development and management concepts. The development of the cultural industry takes the emergence and realization of innovative products as the goal, requires a lot of financial and material resources, and

requires product innovators to have a high artistic and innovative awareness of cultural and artistic creation. The innovation of the cultural industry can bring greater enlightenment to the innovation of regional rural tourism products, enabling rural tourism operators to create tourism products consistent with regional tourism resources and with a sense of the times through lower investment. The development of regional rural tourism requires continuous expansion and innovation of the connotation and characteristics of tourism products, and the cultural industry provides it with infinite creativity.

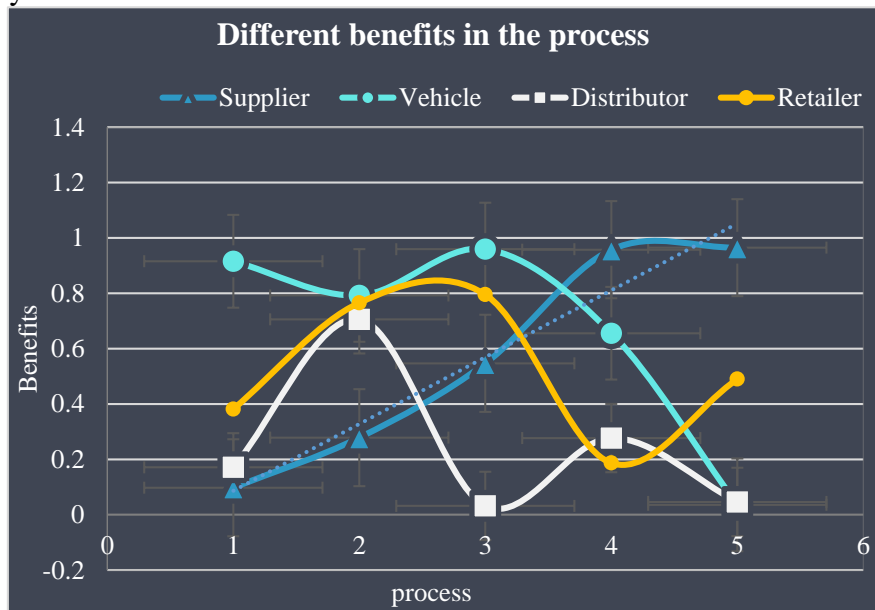


Figure 12: Different benefits in the process

As shown in Figure 12, the cultural industry has developed to a certain extent in recent years, but how is the performance of cultural industry clusters? It is difficult to grasp the development level of cultural industry clusters through quantitative analysis of data. The cultural industry cluster is a dynamic system. In a specific field, the cultural industry is the core and many cultural industry enterprises and related industries (tourism industry, industry, etc.) enterprises and professionals gather from the same or related value chain to generate knowledge, technology spillovers and related financial institutions that support services form innovative organizations with collaboration and competitive advantages, resulting in innovation, cost reduction and efficiency improvement, better knowledge management and entrepreneurial opportunities, and potentially creating greater economic benefits. Therefore, the performance of cultural industry clusters includes subject dimension, object dimension, and the time dimension of the interaction between the two, including subject dimension (government, enterprise, complete intermediary service organization, and related supporting industries) and object dimension (industrial cluster). Time dimension is the main body of the industrial cluster to promote the development and upgrading of the industrial cluster under the support of the object.

5. Conclusions

Under the premise of complex theory and complex theory and technology, the integration of supply chain management promotes the clustering of cultural industries. From the actual situation, the Chinese cultural industry cluster needs to construct a new supply chain management strategy to adapt it to the current Chinese market. The supply chain management environment is compatible. At the same time, business managers should pay attention to the effectiveness of supply chain

management risk management. Starting from the most basic supply chain management details, gradually improve the supply chain management risk management capabilities and maintenance culture of the entire supply chain industrial clusters continue to proceed in an orderly manner. In fact, in order to enhance the effectiveness of supply chain management, our country's cultural industry clusters are also actively changing their development thinking, and incorporate market trend analysis into the future cultural industry cluster's supply chain management plan. This can not only improve the characteristics of the company's supply chain management advancing with the times, but also solve the risk of supply chain management, and reserve a portion of funds to deal with unexpected situations that the company may encounter.

The implementation of the supply chain management concept, if the relevant personnel have a reasonable supply chain management concept, they can better provide the corresponding guarantee for the supply chain management, but the most important thing is that the relevant leaders of the company must have a strong concept and awareness. We must carry out our work in an all-round way, coordinate the relationship between various departments of the enterprise, and lead by example, so that the supply chain management work can proceed smoothly. Only by implementing scientific management concepts in the minds of the company and everyone can it truly promote the company to better implement supply chain management based on actual development.

Strengthen the integration of information technology and complex theoretical supply chain management. At present, financial activities have become a bridge and tie connecting the market and enterprises. Supply chain management plays an important role in the development of enterprises by virtue of advanced forecasting advantages. The development of this project saves resources and on the other hand promotes the sustainable development of the industry. Therefore, on the basis of improving the cultural industry cluster supply chain management system and promoting the cultural industry cluster supply chain management information management, it is necessary to strictly implement the rules and regulations, carry out reforms in various aspects such as enforcement of powers and responsibilities, and determine performance wages. Will stimulate employees' enthusiasm for scientific supply chain management. There are many ways to prepare a correct and reasonable supply chain management plan. In the actual preparation process, the company needs to fully grasp its own actual situation, and select the correct and appropriate preparation method according to the company's planned goals, and innovate and replace the old organizational model in time. Currently, the most widely used method is the rolling supply chain management compilation method. Compared with the past method, this compilation method has strong timeliness and can fully reflect the current market conditions, so it can be compiled according to the latest information. The correct supply chain management plan can be improved to improve the efficiency of supply chain management and make supply chain management more in line with the actual development needs of the enterprise.

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