Present Situation and Risk of SC Management in Household Appliance Enterprises

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Abstract. A spare part is gradually produced and processed to form the final product for sale, the process of selling to consumers through online and offline means is called the SC. Its surface meaning is from merchants to consumers and from goods to income. As a daily necessity, household appliances have become one of indispensable elements in our life. With the development and innovation of information technology, there are numerous ways to buy home appliances. At present, the rapid development of science and technology has gradually promoted economic integration and economic globalization, and the economic competition of enterprises has gradually tended to SC competition. Due to the development of manufacturing, procurement and division of labor, the complex structure of the SC structure is increasing. In the meantime, the global impact of the epidemic in 2020 makes the SC of most household appliance enterprises face the risk of stagnation. In this social and economic context, information transmission risk and logistics operation risk have become the main reasons for the occurrence of enterprise financial risk. In order to survive, enterprises must seek new management techniques and methods to deal with the occurrence of risks. This paper will take the household appliance industry as an example, under the trend of SC localization, through systematic theoretical research to summarize and analyze the common supply risk factors and countermeasures of home appliance enterprises.

Keywords: Epidemic, risk, SC, digital.

1. Introduction

In the context of COVID-19 and the open Internet, Chinese enterprises are also facing greater management risks. Enterprises are faced with such risk factors as capital allocation, cost control, convenient transportation and information management. For rapidly developing enterprises, only through correctly identifying the process, information and capital of the SC system, identifying the SC risks, accurately analyzing the risks encountered in the SC system, timely responding to, timely monitoring, better control the risks, and promoting the effective development of enterprises. SC management has problems such as weak awareness, insufficient management, the imbalance between supply and demand, untimely response methods, lack of supervision and so on, resulting in risks. A SC is a complete operating system. In this system, only a smooth division of labor, integration of internal and external resources, and collaborative development can better control the development. Considering the complexity of the SC risk of household appliance enterprises, the SC system of suppliers, manufacturers, dealers and retailers are closely connected, which is easy to generate risks.

Based on the fact that emergencies are common issues faced by logistics enterprises in the operation process, and the current situation of China's logistics industry due to short operating years and lack of experience, and there are few researches on risk management, it is of practical and theoretical consequence to study the risk management of household appliance enterprises under the epidemic situation. Specifically, by studying the risk management of leading household appliance

enterprises under the epidemic situation, Thus, summed up the universal reference measures, conducive to the steady development of domestic household appliance industry enterprises. Chinese household appliances market after ten years of rapid development, the market product popularity rate is high at present, so internationalization has become the best choice for many enterprises to expand market share and consumer groups. The epidemic is both a disaster and an opportunity for the home appliance industry, which is undergoing internationalization. Through the study of the measures to resist risks and the construction of their own anti-risk system, it can provide valuable reference measures for other enterprises in the same industry, so as to promote the smooth implementation of the internationalization of the whole household appliance industry [1].

2. Literature review

Based on the comparative analysis of SC integration modes at home and abroad, two types of modes are used to improve the competitiveness of enterprises and reduce risks.

1. Based on the three modules of strategy module, operation module and performance evaluation, the concrete model of SC integration of the domestic household appliance industry is constructed, so as to improve the overall market competitiveness of the domestic household appliance industry. The home appliance chain enterprise is selected as the research object, and the AHP-TOPSIS model is used to assess the risk situation of sustainable SC management. The results show that the delivery and environmental risks of household appliance chain enterprises are larger, while the upstream supply and production/manufacturing risks are smaller [2]. In the context of globalization, home appliance enterprises carry out mergers and acquisitions in horizontal, vertical and mixed ways, and carry out personalized customized services through a digital SC. In the process of integration, there may be problems in the utilization efficiency of resources, the change of leading enterprises and the management decision-making mode. By constructing the SC integration mode based on the three modules, the market competition and resource utilization rate of enterprises can be effectively improved.

2. Through risk analysis, offline sales and distribution channels have greater risks, while online sales have the least risk [3]. Based on this, it is proposed that enterprises should pay more attention to the environment and delivery risk, and improve SC risk management based on the changes of demand side and the reconstruction of the delivery end as the main means [4]. Based on the risk assessment method, Liu proposed to use of digital platforms such as integrated big data, blockchain and the Internet of things in modern information technology to deal with the problems encountered [5]. Meanwhile, standardized digital platforms can reduce wrong operations, carry out a risk assessment on users, model data, construct reasonable risk indicators, and evaluate the risk degree of enterprises. Thereby reducing enterprise risk.

3. SC risk management of household appliance enterprises

3.1. Risk classification

For the SC, there are six kinds of risks in its actual business, they are moral hazard, the risk of information transmission, the risk of production organization and procurement, the risk of dealer selection, the risk of logistics operation, and the risk of corporate culture difference. Among them, information transmission risk and logistics operation risk are the most important. Since most enterprises are independent economic entities, other similar enterprises have less communication, which increases the opportunities for information errors in the SC, and at the same time produces the bullwhip effect, leading to the development of SC management of overstocked household appliances enterprises and gradually mature up to now [6]. Through the case, this paper will mainly discuss the risks of information transmission and logistics operation, and explore their impact and counter measures. There is a need to achieve consistency across departments in logistics operations. This is difficult to accomplish in practice, which leads to a failure in the interface between raw material

supply, transportation, caching, product production and sales. This paper provides an in-depth analysis of risk identification and response.

1. In the initial design and construction of the SC, the risks existing in the SC should be recognized, the risk factors should be analyzed according to the characteristics of the SC structure and the enterprise environment, the risk categories should be distinguished, and the risks should be identified as quickly as possible in the initial stage of SC design and construction. Stage, which is conducive to the designation of risk management objectives and the reasonable selection of risk prevention measures.

2. Intelligent SC management and digital logistics will form a systematic and close cooperation between the upstream and downstream parts of household appliances, and at the same time, the operation efficiency and cost can be effectively managed. Enterprises through centralized management, and effective selection of production location and quantity, provide better services for users. Under the management of the information system, information can be shared to avoid the bullwhip effect, reduce inventory risks and logistics risks, and make the SC develop sustainably [7].

3. Set multi-channel and multi-module information communication mode to accelerate the efficiency of information transmission and reduce the occurrence of information risks. The integrity of all members of the SC from one end of the SC to the other is ensured through effective information sharing and transmission. If member companies cannot obtain information quickly and efficiently, they will take bad decisions to judge or decisions with incomplete information. Transparency in the SC is demonstrated through the transfer of information between suppliers and customers, and SC management techniques such as JIT, VMI and SMI are applied. The collaborative work between SC partners can be realized, so that data information can replace the original inventory, reduce the total cost of the SC, improve the utilization rate of inventory management, and strengthen the SC market competition.

4. SC which is a sophisticated system with many wireless links and marketing channels, and it is transparent to have some critical situations. In SC management, the corporations should be fully prepared for unexpected events. For many accidental but highly negative matters, companies can plan their responses in advance, the development of the workflow to deal with the emergency, and the establishment of a response to the event team. By integrating SC processes, the elasticity of the SC is guaranteed, and the effectiveness and efficiency of the SC are improved. At present, there are indeed many means and approaches of SC management applied in SC management, but in case of emergencies or interference from external environment and third-party factors, SC management will appear to lack of activity. Therefore, the SC should be moderately flexible while paying attention to efficiency.

5. The information transmission between SC enterprises is increasingly intensive, and the relationship between SC is becoming more and more complicated. Therefore, the supporting network infrastructure must guarantee the smooth channel, data integrity, reliability and security of the SC. The application of modern digital technology can effectively cut down the information deviation in information transmission, reduce the bullwhip effect and avoid the occurrence of risks in the nick of time. Take full advantage of Internet, GPS, EDI and other technologies to lessen SC risks. The use of e-commerce technology, to use network links for online procurement, at the same time through the network sales to deal with excess inventory goods, increase the utilization rate of electronic transactions, reduce the risk of SC management

3.2. Case study

The following is a combination of many leading household appliance enterprises in the face of the epidemic, and their internal SC mode adjustment cases.

Haier Zhijia, formerly known as Qingdao Haier, is one of the four listed companies of Haier Group. Its main business is white goods products and services. Since its establishment in 1984, Haier Zhijia has always placed user experience in the top position of corporate strategy. It has successively experienced six phases of famous brand strategy, diversification strategy, internationalization strategy,

global brand strategy, network strategy and ecological brand strategy, and gradually developed into a global brand leading the IoT ecology of the home appliance industry. Haier Group has It has set up 33 product units, 133 manufacturing bases and 108 sales centers around the world. Its sales network covers more than 200 countries and regions, with more than 230,000 sales outlets. Due to the pandemic sweeping the world in 2020, logistics blockades in various countries have brought logistics operation risks to Haier's SC. Haier has adopted a brand-new way of business model innovation: taking user demand as the starting point. Rely on big data and information management to produce customized products and scenario-based products. Based on scenarioized products, Haier's Gooday SC integrates 929 logistics warehouses, 5,300 service outlets, 130,000 vehicles and multiple transportation routes through the information system to expand user experience services at the end of the SC and build an intelligent ecosystem.

At the same time, the opening of overseas market of China's home appliance industry, its share in the world is also expanding, the number of "double counter" investigations against Chinese products exported to the United States has also shown a rising trend. The global economy production had been geared down by the global epidemic in the first half of the year in 2020. The operation of the real economy dramatically determined by the macroeconomic environment, and the near shutdown of the economy has brought the influence in the development of the home appliance industry to a certain degree. The impact of national political relations on industrial structure is to change the mobility of production factors and final products. The protection of domestic industry promoting because of the trade barriers using, and also the United States has installed the level of high-tech exports for a long period of time. Faced with this condition, China's manufacturing industry rapidly needs to reshape the SC, take preponderance of China's existing advantages, and raise efforts to move towards the high end of the SC. To a certain degree, it can decrease foreign dependence and reduce the risk of SC disruption caused by huge international tension. With the continuous development of science and domestic economy, the income level has also increased, and China's original labor cost advantage has gradually weakened, resulting in the transfer of labor-intensive industries to other countries or regions, for the sake of saving costs, this deprives China of its original target and market. Changes in the external environment brought logistics operation risks to Midea Group. In view of such a realistic environment, Midea Group resolved this crisis by reshaping the SC operating model. In 2020, Midea officially pushes its products to the Internet and simultaneously merges software and hardware online and offline services. The upgrade version of Midea Industrial Internet 1.0 -- M. oT was officially released, indicating the possibility of intelligent logistics and digital sales.

Gree adheres to the path of professional development, and its corporate strategy also runs through the entire development of the company, including innovation-driven strategy, high-quality strategy and professional development strategy. Innovation-driven strategy. Gree focuses on independent innovation and development, and promotes enterprises to achieve "innovation-driven sustainable development". Gree Group adheres to the principle that "technology changes life and technology creates life", it has an excellent research and development system, and constantly promotes technological innovation and product upgrading of enterprises. Through independent innovation and personnel training, master the key core component technology, increase the training of innovative personnel, and constantly stabilize its leading position in the air conditioning sector. In Gree's more than 20 years of development, the strategy of "never-ending innovation" has been throughout. In the spring of 2020, under the influence of the novel coronavirus pandemic, the household appliance manufacturing industry and its closely related upstream and downstream enterprises were affected to varying degrees. Many enterprises reported plummeting quarterly performance, and Gree was also deeply affected. In the face of information transmission risks, Gree proposed a digital operation model in 2019 and achieved a breakthrough in the sales of home appliances industry through third-party cooperation [9]. The digital operation mode is mainly selected through the digital economy cost control model under the SC performance, to realize the close connection between logistics and SC, and to evaluate their mutual influence relationship. Such sales mode reduces the operating cost and inventory management cost of electric appliance production, reduces transportation cost, strengthens

the grasp of goods trend information, and makes enterprise operation efficient and profitable with higher marginal profit [10].

4. Conclusion

Through research, this paper finds that due to the global epidemic in 2020 and the fact that most enterprises are independent economic entities, under the current environmental pressure, the most important risks in the SC are the risk of cognition transmission and the risk of logistics operation, which will lead to the failure of the supply, transportation and cache of raw materials, as well as the production and sales of products. This study is helpful to reduce the bullwhip effect, reduce the opportunity for information errors in the SC, strengthen the consistency of various departments in terms of logistics operation, form a systematic and close cooperation between the upstream and downstream parts of household appliances, and at the same time, effectively manage the operational efficiency and cost. Household appliance enterprises can reasonably build SCM intelligent SC management systems to help enterprises realize the commercial digital upgrade of the SC collaborative management platforms. Ecological SCM intelligent SC management system to solve the brand marketing, channel and retail terminal inventory logistics management pain points, timely response to market demand, digital intelligent SC system to help brand enterprises to realize the transformation of "production based on sales" to "sales based on production", reduce the circulation cost, optimize the inventory control of household appliance enterprises.

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