

Analyze the Risks of Walmart Supply Chain Management

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Abstract: This paper discusses about supply chain risks. Walmart utilizes different risk management strategies to mitigate endogenous and exogenous risks. And the endogenous uncertainty includes the unexpected and frequent change of market and technology. However, the exogenous uncertainty stems from natural disasters and human-centered issues, as some environmental disruptions. Both of them could cause the supply chain risks. This paper analyzes these two factors respectively and shows these strategies which Walmart chose to reduce risks. A good supply chain strategy can not only focus on benefits but also environment and society. And Walmart has designed its some strategies depending on this rule. Final section notes that Walmart should consider build an information sharing system among their associates to mitigate the risk of whole supply chain.

Keywords: Walmart, supply chain risk, supply chain management, endogenous uncertainty, exogenous uncertainty.

1. INTRODUCTION

Walmart is the largest retail corporation in the world. The head office is based in Bentonville, US. Sam Walton, who is the founder of Walmart, opened the first Walmart store in 1962. The mission of Walmart is “Moving with speed to win the future of retail”. In fiscal 2017, Walmart served 260 million customers every week and the net sales were more than \$ 485.9 billion. In addition, there were more than 11695 retail units and more than 2.5 million employees in 28 countries by the end of 2017 [1]. The structure of this paper is as follows. The author analyzes Walmart supply chain risk in two aspects: endogenous uncertainty and exogenous uncertainty. Then, some aspects of supply chain management that Walmart should continuously improve and be aware of will be pointed out.

2. SUPPLY CHAIN RISK

In Walmart 2017 annual report, external environment was the main cause of many risks of disruptions [2]. Walmart pointed that, supply chain risk management (SCRM) would be the key to improve their performance next year. SCRM is divided into four steps: identifying the risk of supply chain, assessing the level of risk of supply chain, analyzing the cause of risk of

supply chain, and treating the risk of supply chain [3]. As, environmental disruptions make supply chains fragile [4], so environmental uncertainty should be considered as an effective SCRM. At the other hand, according to Trkman and Mc Cormack, risk of supply chain can be divided in to 2 parts base on the origin of uncertainty: endogenous uncertainty and exogenous uncertainty[5]. Also, approaches to mitigate risks are different due to the difference of turbulence uncertainties. Therefore, the definitions and risk mitigation approaches of endogenous uncertainty and exogenous uncertainty should be discussed respectively.

2.1 The endogenous uncertainty

The inside supply chain risks are defined as endogenous uncertainty [5]. As a result, due to the unexpected and frequent change of market and technology, it is almost impossible to forecast endogenous risks accurately [6]. Calantone pointed that market turbulence changes continuously, which would impact relationships in a supply chain. Customers often change their behaviors and tastes. In order to face a changing market, a firm should adjust its approaches and update its products frequently [7]. Therefore, to achieve a stronger responsiveness to changes, it is a common strategy for companies to build a proper and proactive relationship with suppliers [8]. In supply chain management, information exchange, relationship development, joint reviews, co-operation and integration are some common ways of building relationship with suppliers. Channel partnership between Walmart and Procter & Gamble is a good example to explain how to integrate supply chain through information sharing. The relationship started with sharing information via inter-organizational information systems (IOIS). In 1988, Sam Walton and Ralph Drayer wanted to push their corporation further. The result was a new developed data highway system between Walmart and P&G. This system was built for both companies to share information in order to better understand customers' preferences and demands. P&G analyzes data from Walmart to modify its products, monitor inventory and logistics situation. Walmart controls inventory and meets customers' needs depending on integration data linked between Walmart and P&G. As the need for inventory in Walmart warehouse reduced, Walmart performed better in terms of inventory turns and turn-around time [9]. It effectively decreased bullwhip effect and operation cost. As a result, the joint businesses between Walmart and P&G increased from 375 million dollars in 1988 to over 4 billion dollars in 2013. Because every supplier operates in different environmental uncertainty, the focal firm's strategies to build relationship in order to avoid risks are different. Walmart builds relationships with different suppliers in different ways to improve supply chain capacity [10]. In addition to market turbulence, technological turbulence is also a main endogenous uncertainty [5]. In an industry, technological turbulence normally comes from the impacts of technological changes over time in an industry [11]. The degree of technological changes includes two aspects: one is the speed of continuous change of related technology and science, the other is the breakthroughs in the process of manufacturing or mass production [12]. When the technology changes more quickly, SCRM is more important [13]. Trkman and McCormack suggested that integrating suppliers and providing forums for sharing information within suppliers are effective ways to cope with technological turbulence and to provide vital

products or services. Supplier round table is a forum which Walmart provides for their suppliers to discuss and share information [10]. However, the unexpected and frequent changes of market and technology can result in the unpredictable of endogenous risks [6]. Hence, SCRM should accept the uncertainty of environment and choose the most effective strategies and structures to adapt to changing situation that the company is facing [14].

2.2 The exogenous uncertainty

The second turbulent is exogenous uncertainty which describes environmental disruptions from natural disasters and human-centred issues [5]. On one hand, Gupta and Maranas divide exogenous uncertainty into long-term uncertainties and short-term uncertainties[15]. On the other hand, Trkman and McCormack classify exogenous uncertainty basing on the probability and impact of risk: continuous risk and discrete events. Continuous risk is characterized as continuous environmental changes and relatively easy-forecasted. At the same time, discrete events are defined as events with low-likelihood and high-impact, such as terrorism, diseases, and natural disasters [16]. While comparing continuous risk and discrete events, discrete events are harder to be predicted while have stronger effects on supply chain than continuous risk. Chopra and Sodhi analyzed supply chain risks and their drivers in 2004. In their paper, they mentioned that intellectual property risk is drove by global outsourcing and markets [17]. Therefore, this intellectual property risk can be verified as continuous risk and it could be prevented and managed to some degree. Walmart pointed that they have strengthened monitoring outsourcing through raising the supplier standards, audit program, and training process. In addition, fluctuation of exchange rate or raw material prices, and long-term versus short-term contracts could cause procurement risk. This also belongs to continuous risk and could be calculated. Walmart avoids these risks via financial measurement. However, despite the difficulty of predicting discrete events, companies have to prevent and respond to them in order to avoid devastating damages. For example, fire, one of discrete events that could cause great disruptions. To avoid fire, Walmart has set up fire safety program in Bangladesh. In this program, Walmart establishes their safety criteria for suppliers' factories under experts' consultation. Later, Walmart would visit these factories to check the safety risk depending on their criteria. Walmart also noticed the disruptions due to labor dispute which was the main risk they faced to in Africa[18].

3. RECOMMENDATIONS

As the supply chain risk was discussed above, the supply chain issue in global market is not about an individual company performance but is influenced by focal company, suppliers and consumers. To improve sustainable supply chain management and to avoid supply chain risk, Walmart should pay more attention to their suppliers. In addition, Walmart is the largest retail company in the world. This means so many suppliers are involved in its supply chain. In other words, Walmart is large enough to influence the global supply chain. For instance, if Walmart operates a system to share these information or data with their associates, a strong and stable global supply chain could be build . Especially, Walmart could establish a rule or standard to

share information, which could improve globalization of large date. And this plan only could be drove by these huge compamy such as Walmart.

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