Abstract

Joining the WTO, advanced management techniques, such as Collaborative Planning, Forecasting and Replenishment (CPFR), must be applied and adopted by Chinese franchise retailers in order for them to strengthen their competitiveness and survive. In this paper, we review the concepts of CPFR and present a case study of a successful application of CPFR, in the Shanghai Maya Audio-Video Franchise Corporation (Maya). Through a detailed discussion of how Maya adopted CPFR, we identify some critical factors for the successful implementation of CPFR by Chinese retailers.

Keywords: Collaborative Planning Forecasting and Replenishment (CPFR), Chinese Franchise Retailer, Procurement Management Information System

1. Introduction

Chain store and franchise industry are developing rapidly in China. According to a 2003 report from the China Chainstore & Franchise Association (CCFA), the Chinese chain store and franchise industry has grown at an average rate of 50% per year in recent years (CCFA,2003), which is far higher than the average growth rate of retailing. Total retail sales in China is RMB 4,584.2 billion in 2003, an increase of 9.2% over the previous year (NSB,2003). It is expected that the open market economy, globalization, and international trade growth as a result of joining the World Trade Organization (WTO), will further stimulate the Chinese economy, resulting in even faster growth in China’s franchise and retailing industry (Ju,2003). However, joining the WTO brought not only great opportunities but also big challenges to the Chinese retail industry. World-class foreign retailers, such as Wal-Mart, Carrefour, and Metro, have already entered the Chinese retail markets. With abundant capital and advanced management approaches, these world-renowned retailers are growing rapidly in China. By 2003, large foreign retailers had established the following number of chain stores in China: Wal-Mart (33), Carrefour (41), and Metro (18) (CCFA,2004). This has introduced fierce competition that Chinese local retailers now have to face from...
Western companies.

Compared with their Western counterparts, Chinese chain stores and franchise retailers have a significant advantage in their knowledge of the local market environment. However, their biggest weakness is a lack of advanced management skills. In the 2003 report (CCFA, 2003), CCFA pointed out that there were many common problems in most Chinese chain stores & franchise enterprises. The most severe problems identified were low benefits, low efficiency, and slow product turnover rates. All of these problems were the direct result of poor management. To achieve competitive advantage, the only choice for Chinese chain stores and franchises is to adopt advanced management techniques to improve both their internal and external business processes. Collaborative Planning, Forecasting and Replenishment (CPFR) is one advanced supply chain management (SCM) technique that has been adopted and implemented successfully by many world-renowned retailers and manufacturers, such as Wal-Mart, Proctor & Gamble, etc.

In the first part of the paper, the CPFR concept and its typical 9-step model are reviewed briefly. In the second part of this paper, a case study of CPFR implementation in Shanghai Maya Audio-Video Franchise Corporation is introduced. Finally, some of the critical factors of CPFR success in China are outlined.

2. The Concept of CPFR
There have been extraordinary changes in technology and markets in the world in the last two decades. The rules of business have changed. Increasing competition, complex distribution channels, shortening product life cycles, and changing consumer patterns are challenging the retail industry (Georg, 2004). Today more than ever, businesses depend on strategic relations with their customers and suppliers to create value systems that will provide a competitive edge in the market. Market competition between individual enterprises has changed into competition between supply chains. The concept of supply chain management, which includes management applied throughout the entire supply chain, was introduced in the 1980s under such a background. CPFR is an application of SCM concepts in the retail industry, focusing on collaboration between retailers and suppliers.

Proposed by VICS (Voluntary Interindustry Commerce Standards Association) in 1995, the definition of CPFR has undergone several revisions and there is no uniform adopted standard at this point. Dirk Seifert, a professor at Harvard Business School and the University of Massachusetts, defined CPFR as “an initiative among all participants in the supply chain, intended to improve the relationship among them through jointly managed planning processes and shared information.” (Seifert, 2003) And Lawrence E. Fennel at Wal-Mart stores, detailed the CPFR as “a business strategy between trading partners to collaborate on a single shared vision of forecasted consumer demand at POS (point of sale) level.” (Lawrence, 2003) Furthermore, Peter Hambuch from P&G (Procter & Gamble) said “as we are speaking of the entire supply chain, the topic of CPFR is not complete merely with a discussion of collaboration between P&G and our trading partners.” (Peter, 2004) “The collaboration continues internally, in order to ensure that the information flow between company divisions
thrives. Logically, the CPFR concept is useful in managing collaboration between the manufacturers and the suppliers of raw materials and packaging.” These three definitions express the basic idea and content of CPFR.

CPFR offers a comprehensive solution, draws the customer into its considerations and connects the demand side with the supply side. As Peter Hambuch emphasized, “The core of the concept is the ‘C’ in CPFR (Peter,2004)” from its implementation at Procter & Gamble. The prerequisite for this is the willingness of the business partners to collectively guide the planning, forecasting and supply processes. The ‘C’ for Collaboration is a necessary condition for integration. Business functions, which were previously isolated between the business partners, are now being bound together through CPFR. The more strongly ‘C’ is present, the higher the quality that will be achieved in the dimensions of ‘P’, ‘F’ and ‘R’.

3. The VICS CPFR nine step model
In 1995, the first CPFR pilot project was initiated by Wal-Mart and Warner-Lambert in the United States, supported by the IT companies SAP and Manugistics, and the consulting firm Benchmarking Partners (now Surygency). During the pilot, the Voluntary Interindustry Commerce Standards Working Group overseeing the project worked on developing a widely applicable model for collaborative forecasting, which later evolved into the current CPFR model (Seifert,2003). The VICS CPFR planning process model structures the relevant steps of the implementation process of CPFR. Figure 1 reflects this 9-step recommendation (VICS,1998) of VICS. The steps in the process are as follows:

(1) Develop front-end agreement: the parties involved establish the guidelines and rules for the collaborative relationship
(2) Create joint business plan: the parties involved create a business plan that takes into account their individual corporate strategies and defined category roles, objectives and tactics.
(3) Create sales forecast: retailer point-of-south data, causal information and information on planned events are used by one party to create an initial sales forecast, this forecast is then communicated to the other party and used as a baseline for the creation of an order forecast.
(4) Identify exceptions for sales forecast: items that fall outside the sales forecast constraints set in the front-end agreement are identified.
(5) Resolve/collaborate on exception items: the parties negotiate and produce an adjusted forecast.
(6) Create order forecast: point-of-sales data, causal information and inventory strategies are combined to generate a specific order forecast that supports the shared sales forecasts and joint business plan
(7) Identify exception for order forecast: items that fall outside the order forecast constraints set jointly by the parties involved are identified.
(8) Resolve/collaborate on exception items: the parties negotiate (if necessary) to produce an adjusted order forecast.
(9) Order generation: the order forecast is translated into a firm order by one of the
parties involved.

CPFR implementation is based on long-term and all-encompassing planning between collaborative partners. Implementations vary in scope and intensity, depending on the underlying technical solution and the organizational and cultural integration of the partners (Geirg, 2004). To begin with, the collaboration partnership must set priorities. They should not begin with all nine steps of the CPFR model at once (Peter, 2004). Georg Engler from Accenture in Germany classified the CPFR implementation into three phases (Georg, 2004), which are Basic CPFR, Developing CPFR, and Advanced CPFR. The Basic CPFR phase aims to foster collaboration between departments within one organization. The potential benefits are significant, but limited, since no trading partners are involved. Developing CPFR is also called the pilot phase. It implies generally limited collaboration with a trading partner and is often restricted to a collaborative promotion plan and sales or order forecast collaboration. There are, however, limited potential benefits, as it does not integrate the whole supply chain. Within CPFR pilots, data exchange is often handled on a manual basis (spreadsheet, fax etc.) instead of using a collaborative software tool. Advanced CPFR implies collaborating in promotion planning, sales, and order forecasting through the development and maintenance of a close relationship with trading partners. Complete integration of all processes may be effected gradually, beginning initially with a limited scope. The collaboration process is usually automated through an advanced IT solution that is integrated with the company’s back-office systems (ERP, Production Planning etc.)

Since the emergence of CPFR in the mid-nineties, the implementation of this strategy has expanded rapidly around the world. In China, P & G China showed that its CPFR product supply chain was flexible and efficient under suddenly increased customer demand during the SARS epidemic in April of 2003 (Wang, 2003). In the next section, a CPFR procurement system developed by a Chinese local retailer, Shanghai Maya, will be presented. The information on the Maya CPFR procurement system was provided by Jian Guan, vice president of Shanghai Maya Audio-Video Chain Corporation, and one of the co-authors of this paper.

4. CPFR Case in China—Shanghai Maya CPFR Procurement System

Founded in 1996, the Shanghai Maya Audio-Video franchise corporation was the first audio-video franchise company approved by the Chinese government. Since that time, Maya has developed more than 200 franchise chain stores in Shanghai. Annual sales revenues for Maya reached 100 million RMB, accounting for 70% of the total Shanghai audio-video market share. In 2003, the Shanghai Business Administration Bureau awarded “MAYA” the “Famous Trademark in Shanghai”.

What were Maya’s keys to success in establishing its market-leading position in just seven years? As Maya’s vice president Jian Guan said: “Maya’s success comes from its unique business model and advanced CPFR-based procurement system. They make it possible for Maya to win the customer’s loyalty by a rapid response to customer needs through their support of suppliers.” (Jian, 2003)
4.1 Architecture of Maya CPFR system --- Centered on “Collaboration”

Considering the characteristics of the audio-video industry, Maya has established its procurement system based on the CPFR concept, intending to improve its relationships with suppliers through collaborative forecasting processes and shared information. The core of CPFR is collaboration, and the collaboration approach was adopted throughout the entire Maya procurement system. The architecture of the Maya CPFR procurement system, which has four features of collaborative demand forecasting, collaborative marketing, shared benefits, and shared risk, is shown in Figure 2.

The main feature of the Maya procurement system is collaborative customer demand forecasting through real-time data sharing with suppliers. The collaborative process with Maya suppliers is based on the 9-step CPFR model. Although the 9-step model is the typical CFPR implementation model, simply copying this US model will not work in China, due to the unique social, technical and economic environment that exists in China. Therefore, Maya followed the basic main steps of CPFR while adapting it to the reality of Maya planning and operations. For example, the Maya collaborative forecasting process has 5 major steps, as follows: 1) Maya and its suppliers develop collaboration arrangements; 2) a market analysis group in Maya forecasts the hottest new products. Every day, Maya franchise chain stores submit customer feedback and sales amounts summarized from Point Of Sales (POS) inputs. Additionally, group members gather popular trend information from all kinds of media, such as the Internet, radio broadcasts, television, and popular magazines and newspapers, in order to forecast hot product demand; 3) through the Internet, suppliers access the Maya procurement information system to check on the sales of their own products. Based on the real-time sales data from the Maya system, and their own experience, suppliers forecast demand; 4) Maya holds a collaborative demand forecasting and planning meeting together with its suppliers every two weeks. Based on their forecasts, both parties negotiate and decide jointly develop demand forecasts and replenishment planning for products during the next sales stage; 5) Finally, suppliers provide replenishment automatically, based on the daily real-time sales amounts from the Maya procurement information system and the joint demand forecasts and replenishment plans. This process speeds the Maya supply chain response to customer need and decreases procurement costs for Maya. At the same time, replenishment based on real-time sales reduces the cost to suppliers of over-production.
4.2 Organization structure changes at Maya
After the CPFR procurement system was developed, changing the organizational structure was the critical step in CPFR implementation at Maya. Maya optimized all components inside the company, including procurement, logistics, marketing, finance etc., to support its new CPFR goals. For example, a mammoth purchasing department, which was in charge of manually purchasing thousands of products to meet the needs of hundreds of franchise chain stores, was optimized into a small and efficient new department that worked with the procurement information system. Staff who could not qualify for new jobs after training were fired, and new employees were hired for positions in the CPFR procurement system. In each franchise chain store, a position devoted to manually compile sales and purchasing data statistics was eliminated and the employee in that position was moved to another position or fired.

4.3 Maya CPFR procurement information system
In its technical aspects, the Maya CPFR procurement implementation is supported by a web-based information system that was developed by its own information administration center in 2000. This information system connects Maya headquarters, hundreds of franchise chain stores, and suppliers. Previously existing sub-systems in Maya, including financial, logistics, inventory and the POS (Point of Sales) sub-system, were integrated and optimized into the new Maya procurement information system. The infrastructure of Maya procurement information system is based on web technology. Employees in franchise chain stores are authorized to access this system to submit daily sales, customer needs, to search for related information, etc. Suppliers are authorized to access the Maya procurement information system through the Internet to check the sales of their own products at any time. The system also provides statistical data and retrieval functions that can support management decision making.

5. Conclusions
In CPFR applications in China, the main distinction is that there are no strong information infrastructures to support full implementation of advanced CPFR. How can Chinese enterprises apply CPFR in such an IT environment? Maya’s approach is “the CPFR collaboration concept is adopted first, and then the information platform is developed to support fully advanced CPFR implementation.” We summarize below some of the critical factors of CPFR success in China from the Maya CPFR implementation experience. 1) The core of CPFR is collaboration. The new concept of collaboration between retailers and suppliers is the most important and very basic first step towards CPFR implementation. 2) Organizational change is a critical step in CPFR implementation in China. It is more challenging to implement than the IT architecture design and implementation. Flexible organizational design and changes to human resources management are the prerequisites of CPFR process reengineering success, and one of the critical factors of CPFR success in China. 3) The web-based information system developed by large retailers who are major CPFR implementers is a very practical platform to efficiently share data with all kinds of suppliers. This allows retailers to build and extend their supply network, including big, medium and small suppliers. Suppliers gaining real-time access in this way, to the information platforms
of large retailers, allow CPFR implementations to succeed. This is clearly the best way to implement the CPFR process in China.

It is clear that Maya has successfully established a market-leading position through its CPFR application. Based on the experience and lessons of its pilot project, Maya is moving forward to further CPFR integration. Maya’s success provides a good example for China retailers. They need to learn from Maya and rethink their management and operations strategies for the future.

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