

Factors Influencing Broad Based CPFR^{®1} Adoption

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Abstract: *As the retail and consumer goods industry braces itself for greater competition, shorter product lifecycles, demanding consumers, lower margins and emerging markets, collaborative business practices are firmly establishing themselves as the way forward for successful and sustainable business operations. Building efficient supply chains have always been a major area of focus for business architects. However enterprises are starting to experience the limits of accruing business benefits out of supply chain management within its own boundaries. This is leading enterprises to extend their supply chains beyond their own boundaries to involve business and trading partners. Collaborative planning, forecasting and replenishment, developed and evolved from industry wide efficient consumer response concept, is an initiative between participants in the retail and manufacturing supply chain with intention of enhancing inter enterprise relationships through collaboration based management of planning processes and information sharing. Successful collaborative planning, forecasting and replenishment with adequate supply chain visibility require multiple trading partners with disparate business goals to operate in an integrated manner. This paper discusses issues involving collaboration among business partners, evolution of collaborative planning, forecasting and replenishment from efficient consumer response, business drivers of collaborative planning, forecasting and replenishment and emerging trends and advantages in embracing collaborative business practices. Using information from initial reported initiatives and additional published secondary data, the paper then identifies factors that influence its adoption. By identifying influencing factors, this paper presents areas for more rigorous empirical research needed in order to understand the significance and strength of each influencing factor and interrelationships between factors with the overall intent of shaping the adoption of collaborative planning, forecasting and replenishment and initiating further research in this discipline.*

Keywords: *Retail, Collaboration, Forecasting and Supply Chain*

Introduction

The unprecedented growth of organized retail industry has necessitated numerous innovations in the retail and manufacturing supply chains. From the customer end of the supply chain these innovations include category management and systematic merchandizing (Buzzel and Ortmeyer, 1995). From the supplier end, innovations include efficient consumer response (ECR)

(Seifert, 2003) and collaborative initiatives like collaborative planning, forecasting and replenishment (CPFR) (VICS Association, 2002).

Confronted with several challenges resulting in revenue stagnation and lower margins, aggressive pricing policies were seen as the only approach to gain market share (Seifert, 2003). However, negative impact on margins and profits made it

an unsustainable business practice. This led the retail industry to recognize the need for collaboration between retailers and manufacturers that could provide real gains through open cooperative partnerships. A consortium of retailer and supplier organizations published the first guidelines for collaborative planning, forecasting and replenishment (DesMarteau, 1998; VICS Association, 2002). The first pilot projects following the guidelines were completed in 1999 (VICS Association, 2002). For example, CPFR program between Nabisco and Wegman's resulted in 13% increase in sales of pilot category and 18% reduction in supply lead-time (Holmstrom, Framling, Kaipia and Saranen, 2002).

Benefits of CPFR include, (1) drastically improved reaction time to consumer demand, (2) higher precision of sales forecasts, (3) direct and lasting communication, (4) improved sales, (5) inventory reduction and (6) reduced costs (Seifert, 2003). Use of CPFR also makes it possible to extract greater benefits from a concurrent ECR program. CPFR is an end-to-end business process that spans multiple partners, hence benefits vary from partner to partner. This leads organizations participate in a CPFR program with different goals and objectives.

A CPFR survey conducted by Syncra Systems and Industry Directions in 2000 included several manufacturers, retailers, distributors and logistics providers (Fraser, 2003). The survey findings include:

- About 70% of the respondents were actively researching, undergoing pilots or preparing to roll out CPFR programs.

- Over 90% concurred that CPFR would improve their forecast accuracy.
- About 45% of respondents with lowest inventory levels believed that with CPFR they would gain 10% in additional savings in inventory and safety stocks.
- Over 90% expected sales increases.
- About 80% of respondent organizations had some kind of ongoing supply chain initiative like vendor managed inventory (VMI), ECR, CPFR, everyday lowest price (EDLP) and joint managed inventory (JMI).

These results provide evidence that CPFR is seen as an emerging supply chain initiative with potential to provide definitive benefits to trading partners. Since 2000, the emergence of public trading exchanges like Transora and World-Wide-Retail-Exchange (WWRE) further evidences the promise and potential of CPFR. The advantage of a public exchange is that a single communication protocol can enable collaboration between numerous trading partners.

While there is an overall agreement on the need for CPFR process model (VICS Association, 2002), the advantages and proven benefits of CPFR programs (GMA, 2001) and successes of reported CPFR pilots, its adoption however remains sluggish (Sliwa, 2002). According to Proctor and Gamble, it will need at least 12 retailers performing full scale CPFR with the company to reach the sort of critical mass that will impact its production cycles (Sliwa, 2002). To date most CPFR implementations have been limited to near exclusive relationships between a single large manufacturer and a single retailer for a specific set of products (Fraser, 2003). Influencing factors that either stimulate or impede adoption of

CPFR are not clear. This paper attempts to address an existing void in this area. The first part of the paper examines the CPFR process model, participants in a CPFR process and linkages to other collaborative initiatives like collaborative transportation management (CTM). The second part of the paper presents results of some reported CPFR programs and uses these to develop factors that influence the organization to embrace CPFR in a more broad based manner. The underlying objective of identifying influencing factors is to provide areas for initiating further empirical research on broad based CPFR adoption.

Collaboration – The Crux of CPFR

Collaboration and partnering between firms is an increasingly common approach for enterprises to discover and sustain shared competitive advantages (Mentzer, 1999; Mohr and Spekman, 1994). Requiring mutual commitment, trust and common goals and objectives (Dwyer and Tanner, 1999) as well as communication and cooperation (Morgan and Hunt, 1994), collaborative partnership occurs through extensive social, economic, service and technical relationships over time (Stern, El-Ansary and Cougлан 1996).

A collaborative partnership is an inter enterprise concept developed and practiced between multiple independent organizations in a vertical relationship within a supply chain (Mentzer, Min and Zacharia, 2000). Benefits of partnering are usually maximized only when retailers decide on the type of partnership they want to accomplish. Based upon (1) the orientation of the partners and (2) the depth of collaboration, there are two types of partnering, namely, **strategic partnering** and

operational partnering (Mentzer, Min and Zacharia, 2000).

Supply chain management has traditionally focused on operational aspects of the supply chain addressing issues like throughput, flow time, waiting time, costs and flexibility (Mentzer, Min and Zacharia, 2000). The issue of collaboration and partnerships as an approach to gain competitive advantage is still in its infancy. This leads us to Collaborative Planning, Forecasting and Replenishment. The underlying premise of CPFR is “*win-win for all*” rather than traditional “*win for one and loss for others*” approach with the following guiding principles (VICS Association, 2002):

- Focus on consumers and orientation towards value chain success.
- Development of single shared forecast of demand that drives planning across the value chain.
- Joint commitment to shared forecast through risk sharing.

According to VICS Association, CPFR is a nine-step process model consisting of (1) developing collaboration agreement, (2) creating joint business plan, (3) creating sales forecast, (4) identifying exceptions for sales forecast, (5) resolving / collaborating on exception items, (6) creating order forecast, (7) identifying exceptions for order forecast, (8) resolving / collaborating on exception items and (9) generating orders. CPFR is a strategic partnership initiative that is an ongoing and long-term relationship between partners for achieving strategic goals that delivers value to customers and profitability to all collaborating partners. Successes in strategic partnership initiatives like CPFR depend largely on successful collaboration and partnership (Johnson, 1999). In strategic

partnering relationships partners perceive each other as an extension of their own enterprise (Lambert, Emmelhainz and Gardner, 1996).

Evolution of CPFR

CPFR has its origins in a concept called ECR. ECR is a comprehensive management concept based on vertical collaboration in manufacturing and retailing with the objective of an efficient satisfaction of consumer needs, with supply chain management (SCM) and category management (CM) being its main components (Seifert, 2003). The goal of ECR is to create a win-win situation for manufacturers, retailers and consumers alike. ECR provides specific steps to be taken to address both its main components i.e. SCM on the supply side and CM on the demand side (ECR Guide, 2001). CPFR is a logical extension of ECR on the supply side. Hence analyzing ECR success factors provides us with deep insights into factors that could influence CPFR adoption. The ECR success factor study (Seifert, 2001) identified critical success factors (CSF) for ECR programs, which include: (1) involvement of top management, (2) mutual trust between collaborating partners, (3) early success, (4) continuous measurement of performance, (5) implementation of contemporary IT, (6) implementation of contemporary cost accounting methods, (7) consumer orientation, (8) change in organizational structure and (9) ECR training to staff. These will provide inputs to the development of influencing factors and conjectures stating the impact of each factor on CPFR adoption.

Reported CPFR Programs and their Major Characteristics

Several CPFR programs have been reported in the literature. Most

implementations have been in North America and Europe. To facilitate implementation and provide guidance to potential CPFR programs, the Voluntary Interindustry Commerce Standards (VICS) Association has published a VICS CPFR Roadmap (VICS Association, 2002). In the United States alone, more than \$ 15 billion in the supply chain is managed by CPFR processes and more than thirty CPFR programs are currently underway in Europe (Stiely and Katz, 2003). Some of the early CPFR implementations include *Sara Lee / Wal-Mart*, *Schering-Plough / Walgreens*, *Kmart*, *Target & The Eckerd Corporation*, *Safeway*, *Ace / Manco / JDA*, *Canadian Tire / GNX*, *Boots / Johnson & Johnson*, *Carrefour / Henkel*, *Carrefour / Kimberly-Clark*, *Marks & Spencer*, *Metro / Henkel*, *Metro / Kimberly-Clark*, *Metro / Procter & Gamble*, *Sainsbury's / Johnson & Johnson*, *Sainsbury's / Nestle and Sainsbury's / Unilever* (Seifert 2003; Esper and Williams, 2003). Analyses of literature on these programs reveal several characteristics. These are discussed below as they provide a rich source of insights into CPFR itself and its implementation.

1. Initial CPFR programs are largely between bigger manufacturers, suppliers and retailers (Fraser, 2003).
2. Supply chain restructuring is used to achieve collaboration (Freidman and Belkin, 2003; Andraski, 2003).
3. Beyond pilot projects, scalable CPFR need incremental development (Freidman and Belkin, 2003).
4. CPFR is executed concurrently with other supply chain initiatives like EDLP, VMI, ECR and JMI among others (Fraser, 2003).

5. Reliable and scientific forecasting optimizes CPFR programs (Arminger, 2003)
6. Collaborative commerce efforts drive the move to B2B exchanges (Freidman and Belkin, 2003).
7. CPFR programs are consumer centric (Fennell, 2003; Frodsham, Miller and Mooney, 2003).
8. Use of third party software applications to implement CPFR is prevalent (Weisphal, Pfahler and Abolhassan, 2003).
9. Common standards and protocols play a big role in CPFR success as it is felt that communication is the key to CPFR (Andraski and Yeso, 2003).
10. Identification and resolution of exceptions is critical (Bastock, Baumann and Smith, 2003).
11. Reducing costs (i.e. production, inventory, marketing and selling costs) and boosting sales were major objectives in all CPFR programs and this is usually achieved (Weisphal, Pfahler and Abolhassan, 2003).
12. Incompatibility of IT systems between partners is seen as a major impediment to CPFR implementation (Weisphal, Pfahler and Abolhassan, 2003).

Factors Influencing CPFR Adoption

According to several surveys conducted, the compelling benefits of embracing CPFR for stakeholders are all too evident (Fraser, 2003; Weisphal, Pfahler and Abolhassan, 2003). The business benefits that stakeholders are able to get by embracing CPFR include: (1) enhanced relationship, (2) increased sales revenues, (3) better category management, (4) improved product offering, (5) reliable and accurate order forecasts, (6) reduction in inventories, and (7) improved technology return on investment (VICS Association, 2002).

Notwithstanding the fact that CPFR provides direct and measurable benefits to all trading partners, the path to its implementation presents challenges that organizations have to keep in mind. According to the VICS Association, these include: (1) selecting right partners and products with which to implement CPFR, (2) establishing discipline for regular and periodic performance measurements, (3) committing to implement CPFR on a broad scale, (4) aligning corporate philosophies with CPFR philosophies and (5) managing organizational changes that may be required.

The decision to embrace CPFR by manufacturers, distributors and retailers carry certain characteristics that are unique to the new business environment that involves collaborative partnership targeting common goals. Towards that end, it is important for organizations to understand these specific factors that play a significant role in their decision to adopt CPFR as a strategic initiative. Major characteristics of reported CPFR programs and critical success factors of ECR initiatives are used to develop and discuss influencing factors for broad based CPFR adoption. These will be used to develop propositions to gain understanding of the significance of the factors on decision to embrace CPFR. Factors influencing adoption of CPFR in retail and consumer goods industry are categorized into two groups. Factors that positively influence and facilitate CPFR adoption, called **Stimulants**, and factors that negatively influence and obstruct CPFR adoption, called **Impediments**. The factors are: (1) overall supply chain costs, (2) effectiveness of strategic partnering and collaboration, (3) success of other supply chain initiatives, (4) reliability of sales and order forecasts,

(5) emergence of public trading exchanges, (6) information technology (IT), compatibility of IT systems and communication standards, (7) successes in CPFR pilots, (8) prevalence of limited partnerships among larger trading partners, (9) growth and changing trends in organized retail sector, (10) push towards and integration with other collaborative initiatives, (11) adoption of CPFR by industries outside retail, (12) organizational compatibility between partners, (13) globalization and emerging markets and (14) product range complexity.

Supply chain cost that includes production, inventory, distribution, marketing and selling costs is often cited in the literature as a major factor influencing CPFR adoption. According to a report by Kurt Salmon and Associates, nearly 41% of manufacturers, 50% of retailers and 38% of distributors identified supply chain cost reduction as a critical issue to be addressed in the next three to five years (Kurt Salmon and Associates, 2002). The unending cycle of rising supply chain costs impacts the bottom-line of all players the supply chain. Consumer demands for better service levels, which represent having the right product on the shelves, are rising (Fraser, 2003). Initiatives like EDLP and ECR specifically target reduction in supply chain costs, to be subsequently passed on to the consumer to boost sales. The growth of organized retail sector players like Wal-Mart is to a large extent attributed to their ability to reduce overheads, especially inventory and distribution costs (Flinkinger, 1999). According to a survey done in Europe, CPFR provides the highest cost saving potential among all supply chain initiatives like CM, EDLP, JMI and JIT (Weisphal, Pfahler and Abolhassan,

2003). It is to be noted that supply chain costs include not only the direct costs as mentioned above, but also opportunity costs like inventory stock outs. Therefore, the proposition is:

P1: Rising supply chain cost is positively related adoption of CPFR.

Successful collaboration and partnering plays a critical role realizing the full benefits of CPFR. Successful partnerships are based on the degree of interdependence between partners, the exclusivity of the relationship and the strategic shared goals of the relationship (Webster, 1992). Besides uncertainties in business environments push organizations to seek partners and collaborate to address business challenges (Lambe and Spekman, 1997). Collaborations between firms offer higher levels of interorganizational coordination, greater stability and flexibility (Achrol, 1997; Fliedner and Vokurka, 1997). Trust and commitment are critical antecedents to successful collaboration and partnering (Sullivan and Peterson, 1982; Schurr and Ozanne, 1985; Dwyer, Schurr and Oh, 1987). Trust allows partners to resolve exceptions and work out difficulties with favorable attitudes and behavior (Sullivan and Peterson, 1982) and commitment is the continued desire on part of all partners to maintain a valued relationship (Moorman, Deshpande and Zaltman, 1993). Therefore, the proposition is:

P2: Collaboration and partnering is positively related to CPFR adoption.

A CPFR survey conducted by Syncra Systems and Industry Directions in 2000 that included several manufacturers, retailers, distributors and logistics providers revealed that

in general **multiple supply chain initiatives** are underway in nearly 80% of responding organizations. Vendor managed inventory (VMI) is by far the most widely implemented supply chain initiative with about 47% of those surveyed. Other initiatives like ECR, CPFR, JIT, EDLP and JMI are implemented concurrently ranging from 1% to 26% of those surveyed (Synkra Systems and Industry Directions, 2000). While CPFR being within the top three supply chain initiatives to be implemented is a recognition of its popularity and prevalence given its recent entry (Fraser, 2003), organizations are generally less inclined to adopt CPFR if the two more popular initiatives i.e. VMI and ECR continue to be successful and provide the necessary benefits. Also if an organization were to implement CPFR after it has completed other initiatives, it is less likely to see spectacular benefits out of CPFR, as the 'low-hanging fruits' would most likely have been addressed by other initiatives. Therefore, the proposition is:

P3: Implementation of other supply chain initiatives is negatively related to adoption of CPFR.

Improvement in **forecast quality and reliability** is an oft-cited rationale for embracing collaborative practices like CPFR. Nearly 30% of respondents cited forecast accuracy as a direct benefit out of CPFR according to a survey done by Grocery Manufacturers of America in 2001 (GMA, 2001). The existence of 'bullwhip effect' (Lee, Padmanabhan and Whang, 1997) among supply chain partners creates a situation where manufacturers have a clearer view of demand and less accurate forecasts than retailers (Synkra Systems and Industry Directions, 2000). Traditional supply chains are

extremely prone to bullwhip. Typical order fluctuations of +/- 5% on the customer end balloons to order fluctuations of +/- 40% on the manufacturer end, thus showing an increase in demand variation by an order of 2:1 at each level of the supply chain (Towill and McCullen, 1999). Elimination of Bullwhip Effect achieved by accurate forecasting can result in a 5% increase in profitability (Metters, 1997). Nearly 75% of respondents believed more accurate sales and operational planning forecasts are critical (Synkra Systems and Industry Directions, 2000). Therefore, the proposition is:

P4: Forecast quality and reliability is positively related to CPFR adoption.

Many initial CPFR implementations involved **B2B trading exchanges** like WWRE, GlobalNetExchange (GNX) and CPGMarket. According to WWRE, the greatest benefit that a retail B2B trading exchange provides is a total workflow system for the whole procurement process, which includes promotion, distribution, pricing and linking suppliers and CPFR would be a major contributor to this (Sliwa, 2001). As of 2001, GNX's eight equity members had met only 5% of their \$ 260 billion purchase volume commitment (Sliwa, 2001). Initial CPFR implementations with GNX's early adopters resulted in 5 – 20% reduction in inventory and 2 – 12% increase in on-shelf availability across CPFR participants (Frodsham, Miller and Mooney, 2003). For organizations mulling CPFR implementations, use of third party provider allows a CPFR program to get up and running quickly, delivering faster results and ensuring long term scalability (Frodsham, Miller and Mooney, 2003). Therefore, the proposition is:

P5: Emergence of B2B trading exchange is positively related to CPFR adoption.

VICS Association envisions **technology for CPFR** as a platform and vendor independent environment where multiple parties can interoperate seamlessly (VICS Association, 2002). However any technology platform must fulfill certain minimum quality requirements, which include use of standards, scalability, security, open design, manageability, resiliency and collaboration (VICS Association, 2002). Advancements in data interchange standards and move towards service-oriented architectures augurs well for collaborative commerce. Key components of any collaborative initiative include a standardized business process (i.e. the nine step CPFR process model developed by VICS Association), a commitment to collaboration and efficient exchange of clean business data (Andraski and Yeso, 2003). **Standards** play an important role in making this happen. The success of Universal Product Code (U.P.C) provided the reinforcement to and foundation for EAN-UCC system. EAN-UCC developed jointly by EAN International and Uniform Code Council (UCC) is a global system of standards enabling flow of physical product and electronic information through the supply chain faster and in a more efficient manner. The EAN-UCC system allows trading partners to uniquely identify products, assets, locations and logistics units along with related electronic communication allowing elimination of supply chain bottlenecks and roadblocks. Another technological advancement is radio frequency identification (RFID) tags, which allows suppliers and retailers to track and trace items to manage their inventories. The rising popularity of RFID tags can be gauged from the

fact that Wal-Mart will be requiring its top 100 suppliers to adopt RFID by January 2005 (Business Week, 2004). Therefore, the proposition is:

P6: Information technology and standards are positively related to CPFR adoption.

Several initial CPFR pilots have been reported and lessons learnt from them have been documented. Numerous case studies provide ample evidence of **early success** that companies in North America and Europe have had. These successes demonstrate the gains trading partners have seen in applying a well-defined yet flexible business practice (VICS Association, 2002). Analyses of these case studies provide insights regarding CPFR benefits model, software enhancements and applications needed for CPFR and ways to address CPFR implementation barriers, which result in greater participation and ease of entry. Therefore, the proposition is:

P7: Success in CPFR pilot program is positively related to CPFR adoption.

As is evident, initial CPFR implementations **involved large manufacturers, distributors and retailers with limited partnerships**. While these programs were largely successful, presence of large trading partners has potential to 'shut-out' small and medium players, as it creates a false entry barrier to embrace CPFR for mass collaboration. If large retailers and suppliers find it challenging to forge partnerships with many partners (Holmstrom, Framling, Kaipia and Saranen, 2002), smaller players would find it even more challenging to do the same. Case studies of reported CPFR implementations reveal that in many instances participants had close association and

partnership before they embarked on the CPFR journey, thereby making the collaboration work relatively simpler. Therefore, the proposition is:

P8: Limited partnership among few large players is negatively related to CPFR adoption.

The largest corporation in the world in terms of sales is Wal-Mart, and it is bigger than General Electric and Exxon Mobil (Rugman and Girod, 2003). This provides ample evidence of the phenomenal **growth** witnessed by the organized retail sector globally. Besides phenomenal growth the organized retail sector is witnessing several **trends** that include changes to the shopping environment from pure shopping to shopping with family oriented entertainment, improvement to the supply chain to include returns made by the retailer to the suppliers, popularity of mark downs, improvement in check out speed and efficiency, self service / self checkout, consumer scanning and enhancement in customer service levels specifically to avoid retail stock-outs (Synkra Systems and Industry Directions 2000) thereby creating positive reinforcement in adopting new collaborative strategies both to address these trends and maintain overall growth rate. Therefore, the proposition is:

P9: Growth and changing trends in retail sector is positively related to adoption of CPFR.

Success of CPFR depends largely on successful partnership and collaboration among trading partners. Collaboration and partnering between firms is an increasingly common approach for enterprises to discover and sustain shared competitive advantages (Mentzer, 1999; Mohr and Spekman, 1994). This has given rise to several other collaborative

concepts like collaborative transportation management, collaborative demand and promotion planning, collaborative logistics management, collaborative product item / catalog maintenance, collaborative category management among others (Andraski, 2003). Each of these concepts focuses on specific areas and **integrating these with CPFR** has the potential to provide multiplier effects to the overall success of all collaborative efforts including CPFR due to greater synergies. Realizing this the VICS Association in February 2002 made a decision to create a committee focusing on collaborative transportation management (CTM) as a CPFR subcommittee that is looking into integrating CTM with CPFR (Russell, 2003; Esper and Williams, 2003). According to AMR Research, CPFR and the collaborative application market will attain critical mass by 2004 (Karolefsky, 2001). Therefore, the proposition is:

P10: Integration among collaborative concepts and practices is positively related to adoption of CPFR.

While CPFR is primarily a retail and consumer goods industry initiative, there have been a few instances of its **adoption in other industries like technology and textile** (VICS Association 2002). Faced with similar issues like the consumer goods industry, the apparel, footwear and textile industries are embracing CPFR to address industry's critical business processes (Manugistics, 2001). Demand Activated Manufacturing Architecture (DAMA) model for collaboration is a definitive initiative of inter-enterprise architecture and collaborative model for supply chain in the apparel, textile and fiber sectors. The DAMA model for supply chain collaboration borrows heavily

from CPFR fundamentals and according to US Integrated Textile Complex (ITC), potential savings are estimated at \$ 45 billion annually with a realistically achievable 50% reduction in time (Chapman, Latham and Petersen, 2000). The more widely collaborative business practices are adopted, the more is being learned to eliminate barriers to its implementation. This in turn is increasing the rate of adoption of CPFR within the retail and consumer goods industry. Therefore, the proposition is:

P11: Adoption of CPFR by other industries is positively related to its adoption within the retail and consumer goods industry.

Incompatibilities between trading partners which could be with regard to organization cultures, strategic goals, job and career aspirations among individuals, growth paths, control systems can lead to less than expected benefits for all partners (Mentzer, Min and Zacharia, 2000). Research has shown that **organizational compatibility** between partners is essential for long-term success of collaborative strategic partnerships (Smith and Barclay, 1997; Kanter, 1991; Bucklin and Sengupta, 1993; Lambert, Emmelhainz and Gardner, 1996). Therefore, the proposition is:

P12: Organizational compatibility is positively related to CPFR adoption.

Promoting global supply chain efficiency and consumer value created through cooperation between manufacturers and retailers operating at a global level is the primary goal that Global Commerce Initiative (GCI) hopes to accomplish with CPFR (VICS Association, 2002). However, studies have shown that even large

retailers like Wal-Mart, Carrefour, Metro AG, Sainsbury, Home Depot, Marubeni, and Itochu among others are at most regional level players with future hopes of becoming **global players** (Rugman and Girod, 2003). **Emerging markets** like India, China, Korea, Russia and Brazil with expanding organized retail sector present tremendous opportunities to all large American and European retailers. In order to gain greater and faster penetration in these markets large retailers would seek partnerships with local manufacturers (Krishnaprasad, 2003). Han, Kwon, Bae and Sung (2002) concluded in their study that distribution channels in Korea is at a very early developmental stage and basic infrastructure for successful supply chain integration is not in place. While this finding refers specifically to Korea, it can be easily concluded that the same would be true of India, China and Russia. Hence new American and European entrants in the organized retail sector in these markets would most likely use CPFR to accomplish supply chain integration. Therefore, the proposition is:

P13: Globalization and rise of emerging markets is positively related to CPFR adoption.

Category Management (CM) is the joint process of retailers and manufacturers that allows them to manage categories as strategic business units (Seifert, 2003). CM is one of the essential concepts in ECR and addresses issues like efficient store assortment, efficient promotion and efficient product introduction. Currently most retailers forecast at the category level and very few retailers forecast demand for **individual stock keeping units (SKU)** – the level required by

suppliers (Holmstrom, Framling, Kaipia and Saranen, 2002). The reasons cited are: (1) forecasting is a time consuming complex process if a large retailer has nearly 30,000 different items to manage which is typical in a hypermarket and (2) forecast for a category is more accurate and reliable than for specific individual products (Holmstrom, 1998). While there are approaches on making SKU level forecasts that can be used by retailers, the general feeling is that it becomes increasingly complex as number of SKUs grows and the suppliers feel that SKU level forecasting improves probability of CPFR success. Therefore, the proposition is:

P14: Product range complexity is negatively related to CPFR adoption.

Conclusions

CPFR holds many promises for higher degree of collaboration and integration between partners. While there is enough publicity surrounding CPFR, its benefits and implications, large investments for full-scale implementations are still giving CPFR a miss. For CPFR to be adopted on a much larger scale than is prevalent now, certain issues have to be addressed. First, partners need to have a clear statement of expectations from CPFR programs. Communication of expected results among all partners ensures mutual understanding of not only the scope of the initiative and its benefits but also challenges and obstructions that

might be faced during implementations. This is critical because benefits and business implications of CPFR depend on the role of the trading partner in the program. Second, organizations must be extra cautious in specifying parameters and criteria for partner selection. This could include criteria like willingness to collaborate, partner readiness, existing relationships and top management sponsorship and commitment. Careful selection of right partners goes a long way in subsequent success. Finally, CPFR requires a fundamental shift in the way business partners interact. The key word is **collaboration** that goes far beyond just sharing of data. People are the most important aspect of a collaborative partnership because collaboration is heavily dependent on commitment and trust between partners.

In summary, organizations can benefit significantly from inter enterprise collaboration. Retailers can provide what consumers want, when consumers want and at a price that is affordable, if approached right. This paper developed a set of factors that impact the adoption of CPFR. This represents a foundation for rigorous empirical research that could include construct measurement and empirical testing of the relationships between the factors and their significance. The results can provide organizations with a road map that addresses issues regarding CPFR adoption.

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