3.1. Introduction

Efficient consumer response (ECR) initiative was started in USA in 1993. Intense competition in the grocery industry coupled with several other factors like changing consumer behavior forced the retailers and manufacturers to shift focus from promotion driven growth in sales to value driven growth. ECR is the extension of time based delivery systems like Quick response (QR) employed in the textile and apparel manufacturing industries for quite some time. The primary goal of ECR was to reengineer the way grocery industry was operating at that point in time. To a great extent the goal is achieved and a lot more left to be done. ECR is a global practice now and well accepted by retailers and manufacturers across all continents. The leading global retailers like Wal-Mart, Tesco, Carrefour, Target and Safeway are partnering with manufacturers to enhance customer value through lower cost to the customer by phasing out unnecessary cost in the distribution channels. The ECR is all about focusing on consumer which in line with the marketing concept of “consumer is king”. In Indian retail sector, ECR has, in recent years, received increasing attention and interest. Retailer association of India is taking special initiatives along with ECR India to implement global ECR practices in India. One such initiative by the two apex bodies is to make barcode mandatory for all suppliers. By 2005, about 75 percent of suppliers to large retail formats in India had conformed to barcode standards and the rest 25 percent small suppliers were supposed to embrace GSI barcodes by 30th June 2006.
3.2. Definition of ECR

According to Goran Svensson (2002) definition of ECR is very confusing as literature gives various definitions. Different academicians and practitioners have given different definitions. Therefore, we would like to quote few of them here:

1. “The ultimate goal of ECR is a responsive, consumer driven system in which distributors and suppliers work together as business allies to maximize consumer satisfaction and minimize cost. Accurate information and high quality products flow through a paper less system between manufacturing line and check out counter with minimum degradation or interruption both within and between trading partners (Kurt Salmon Associates, 1993, p-1)”.

2. “ECR is an attempt to increase the velocity of inventory in the packaged goods industry through out the supply chain of wholesalers, distributors, and ultimate consumers. To be successful, the ECR approach will have to eliminate most of the forward buying practices of large wholesalers and retailers, which have lead to large inventory accumulation in that industry (Coyle et al., 1996, p-8)”.

3. “ECR is defined as a concept of working together to fulfill consumer wishes, better faster and at less cost (ECR Europe, 1995)”[see Appendix 3.1].

4. “ECR is a cooperative value-creation strategy whereby retailers and suppliers jointly implement collaborative business practices with the ultimate objective of fulfilling consumer wishes together, better, faster, and at less cost (Corsten and Kumar, 2005, p-81)”.

3.3. Concepts of ECR

ECR is a strategy of partnerships and information sharing that provides opportunities to eliminate waste, shorten cycle time, improve customer service, and reduce costs across the entire distribution pipeline (Allen, 1995; Ball, 1994; Gertler and Phipps, 1994; Angulo et al, 2004). It is comprehensive and well known initiative consisting of over a dozen improvement concepts outlined by global ECR scorecard. These practices are organized under four major areas of manufacturer-retailer collaboration: (1) demand side
management, or collaborative practices to stimulate consumer demand through various joint marketing and sales activities; (2) supply side management, or collaborative practices to optimize supply, focusing on advanced logistic and supply chain management; (3) enablers are focused on collaborative information technology and communication tools required for accurate and timely flow of information between trading partners; and (4) integrators, Open up business processes to trading partners to improve performance by information sharing. Efficient consumer response uses four basic strategies to accomplish its goals: efficient store assortment, efficient replenishment, efficient promotion, and efficient product introduction.

### 3.4. Category Management

ECR objective are accomplished through both supply side and demand side strategies. Demand side strategies use category management to determine right product assortment at right place at right time. Category management builds on basics of marketing management to help retailers and manufacturer to serve the consumer better and faster. Understanding the consumer’s presence in the store and purchasing pattern and behavior is central to the category management. The process revolves around identifying customer need and in-store purchasing behavior of a particular category and fulfilling the customer need. By doing that retailer is poised to increase sales of specific categories without sacrificing margin. Category management is about managing each category as strategic business unit. It has benefited the consumer through improved assortment, lower prices, reduced out of stocks and ease of shopping. This is one area of ECR where the trading partners collaborate to manage the demand chain efficiently. With the help of category management retailers have been able to get following benefits:

1. Incremental sales of about 7 percent for the total category, with about 5 percent being achieved for the manufacturer selected as the category partner.
2. Margin improvement of about 5 percent for the retailer, with fewer items and retail inventories, sometimes reduced space allocation as well.
3. Margin improvement for the manufacturers is due to lower cost of sales and trade promotion costs. This number varies depending on the category as well as development of internal capability of the manufacturer.

Case study on category management
Store manager & owner: Richard Champagne
Super market: Marche located in Louisiana; Size: 10,000 Sq. ft
Difficulties faced: Stagnant growth in grocery sales and competition from big retailers.
Initiatives taken to overcome difficulties:
Organizing categories the way people shop:
Breakfast items including cereals, Pop Tarts and milk were brought together in one area. A barbecue aisle was created, with marinades, charcoal, paper plates, side dish makings and beer. In another aisle went ingredients common in indoor cooking, such as seasonings, canned meats, pasta, rice and beans. Elsewhere, peanut butter and jelly were stacked on top of the commercial bread. Baking needs, canned fruit and cake mixes formed a baking-themed aisle.
Result: 4% growth in grocery sales.
Source: Moses, Lucia (2005), Supermarket News.

3.5. Brief literature Review

There is a continuous debate whether the power has shifted from the supplier to retailer and there is difference in opinion in academic literature (Ailawadi, 2001). The study conducted by Farris and Ailwadi (1992) did not support the power shift in the trade channel and over the last decade retailers have been faring worse than manufacturers, with only few retailers have done better (Ailwadi et al, 1995). In the advanced countries like USA the ten largest retailers account for 80% of average manufacturers business up from around 30% a decade ago (Boyle 2003). Therefore, there is always price pressure from the big retailers on the manufacturers or suppliers and the later find increasing difficult to develop marketing strategy in isolation of particular retailer strategy (Corsten and Kumar, 2005). The suppliers are encouraged to develop closer relationship with the retailer to change the latter’s focus from price to reduce cost in the supply chain and create value; this is a significant change in marketing (Kumar, 1996). The major industry level initiative to
achieve the desired objective is called “efficient consumer response” (ECR). Ailwadi (2001) suggests that the conventional wisdom that retailers are more powerful than manufacturers is not supported by empirical research. However, a study conducted by Kurnia and Johnston (2003) supported the conventional wisdom. Their find suggest that Australian grocery retailers are more powerful than manufacturers. In addition they demonstrate that the retailers are driving the manufacturers to adopt ECR as both the parties are having different interest. The retailers are financially more benefited than the manufacturers and because of this power shift manufacturers appear to potential loser in ECR program. So, the manufacturers face difficulty in renegotiating trading terms with retailers to ensure mutual sharing of costs, benefits, and risks (Kurnia and Johnston, 2001).

Throughout 1960s and 1970s the competition in the grocery industry was mainly between branded consumer goods manufacturers, which was driven by brand, heavy advertising and promotions. But by 1980s and 1990s balance of power has shifted to the retailers (Sharpe and Hill, 1999). Now retailers also feature in the competitive landscape. Consumers want quality, freshness, quicker service, and choice at a reasonable cost. They had become increasingly sophisticated, and demanding better value at lower prices. Instead of addressing consumer concerns, manufacturers spending on trade and consumer promotions increased from 8 to 17 percent of total sales between 1978 and 1994 (Sharpe and Hill, 1999) and consumer packaged goods (CPG) companies allocated 13 percent of their sales to trade promotions, their second-largest expense after cost of goods (Progressive Grocer, 2002). Promotional sales were difficult to predict, causing either excess inventory leading to clearance at discount, or product shortages and lost sales. The old way of generating business created pressure on margin. Therefore, industry level initiative in the form of ECR started. But there is a widespread belief among the suppliers that the large retailers are prime beneficiaries of ECR and it is a way to pass on costs back to the manufacturer. There are few empirical studies on performance adoption of ECR. Several investigations assess the impact of tighter manufacturer-retailer relationships on performance, as reflected in relational constructs such as interfirm coordination, trust, or mutual dependence (e.g., Heide and John 1992; Lusch and Brown 1996). Although greater trust, mutual interdependence, or interfirm coordination may be associated with ECR, these constructs
are conceptually distinct from ECR, which promotes the joint implementation of
collaborative processes and routines. Furthermore, these studies have typically examined
supplier relationships with relatively small retailers (e.g., automobile, tire dealers) rather
than with the large retailers that populate and often dominate suppliers in the packaged
goods industry. In one recent study Corsten and Kumar (2005) tried to develop a scale to
measure collaborative relationship between retailer and supplier. They also made an
attempt to examine the effect of ECR adoption on supplier outcomes and conditions under
which relationship with large retailers are likely to be beneficial. Also they tried to figure
out the impact of size of the firm on collaborative relationship. They found that ECR
adoption has a positive effect on the supplier's perceptual economic performance, archival
sales and capability development. The large retailers have tremendous power advantage
over the supplier. The findings are consistent with the findings of Corsten and Kumar
(2003). Another study on similar context by Bloom and Perry (2001) demonstrates that
when Wal-Mart is a primary customer profits fall for suppliers irrespective of size but
profit fall is compensated by volume sales.

Several studies have been carried out to in USA, Europe and Australia to examine the
potential benefits of ECR (Kurt Salmon Associates, 1993; Krum, 1994; Coopers and
Lybrand, 1995; Mathews, 1996; Ross, 1996). Despite many potential benefits of ECR,
adoption of ECR has been slow in many regions (Kurt Salmon Associates, 1995, 1995/6,
1997; Coopers and Lybrand, 1998).

Three studies (Dhar, Hoch, and Kumar 2001; Gruen and Shah 2000; Stank, Crum, and
Arango, 1999) have examined the effects of the adoption of specific aspects of ECR, such
as category management, on performance within the grocery industry. However, none of
the studies assess the specific benefits accrued to the supplier from ECR participation. The
big retailers press the suppliers to invest more and more in the in ECR practices such as
category management (Corsten and Kumar, 2003). Joined-up planning and introduction
process between retailer and manufacturer can result in successful, fast and efficient new
product introduction (Plettner and Guillerme, 2005) and loyalty data can be efficiently
used for effective new product launch (Cormio, 2005). However, these studies do not
assess the specific benefits for suppliers from ECR participation. When the retailers are large having more bargaining power because of volume game and have the potential ability to dominate suppliers and thus appropriate any gains. In such cases, whether ECR provides any benefits to suppliers remains an open question.

In the grocery supply chain ECR program tries to tie the manufacturers, wholesalers, and retailers into a collaborative and interactive information system. The flow of information is as important as the flow of products/goods. The objective is to streamline the flow of information both ways and allow an even flow of products from the producer to the consumer, reducing stock outs and phasing out unnecessary cost in the distribution channel. Kurt Salmon, a retail-consulting firm estimated that ECR could bring a huge overall cost savings of 10.8% of retail price, or $30 billion in United States and $33 billion in Europe. It was expected that manufactures would get 54% of these savings, and distributors and retailers pie would be remaining 46% (ECR Europe 1997). As stated by Mathews in reviewing the 64th Annual Report of the Grocery Industry, "the bottom line is that the perceived direct benefits of ECR have failed to trickle down through the industry, making ECR still more a matter of promise than performance (p. 26)."

3.6. Different ECR Models

(a) ECR-USA Model

Kurt Salmon developed ECR-USA model (see Figure 3.1) in 1993. The model is designed to phase out inefficiencies in the supply chain and deliver value to the consumer by developing efficient promotion, new product introduction and assortment between manufacturers and retailers. This distribution based model estimated two types of savings such as cost savings and financial savings for the adopters. Cost savings accrued from elimination of activities and expenses; and financial savings result from reducing inventory and physical assets.
(b) ECR Europe Model

ECR Europe model as presented in Figure 3.2 focuses on two important components such as demand side and supply side. The major components and sub-components are presented in Figure 3.3.

I. Demand side of ECR

The demand side of ECR includes all of the considerations associated with understanding and managing the demand for products and services. Important components of demand side ECR are optimization of assortments, promotion and new product introduction.

(i) Efficient store assortment

This means offering complete and easy to shop assortment of products wanted by consumer. Therefore, rationalized product assortment often leads to higher consumer satisfaction and better category performance. Retailers and manufacturers prepare collaborative plan on the basis of consumer insight to offer desired assortments to shoppers. Trading partners with the help of retailer define categories and assign role to
each product category. As the retailers shelf space is limited, so it is critical to manage each category as a strategic business unit. For optimization of shelf space retailer has to take a call on which item to stock and which item or category to eliminate.

The primary benefit of efficient assortment is that consumer needs are better met by having the right products in the right shelf at the highest efficiency. For many retailers, assortment means a way to create differentiation for the store. Efficient assortment can be better presented with synchronization of corporate strategies in other areas - such as retailer branding, pricing, and promotion. For retailers and suppliers alike, additional benefits include faster stock turns, lower out-of-stocks and overall better asset use and returns from a more efficient, less burdened replenishment system.

However, no particular assortment of SKUs is right for any given category, at all times and for all retailers and suppliers. Therefore, there might be requirement for deletion, addition and development of SKUs to a specific category. Each action is very much dependent on consumer needs, retailer’s objective and supplier response. Efficient assortment for different retailers can be different and even it can differ from one store to another store of same retail chain. So, retailers should consider following factors for efficient assortment:

- consumer requirements and behaviour
- retailer roles and strategies for the category
- supplying partner’s strategies and capabilities
- existing situation in the market place

(ii) Efficient promotion

It refers harmonization of the promotion activities between manufacturer and retailer by communicating benefits and value. It is important for the manufacturer as well as retailer to jointly develop and execute promotion strategies matching with the needs and business goals of each category. Finally, everything boils down to efficiency and effectiveness of promotion.
(iii) Efficient new product introduction

This focuses on development and introduction of new products suitable for fulfilling current and prospecting consumer need. At this point, retailers and manufacturers should understand the intricacies of shoppers need and shopping behavior. They should use available data to design new product and introduce at right time targeted to right consumer segment. Therefore, collaboration and information sharing is critical factor here.
II. Supply Side Management

Figure 3.3: ECR Europe Model

Demand Management
- Demand strategy & Capabilities
- Collaborative Shopper Value Creation
- Optimize Assortment
- Optimize Promotions
- Optimize new product introduction

Supply Management
- Supply Strategy & Capabilities
- Responsive Supply
- Integrated Demand Driven Supply
- Operational Excellence

Enablers
- Common Identification Standards
- Electronic Message Standards
- Global Data Synchronization

Integrators
- Collaborative planning and Forecasting
- Cost/Profit and Value Management

Source: Global Scorecard.net
The Supply Side of ECR is focused on an integrated set of four improvement concepts, each of which addresses a different aspect of the need for rapid and efficient replenishment of products in the overall supply chain. Supply strategies and capabilities include components such as operational excellence, responsive replenishment and integrated demand driven supply.

III. Enablers

Enablers (see Figure 3.4) are focused on technological components related to development of product identification, data management and processing capabilities that are needed to permit accurate and timely communication and registration of goods flow between trading partners. Currently focus areas are electronic data interchange (EDI), data warehousing and activity based costing. Normal evolution of supporting technologies - standardization of issues such as EDI message format, bar codes and articles numbers are a prerequisite for many ECR improvement concepts. EDI is required for electronic ordering and fund transfer. This allows the trading partners to exchange vast amount of information with great speed and accuracy. Global retailers like Wal-Mart has started using radio frequency identification (RFID) along with standard ECR practices for better management of both demand and supply side.

<table>
<thead>
<tr>
<th>Consumer Identification Standards</th>
<th>GTIN at Consumer Unit Level</th>
<th>GTIN at Trade Unit</th>
<th>Serial Shipment Container</th>
<th>Global Location Number</th>
<th>Electronic Product Codes</th>
<th>Standard Product Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electronic Messaging Standards</td>
<td>Electronic Messages for suppliers</td>
<td>Electronic Messages for Planning, Forecasting and Replenishment</td>
<td>Electronic Messages for Master Data</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Global Data Synchronization</td>
<td>Global Data Synchronization</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 3.4: Enablers
The coverage of the enablers is described below:

**Common Identification Standards**

Common identifications standards are required for tracking products through out the supply chain and for communicating information about those products between trading partners. Bar codes have long been used in the grocery industry and now these are being standardized worldwide using the Global Trade Item Number (GTIN) both for consumer units and for cases.

The Serial Shipment Container Code (SSCC) is used for tracking logistics units, such as pallets, throughout the supply chain, and the Global Location Number (GLN) is used to identify specific locations where products are shipped to or dispatched from. It is an important identifier in electronic messages such as purchase orders goods receipt confirmation.

The Electronic Product Code (or Radio Frequency Identification tag) is an important new development in the consumer goods industry, which allows items to be identified through radio waves rather than through line-of-sight applications like bar codes. Unlike a bar code, the EPC uniquely identifies each individual item by combining the GTIN with a serial identification number.

Standard Product Classification provides a standard way for products to be grouped into categories and sub-categories. It provides a standard for product grouping within market research and analysis shared between companies.

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12 Partially adapted from Global Scorecard.net and ECR Europe
There is no evidence claim for cost reduction, inventory reduction or growth for these enablers. However, the benefits claimed for Demand and Supply assume that the necessary enablers have been put in place and that the benefit claimed is net of adoption costs.

**Electronic Message Standards**

Similar to product identification, the use of electronic message standards is a fundamental requirement to enable businesses to communicate efficiently across a range of topics. Electronic messages for supply cover all the message types required to facilitate the smooth flow of products envisaged under the supply concept “Responsive Supply”. These include, purchase order, dispatch advice note, delivery confirmation.

Electronic messages for planning, forecasting and replenishment cover communication of demand plans, forecasts as well as information on recent sales and inventory levels. These are used in processes such as vendor-managed inventory (VMI) and continuous replenishment.

Electronic messages for master data cover the communication of product specifications and pricing. These message standards are needed so that master data can be aligned throughout the supply chain. Again, no benefits have been assumed from electronic messages, but they do of course enable the supply processes as well as some of the demand planning processes. Benefits from electronic messages are e.g. fewer errors, less paperwork and with that cost savings.

**Global Data Synchronization**

Global Data Synchronization (GDS) is the term used to describe the exchange of item master data between trading partners via data pools, which uses the GS1 official communications standards. Under this process, master data is created once, by its originator, and then is shared with trading partners who subscribe to the GDS Network. A frequent cause of errors in the buying/selling/replenishment process is due to mismatches
in the databases of trading partners regarding product data, price information and company data. This can result in orders not being placed, or orders being placed but not accepted or invoices failing to be processed. All of these errors cause delays are expensive to rectify and may lead to out-of-stock on the retail shelf.

**Cost reduction:** By following the GDS protocols, companies can avoid the need to enter the same master data multiple times and can automate the transmission of this data. This not only saves manual data processing costs but avoids the need for corrective actions to overcome errors due to data mismatches.

**Inventory reduction:** Global data synchronization can help to reduce inventory problems but it can be minimal.

**Growth:** Many occurrences of products being out-of-stock on the retail shelf can be traced to errors in the master data in companies’ databases. New products may not be set up correctly, with the result that retail store replenishment orders do not get placed. As a result, GDS can help to improve out-of-stock levels and thereby increase sales.

**IV. Integrators**

The components of integrators are vital for the success of ECR adoption. Here collaborative planning, forecasting and replenishment help retailers and manufacturers to improve performance of the business process. Integrators can be helpful to develop and deliver products and services faster, extend geographical reach, and increase process efficiency and effectiveness.

**Collaborative Planning & Forecasting**

This covers the process of establishing common demand plans and common forecasts between trading partners. This results in more accurate demand plans and forecasts. The
detailed planning of individual promotions and the benefits derived from these have been
captures under “Optimized Promotions” rather than in this section.

Cost reduction: There is an opportunity to reduce some operational costs due to increases
in forecast accuracy.

Inventory reduction: Safety stock can be reduced as a result of improvements in forecast
accuracy. However, the impact is no as great as a reduction in replenishment cycle times
would be.

Growth: Little direct benefit other than in the ultimate impact of reducing out-of-stocks.

Cost/Profit and Value Measurement

This concept is an enabler to better decision making between trading partners with regards
to eliminating costs from the overall supply chain and for deciding the overall
effectiveness of different consumer and shopper value solutions, taking into account the
adoption costs the benefits derived by the consumer and the benefits derived by the
companies. By itself this concept does not lead to cost and inventory reductions and
growth, but is an enabler of better information underlying other supply and demand
improvements.

3.7. Scope of ECR Strategies

A similar kind of study was conducted by Coopers & Lybrand’s 1995 Value Chain
Analysis in Europe. They analyzed the companies’ cost structure, on an activity basis and
based on a Value Chain Analysis model, the amount of cost and inventory saving that a
company could realize through adopting collaborative ECR processes was predicted. The
study estimated that the industry could save 4.8% of operating costs plus reduce existing
inventories by around 42%, equivalent to saving another 0.9% of operating costs, making a
total available cost saving of 5.7% (ECR, 2005).
Kurt Salmon associates conducted a study on scope of ECR in the grocery industry and scope of ECR strategies is summarized in Table 3.1.

Table 3.1: The ECR Strategies & cost saving opportunity

<table>
<thead>
<tr>
<th>ECR Strategies</th>
<th>Scope of the ECR Strategies</th>
<th>Cost Savings(^\text{13})</th>
<th>Financial Savings(^\text{14})</th>
<th>Total Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficient Store Assortment (ESA)</td>
<td>Providing a complete, easy-to-shop assortment of products desired by the consumers</td>
<td>1.3</td>
<td>0.2</td>
<td>1.5%</td>
</tr>
<tr>
<td>Efficient Replenishment (ER)</td>
<td>Maintaining high in-stock levels of the required assortment</td>
<td>2.8</td>
<td>1.3</td>
<td>4.1%</td>
</tr>
<tr>
<td>Efficient Promotion (EP)</td>
<td>Harmonising the promotion activities between manufacturer and retailer by communicating benefits and value</td>
<td>3.5</td>
<td>0.8</td>
<td>4.3%</td>
</tr>
<tr>
<td>Efficient Product Introduction (EPI)</td>
<td>Developing and introducing new products that the consumers really want by meeting their ultimate needs</td>
<td>0.9</td>
<td>-</td>
<td>0.9%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>8.5</strong></td>
<td><strong>2.3</strong></td>
<td><strong>10.8%</strong></td>
</tr>
</tbody>
</table>

Source: Kurt Salmon, 1993, 29 & 4

\(^{13}\) Result from the elimination of activities and expenses

\(^{14}\) Result from reducing inventory and physical assets, and allowing operations with less input by proving the same ROI
3.7.1 Cost Savings and Inventory Reduction

It has been observed that the following sources of cost savings and inventory reduction are available:

- The major cost savings areas are integrated, demand-driven supply and optimized promotions. Most of these cost savings come from within the manufacturer's business and from the suppliers of raw materials and packaging to those manufacturers. Bulk of the cost saving come from the manufacturer and upstream of the manufacturer since this is where most of the supply chain costs lie.

- In order to achieve savings from integrated, demand-driven supply, the manufacturer needs to be able to receive a clean signal of true demand and to be able to respond to demand changes within short cycle times.

- It is well known that manufacturers spend large share of budget not only on planning and execution of promotions but also on trade funds paid to the retailer in return for certain store placement or advertising. It is well known that a large proportion of promotions fails to achieve the set objectives and is not profitable. That means optimization of promotional planning, execution and evaluation holds paramount importance to both manufacturers and the retailers to reduce overall expenditure and ensure large proportion of promotions are successful.

- The major chunk of inventory savings comes from responsive replenishment, for the retailer, and from integrated demand-driven supply, for the manufacturer. By adopting high frequency delivery schedules used in modern centralized retail distribution potential savings from responsive replenishment can be achieved.

3.8. Impacts of ECR

ECR Europe reports that across all countries and categories, top-tier ECR adopters exist in Europe. On average, overall ECR has reached more than half way (58%). Demand side concepts show the highest adoption level (62%), followed by ECR enablers (58%), and the supply side concepts (54%). The ECR integrator concepts' adoption level is encouraging with 44%. According to ECR (2005) report at industry level ECR has been a success story
which has achieved 3.6% cost savings which was originally predicted as 6.9% of consumer price. This indicates that 3.6% still to be delivered. On top of that they estimate that a full adoption of ECR could yield an additional 5% of sales.

Bowersox et al. (1999) in their study compared annual report data of nine retail grocery chains from 1992 (before ECR) through 1997. Some of the research findings are summarized below:
(1) Average inventory turns (sales to average inventory) declined slightly, (2) Days inventory increased, (3) Cash to cash cycle was reduced by 5%, (4) Net profit margin increased by 22%, (5) Asset turn over fell 10%, (6) Return on assets increased 7%.

One more study conducted Brown and Burkovinsky (2001) compared performance of food retailers that have adopted ECR prior to 1995 (adopters) with grocers that have not adopted (non-adopters). Annual report data were collected on inventory levels, sales, cash cycle, asset productivity, and profits and analyzed various financial and operating ratios. Findings are given below:
1. Adopters are different from non-adopters in two ways: they are generally larger and they grew faster during the 1992-1997 and 1998 time periods.
2. No significant differences were found between the profit margins of adopters and non-adopters during 1992, 1997, and 1998.
3. Adopters' inventory efficiency, asset efficiency, and cash cycle generally deteriorated in relation to non-adopters.
4. ECR was adopted more by large firms than by smaller grocers.

3.9. Success factor of ECR

Seifert (2003) identified critical success factors for ECR programs, which include, (1) involvement top management, (2) mutual trust between collaborative partners, (3) early success, (4) continuous measurement of performance, (5) implementation of contemporary IT, (6) implementation of contemporary accounting methods, (7) consumer orientations, (8) change in organization structure, and (9) ECR training to staff.
3.10. Benefits of adopting ECR

Adoption of ECR practices offers benefits to every member in the supply chain as well as consumer. To realize the fullest potential of ECR the adopters have evaluate their performance by using key performance indicators (KPI) (see Appendix-3.2). Some of potential benefits estimated by ECR models are realized by the retailer and manufacturer in the recent times. A few of them are discussed below:

3.10.1. Reduction in supply chain inefficiencies

By adopting ECR manufacturers and retailers can cut down inefficiencies in the supply chain. Excessive inventories can be removed from the supply chain, so less investment in buying. Kurt salmon estimated, by adopting ECR average inventory holding in Dry Grocery chain would come down to 61 days from 104 days in USA. By 2004, 59% retailers and 57% manufacturers in Europe implemented ECR completely. Still inventory holding period is 88 days (see Figure 3.5) for dry grocery chain in Europe, higher than Kurt Salmon’s estimation of 61 days (see Figure 3.6). Full implementation of ECR can reduce operation cost by 2.9% of consumer sales value and reduction in inventory of 28% plus potential sales growth of 4.9% across European countries (Jones, ECRE, 2005). Collaborative relationship can minimize inefficiencies in the supply chain. World’s second largest retailer, Carrefour collaborated with Gillette Company to phase out higher inventory holding period of 24 days in 2002. By adopting standard ECR practices like data synchronization, implementation of EDI message, and joint planning, they were able to cut down average inventory holding period to 12 days by 2005.
Figure 3.5: European Average Inventory Days-Dry Grocery

<table>
<thead>
<tr>
<th>Manufacturer’s raw material</th>
<th>Manufacturer’s Finished goods</th>
<th>Retailer’s Distribution Centre</th>
<th>Retailer’s store</th>
</tr>
</thead>
<tbody>
<tr>
<td>21 days</td>
<td>33 days</td>
<td>13 days</td>
<td>21 days</td>
</tr>
</tbody>
</table>

88 days

Source: Jones, C.Chris, ECRE, 2005
http://www.ecrnet.org/conference/files/presentations/BO%201.6/1%20The%20case%20for%20ECR.pdf

Figure 3.6: Comparison of Average Throughput Time of Dry Grocery Chain Before and After ECR Implementation

Current Dry Grocery Chain

<table>
<thead>
<tr>
<th>Packaging line</th>
<th>Supplier Warehouse (Forward buying 9 days, Turn inventory 31 days)</th>
<th>Distributor Warehouse</th>
<th>Retail store</th>
<th>Consumer purchase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>38 days</td>
<td>40 days</td>
<td>26 days</td>
<td>104 days</td>
</tr>
</tbody>
</table>

ECR Dry Grocery Chain

<table>
<thead>
<tr>
<th>Supplier Warehouse</th>
<th>Distributor Warehouse</th>
<th>Retail store</th>
<th>Consumer purchase</th>
</tr>
</thead>
<tbody>
<tr>
<td>27 days</td>
<td>12 days</td>
<td>22 days</td>
<td>61 days</td>
</tr>
</tbody>
</table>

Source: Kotzab, 1999, p. 368 (Original Source, Kurt Salmon 1993, pp-28)

In an individual ECR adoption of CPFR – Collaborative Planning, Forecasting and Replenishment – between a global retailer and a major Health & Beauty manufacturer, where the “partnership” successfully reduced lead-times from 21 – 11 days, effectively
cutting the lead time in half. Sales were increased by 8.5 Million dollars, this represents a 42% improvement, and the in stock position moved from 87% to near perfection at 98% (ECR, 2005, p.24).

3.10.2. Increase in customer satisfaction

Customer satisfaction drives store loyalty. ECR adoption leads to superior offerings and high store trust and loyalty for retailers (Corsten, 2005). Therefore, logical conclusion is ECR practices bring customer satisfaction. Research shows that shoppers are able to identify differences between ECR and Non-ECR Retailers (see Table 3.2).

<table>
<thead>
<tr>
<th>Store Attribute</th>
<th>ECR Adopters</th>
<th>Non-Adopters</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Display</td>
<td>4</td>
<td>3.21</td>
<td>0.79</td>
</tr>
<tr>
<td>Store Deals &amp; Promotions</td>
<td>3.79</td>
<td>3.62</td>
<td>0.17</td>
</tr>
<tr>
<td>Product Range &amp; Variety</td>
<td>3.99</td>
<td>3.29</td>
<td>0.7</td>
</tr>
<tr>
<td>Everything I want</td>
<td>3.99</td>
<td>3.25</td>
<td>0.74</td>
</tr>
<tr>
<td>High Quality Brands</td>
<td>3.95</td>
<td>3.16</td>
<td>0.79</td>
</tr>
<tr>
<td>High Availability</td>
<td>3.88</td>
<td>3.39</td>
<td>0.49</td>
</tr>
<tr>
<td>Easy and Quick Shopping</td>
<td>3.87</td>
<td>3.6</td>
<td>0.27</td>
</tr>
<tr>
<td>SUM</td>
<td>27.47</td>
<td>23.52</td>
<td>3.95</td>
</tr>
</tbody>
</table>

Source: Corsten, ECRE, 2005, ppt.-17

Even though it is difficult to measure customer satisfaction explicitly still it is possible to figure out satisfied customer. Finds from literature suggest that implementation of ECR can bring higher customer satisfaction.

3.10.3. Minimization of out of stock

In India, 25 per cent of the FMCG sales are lost just because the product is out-of-stock at the retail outlet. Right now it is estimated that out of stock situations bring down efficiencies between 30 and 40 per cent. The daunting task ahead of ECR India is to bring down the figure to 5 percent-10 percent. Global study findings demonstrate that 72% of
stock-outs were due to faulty in-store ordering and replenishing practices—retailers ordering too little or too late, generating inaccurate demand forecasts, or otherwise mismanaging inventory. Just 28% of stock-outs could be attributed to replenishment and planning problems in the supply chain. These included product droughts created by suppliers; category planners (Corsten and Gruen, 2004)

One study shows that 54% stock out is lost revenue in ready to eat cheese category. With the help of efficient store level demand forecasting Kraft Foods in collaboration with Sainsbury was able to improve on-shelf availability of ready to eat cheese products in the store. So, implication is reduction in lost sales both for the supplier and retailer (ECR Europe, 2005). Coca-Cola in collaboration with Systeme U, a leading supermarket in France was able to reduce on shelf out of stock. In the first quarter of 2004, the supplier and the retailer identified optimal shelf availability as one of the key drivers to develop soft drink category. System U was losing 12% (14 million Euros) of total turn over for the whole category. The retailer worked closely with the supplier to reduce high level of non-purchase rate on soft drinks and brought down high risk of consumer loss. The shared objective was to reduce out of stock (OOS) by 30% (4% growth). They carried out a number of measures which are standard ECR practices in 21 stores and the result was encouraging within one year. In the fourth quarter of 2004 lost turn over linked to OOS came down to 7.9% which is 33% reduction and increased market share from 8.8% to 9.3%. Reducing OOS is a key driver for consumer satisfaction and loyalty and offers enormous opportunity for additional business both for the manufacturer and retailer (Polge and Jounneau, 2005). In another case Carrefour with the help of Gillette was able to reduce percentage of out of stock on shelf about 10% in April 2004 to close to 3% by October 2004. In a case study with the Greek retailer Veropoulos it is found that its ECR collaboration with major suppliers in the area of collaborative store ordering helped reduce out-of-stock situations by 60%. While this is a clear benefit for the retailer and the supplier, higher on shelf availability also increases value for shoppers.
In India the OOS issue for retailers is even worse. It was found that on a specific day of the week (Friday) OOS for key stock keeping units (SKUs) across all Foodworld stores for top six FMCG suppliers was close to 37%. That translates to Rs12 crore lost sales for Foodworld per annum and the estimated loss for the organized FMCG industry is Rs 6,000 crore. The reported loss due to OOS in the US is $35 billion a year (Kamath, 2003). Reduction in OOS means increase in sales and revenue for the supplier and the retailer.

3.10.4. Reduction in shrinkage

The cost of shrinkage is enormous, with an annual price tag of €24.17 billion in Europe. This is equivalent to €465 million per week and accounts for 2.41 per cent of market turnover (ECR Europe survey, 2004). The report finds that 27% loss in the store happens due to process failure which includes losses due to operating procedures within the organization including products which have gone out of date, or have been reduced in price; incorrect pricing; product identification errors; incorrect stock counting; products which have been damaged; scanning errors; and errors in deliveries to the stores (e.g. short deliveries due to errors in picking and dispatch from distribution centres). Loss due to shrinkage is about 0.8-1.2 percentage of total business for large retailers in India (Kamath, 2003). By adopting ECR practices shrinkage can be reduced. From the above discussion our next proposition emerges.

3.11. Need for ECR in India

In India competition is picking up in every field of business and FMCG industry is feeling the heat for quite some time. Now organized retail sector in India is in the expansionary stage and competition is likely to gather momentum sooner or later. Next couple of years will be crucial for the domestic retailers before the global operators drive away advantages with their size and expertise. In addition to competition consumer taste is changing. The consumer is more demanding in terms of better product quality, quicker service, and reasonable price. As the business is getting global touch so does the consumer. New technology is available to both consumer as well as service provider. In order to drive out
current level of inefficiencies in the supply chain and to offer better service to consumer at lesser cost Indian retail sector should adopt global practices like ECR. Of course there will be higher investment at the initial stage but in the long run the investment will be justified.

3.12. ECR Movement in India

ECR concept is relatively new to India; hence considerable amount of academic and industry level research is desirable. In October 1999, EAN India initiated the Efficient Consumer Response (ECR) movement in the FMCG sector in India. In July 2000, ECR India was set up as a nonprofit 'Association of Persons' (AOP), chaired by K Radhakrishnan, Chairman, ECR India and VP, Foodworld Supermarkets Limited (now VP, Merchandising, Spencer’s) and co-chaired by N. Ambwani, Co-Chairman, ECR India and MD, Johnson & Johnson. The founder members include J&J, HLL, P&G, Godrej, Nestle, PwC, TCIL, Food World and EAN India. EAN India played instrumental role in bringing together retailers or manufacturers and other potential supply chain trading partners to formulate ECR India. It provides standards which facilitate ECR applications like CPFR, VMI (Vendor Managed Inventory) systems, Automated Replenishment etc. The movement has since then rapidly progressed to include over 36 companies to the group.

Four workgroups namely out of stock workgroup, logistic workgroup, collaborative guidelines work group, and data flow workgroup were formed to look at various problem areas and find out possible solutions for the manufacturers and retailers. These workgroups are expected to help streamline processes in the FMCG industry and fulfill ECR India’s mission of removing unnecessary costs from the supply chain and make the sector, as a whole, more responsive to consumer demand.

3.13. Findings

ECR has delivered some tangible benefits over last 10 years; still a lot remains to be done. Appendix-3.3 presents one successful case of ECR implementation in France. ECR to achieve maximum efficiency it should go beyond best practices guidelines. There is a
significant opportunity for ECR objectives to be achieved. Even today there are inefficiencies in the supply chain throughout the globe and the cost needs to be brought down to pass on benefits to the consumer. Improving effectiveness of business process to stimulate and drive significant growth holds key. Even though ECR has made a steady progress in terms of adoption, but manufacturers remain apprehensive about real benefits of ECR. One more important finding is that joint creation of customer value is critical to achieve customer satisfaction. Finally, ECR may not give competitive advantage to adopters but staying away from adopting ECR may create strategic disadvantage because of living with inefficiencies in the supply chain. Therefore, top managements buy-in is essential for adoption of ECR. Category management is already receiving increasing acceptance by Indian retailers and retailers are able to increase sales and profit.

As it is evident that collaborative effort is important for the success of ECR, so trading partners should step up to work together to create a ‘win-win-win’ scenario, where there will be benefits for retailers, manufacturers and customer. Truly to achieve ECR objective in India collaboration between trading partners holds key. Also retailer and manufacturers should collaborate with academic institution to bring out cutting edge research work in this field.
Reference


Appendix: 3.1: Conceptual Definition of terms used in ECR

ECR – A Definition

ECR has been summed up as “Working together to fulfill consumers’ wishes better, faster and at less cost”. This simple phrase contains a number of important elements in the definition:

**Working together:** All ECR concepts involve some form of collaboration between retailers and their suppliers along the vertical supply chain. This represents a fundamental change towards business relationships which are more open, more collaborative, with common business objectives. ECR seeks to re-focus energies on the common objective of growing the joint business and eliminating wasteful and costly business practices.

**Consumers’ wishes:** In ECR, everything retailers and manufacturers do should be focused on benefiting the consumer. If any given initiative does not have a tangible benefit for the consumer either through cheaper products, better service or product offerings more closely tailored to the consumer’s needs, then it does not belong within ECR. Putting the consumer at the centre of decision making with regard to choice of initiative can help trading partners to prioritize.

**Better, faster:** This covers all the operational factors covered by ECR. The outcome should allow consumer wishes to be fulfilled better and faster than if the trading partners had not decided to work together on adopting ECR. This could be in terms of better product offerings, easier to understand shelf layout and displays, promotions which better meet the needs of the consumer and the companies, all achieved in a shorter time.

**Less cost:** By working collaboratively, the trading partners should be able to identify opportunities to lower the total cost in the value chain, not just move cost from one party to another. Often the cost savings come from improved logistics, increased visibility in the supply chain and reduced wastage, but they can also come from reducing money wasted in failed promotions and product launches.
Appendix: 3.2: The Global Scorecard KPI

The Key Performance Indicators (KPIs)

KPI 1: Progress vs. Commercial Share Target
This measurement is used by companies to compare the performance of different business units and is not a useful measure of ECR adoption at an industry level. We have therefore decided not to use it in this study.

KPI 2: Service Level / Unit Fill Rate
In this context, service level is a performance indicator that measures the cases delivered as a percentage of the total number of cases ordered. Over deliveries and back orders are not included in this measure.

KPI 3: On-Time Delivery
On-time delivery measures the percentage of orders, which are delivered within the agreed period.

KPI 4: Raw Materials Inventory Cover
This KPI asks suppliers to estimate their raw materials inventory cover, measured in days of usage.

KPI 5: Supplier's Finished Goods Inventory Cover
This KPI asks suppliers to estimate their finished goods cover measured in days of sales.

KPI 6: Retail Distribution Centre Inventory Cover
This KPI looks at retailers' inventory cover in their distribution centres, measured in days of supply.

KPI 7: Retail Store Inventory Cover
The inventory cover in retailers' stores is another major supply chain performance indicator, and is measured in days of sales.

KPI 8: On-Shelf / Point-of-Sale Out-of-Stocks
This measure considers the average percentage of items which are out of stock on the retail shelf at any one time.

KPI 9: Order to Deliver Lead time
This KPI measures the supply chain's responsiveness to retail orders. Shorter lead times are beneficiary to the quality of the goods and allow reduced inventory covers.
KPI 10: Distribution Costs (% of sales value)
To make the distribution costs comparable, they are given as a percentage of the sales value of the goods (making the analysis vulnerable to pricing issues). Distribution costs depend strongly on the geography, the population density and the industry/retails structure in a country.

KPI 12: Master Data Accuracy
This KPI measures the alignment of neutral master data between trading partners.

KPI 13: Invoice Accuracy
This performance indicator looks on invoice accuracy in a broader sense than KPI 12. It measures the alignment of all data given on an invoice.

KPI 14: Perfect Order Rate
Perfect order rate measures the percentage of orders that are processed automatically, delivered correctly in quantity, on time and free of damage, and invoiced correctly.
Appendix 3.3: A Case on Unilever France and Carrefour

The partners
The retail group Carrefour operates stores of multiple formats in more than 30 countries. France, where the group is the leading retailer, accounts for about the half of its sales. Unilever is a leading international manufacturer of branded food and home & personal care products. In the French personal care market, its subsidiary Unilever France accounts for 20 percent of market share.

The category & market condition
The personal hygiene category (bath and shower products, deodorants and hair care) has to face a maturing market in France in particular in terms of penetration. Nonetheless value growth was achieved in the last years with the help of “upper-mass” ranges at grocery outlets. A trend towards sensory marketing as well as the targeting of men can also be observed.

Collaboration history
In 1997 Unilever has started adopting some ECR concepts mostly within the framework of category management, in order to develop the category in the partnership. Carrefour, as a major actor in France, was involved early in collaborative business plan initiatives. From 2000 on, the joint adoption of new logistics concepts, such as vendor managed inventory (VMI), has strengthened the regular exchange of information. In 2003 a customer business centre was launched to gradually regroup the consumer perspective and the supply chain perspective within Unilever and facilitate the coordination of ECR projects with clients, i.e. also Carrefour.
Adoption status

Due to the early focus on category management, demand side concepts of ECR are nearly fully adopted in the partnership between Unilever and Carrefour. Supply side concepts as well as enablers of ECR were adopted through the implementation of VMI and the focus on aligning supply chain activities in this partnership.

The adoption of ECR integrators is still in progress, especially due to the average maturity level of the French market in regards to exchange of information. However, recent efforts towards CPFR demonstrate a willingness to collaborate more closely in future, which is paired with an evolution of capabilities offered by enhanced information systems.

Accomplishments

The accomplishments of the strong partnership between Unilever and Carrefour can be illustrated, for example, with the significant acceleration of the diffusion rate of new products at stores, leading to a higher satisfaction of all involved parties and to an outstanding success of new product introductions. Furthermore, Champion Supermarkets’ ability to analyze the information base of its loyalty cards has provided Unilever a deeper shopper insight. This has enabled Carrefour to address specific consumers, selected according to jointly established criteria, through promotions that reflect the common strategy followed in this partnership. Such a focused collaboration has allowed enhancing the value for consumers.

Through better knowledge and understanding of the processes at the respective partner, collaborative processes have been improved. This has led to a more responsive and efficient relationship that increasingly harmonizes demand side and supply side aspects.
Lessons learned

Human relations play a key role. The competences of the contacts as well as the maturity of the partner’s organization have to be considered before making, respectively communicating, any change. However, manufacturers should always be ready and open to new concepts from retailers.

Stores are the contact point with the consumers. Their involvement is crucial to conduct on-shelf-availability projects that are later rolled-out successfully or to accelerate the diffusion rate of new products.

A deep socio-demographic analysis of the consumers of a product and the shoppers at the retailer allows fostering and focusing the partnership, achieving outstanding results. In the future there will be more information than goods that will be exchanged; to make a sensible use out of it will be challenge of tomorrow.