

# Out of Stock conditions affecting Customer satisfaction and customer loyalty

Jayanthi Ranjan

&

Sandeep Puri

Institute of Management Technology, Raj Nagar, India.

---

## Key Words

Out of stock conditions, Customer Satisfaction, Customer Loyalty, Customer Service and Indian Retail Management

## Abstract

*In the retail industry, customer experience, satisfaction and service are going to become the limiting differentiators. Increasing competition is creating pressure on retailers to improve both inventory turnover and customer service. Poor logistic management can result in either over stocking (leading to cash flow problems and unnecessary discounts) or lost sales due to stock outs. Stock outs can have serious impact on the business as it affects retailer's credibility and consumer's satisfaction. It is important to understand the cost of a retail stock out before the implementation of any retail inventory model. This paper gives valuable insights about customer value, satisfaction and loyalty that can be used by retailers in designing their logistics and inventory models. First, it examines the relationship between customer loyalty, customer value, customer satisfaction, logistics value and out of stock conditions. Second, it explores the role of improved inventory control and the logistics management on customer service. Finally, this study provides valuable insights to retailers on managing consumer's store attitude by making more informed and rationalized decisions regarding retail product offering and relevant environmental variables.*

---

## Introduction

India's overall retail sector is expected to rise to US\$ 833 billion by 2013 and to US\$ 1.3 trillion by 2018, at a compound annual growth rate of 10 per cent (AT Kearney, 2007). The share of retail trade in the country's gross domestic product is currently around 12 per cent, and is likely to reach 25 per cent by 2012. As a democratic country with high growth rates, consumer spending has risen sharply since the youth population has seen a significant increase in its disposable income. Also, organized retail, which accounts for almost 5 per cent of the market, is expected to grow at a CAGR of 40 per cent to reach US\$ 107 billion by 2013. Retailing in India is booming in line with information technology (IT) and is becoming a key contributor to service economy.

In the retail industry, customer experience, satisfaction and service are going to become the limiting differentiators. Increasing competition is creating pressure on retailers to improve both inventory turnover and customer service. Good customer service is going to be the success mantra for retail. Retailers need to have excellent supply chain management (SCM) in place to win the customers. If SCM is a backbone of a retailer then IT is the backbone of a great SCM. The basis for Retail logistics starts with a thorough understanding of customer's requirements. While establishing logistics strategies, we need to study the impact it has on corporate profitability decisions. Critical success factor here will be availability of stocks in the shelves. Many retailers still consider logistics just as back end activities of their operations but the modern logistics can play a much bigger role. It can help the retailers to differentiate themselves from the competition and achieve a higher and sustainable growth. This can also help them to offer better service and satisfaction to their customers. Higher costs can severely impact a segment's profitability. Intelligent supply chain management and strategic alliances will play critical role in achieving the required levels of service performance. As markets fragment, it will be important to identify the profitability of customers and products. It will also be critical to understand the affect of alternative supply chain strategies on the profitability of these segments.

In order to survive in a global economy, Retailers needs to be involved in the value-adding activities of inbound logistics, operations, outbound logistics, marketing and sales, and service at a lower cost. It is going to be necessary to have a low cost producer and a value-added supplier. One need to manage its merchandising and logistics functions as cost effectively and efficiently. Underperformance in these two functions not only reduces retailer's effectiveness but also affect the shopping experience for the customers that can affect satisfaction and loyalty of customers.

Inventory management and logistics in particular has become a critical activity in retail. Poor logistic management can result in either over stocking (leading to cash flow problems and unnecessary discounts) or lost sales due to stock outs. Stock outs can have serious impact on the business as it affects retailer's credibility and consumer's satisfaction. It is important to understand the cost of a retail stock out before the implementation of any retail inventory model. Unless these critical costs are known, retailers at large cannot balance the costs (and risk) of holding inventory with the loss of sales and profits when an item is out of stock. The relevant costs include both the lost sales from the current order because of cancellations, and the long-run costs if stock outs reduce the likelihood of future orders and visits by the customers.

As per one of the study by IBM and FinListics, out-of stock rates in the Grocery sector on average range from 7-10% worldwide and 70-75% of out of stocks conditions happen because of poor management of merchandising and logistics functions. Customers usually feel unsatisfied when they cannot get the merchandise of their choice. The same study also estimates that 31% of customers go to other outlets and 9% did not buy anything. This point is further strengthened by the American Customer

Satisfaction Index in which the customer satisfaction with the US Retailers fell from 75 to 72 on a 100 point scale during 2001-2005. The study suggested that retailers had given more emphasis to productivity at the expense of customer service.

Retailers should consider shelf space as their biggest asset and what occupies the shelf is the key to the success for retailers. Here the focus should be on logistics combined with technology for ordering the right inventory so as to ensure the availability of right product at the right time at the right place and in the right quantities. This strategy can help to offer better customer service.

We also went through various international papers, some of which highlighted the affect of stock outs on customer value, satisfaction and loyalty. There are many studies based on customer surveys in Retail management. Schary and Christopher (1979) found that nearly 50% of all consumers who reported that an item was out of stock intended to make their purchase at another retail outlet, while approximately 20% reported they would not make any purchase. Schary and Christopher (1979) also asked consumers to rate the image of the store. Store image ratings were lower for consumers who had reported a stock out than for consumers who had not. It is found that customers usually stay loyal to a company if they feel that they are receiving greater value than they would from the competitors (Bitner and Hubbert 1994; Bolton and Drew 1991; Sirdeshmukh et al. 2002).

This paper gives valuable insights about customer value, satisfaction and loyalty that can be used by retailers in designing their logistics and inventory models. First, it examines the relationship between customer loyalty, customer value, customer satisfaction, logistics value and out of stock conditions. Second, it explores the role of improved inventory control and the logistics management on customer service. Finally, this study provides valuable insights to retailers on managing consumer's store attitude by making more informed and rationalized decisions regarding retail product offering and relevant environmental variables.

The discussion is organized as follows. Next section enumerates motivation, review of literature and research methodology along with the study of relationships between Customer Value, Customer satisfaction, Customer Loyalty and Out of stock conditions. Third section elaborates managerial discussions and implications. Fourth section enumerates the recommendations and final section concludes the paper.

### **Motivation, Review of literature and Research methodology**

Effective inventory management is vital to retailing success. Most of the research in this area has focused on understanding consumer's response to out-of-stock situations in retail (Walter and Grabner, 1975; Schary and Becker, 1978; Zinszer and Lesser, 1980; Motes and Castelberry, 1985; Emmelhainz et al., 1991; Charlton and Ehrenberg, 1996). Few researchers have focused their research in examining relationships between retail inventory, sales, customer service and customer satisfaction.

According to Nevill et al, (1998) inventory tops the list of most valuable physical assets on nearly every trader's balance sheet. After cost of goods sold, the major costs incurred by retailers involve the resource trinity: space, labor and stock (Lusch, 1986; Larson and Lusch, 1990). Thus, essential measures of retail efficiency are sales per square foot, sales per employee, and stock turnover. Inventory provides product availability, a key dimension of customer service (LaLonde and Zinszer, 1976; Copacino, 1997). Stock outs (lack of availability) bring lost sales, backorder costs, delayed cash flow and lost customers.

The traditional way to create customer value is to offer a wide assortment of products at as low a price as possible (Bowersox *et al.*, 2000). However, widening of the product assortment also increases the costs of the retailer (Bayus and Putsis, 2001; Boatwright and Nunes, 2001). Successful companies create customer value in such a way that an optimal cost/benefit trade-off is reached and the profit contribution for the company is maximized (Christopher, 1992). Nevertheless, the most important solutions are those that increase customer value while reducing costs at the same time.

There is a growing interest among researchers towards inventory management/sales data systems that can help retail stores to make the most of its merchandise assortments and scarce shelf space (Orenstein, 1999). According to Coopers and Lybrand (1997), major areas of efficient consumer response (ECR) activity in the grocery business include: sales forecasting and statistical management of safety stock. Best practices in retail management call for a proper balance between inventory and service levels, recognition of the importance of merchandise availability, and accurate store sales/inventory data (Wilson et al., 1995).

Research in the last 2 decades has given lot of attention to customer satisfaction as a potential determinant of customer loyalty (Fornell 1992; Oliver 1999). Apart from improving customer satisfaction, increasing switching costs is a common strategy adopted by many companies to increase customer loyalty as the costs of switching to alternative suppliers can discourage customers from using other suppliers (Gronhaug and Gilly 1991; Heide and Weiss 1995). It is found that customers usually stay loyal to a company if they feel that they are receiving greater value than they would from the competitors (Bitner and Hubbert 1994; Bolton and Drew 1991; Sirdeshmukh et al. 2002).

There are many studies based on customer surveys in Retail management. Schary and Christopher (1979) found that nearly 50% of all consumers who reported that an item was out of stock intended to make their purchase at another retail outlet, while approximately 20% reported they would not make any purchase. Schary and Christopher (1979) also asked consumers to rate the image of the store. Store image ratings were lower for consumers who had reported a stock out than for consumers who had not. Walter and Grabner (1975) employed a similar methodology to estimate the costs of single and repeated stock outs based on consumer responses to their survey.

Another study by Emmelhainz et al. (1991) performed in-store interviews with customers who experienced stock outs and indicated that 32% switched brands, 41% purchased a different size or variety, while 14% planned to go to another store. Peckham (1963) categorized behavioral responses to out-of-stock conditions into three types: (1) Go for a substitute brand; (2) Buy different stock keeping unit (size/colour) in same brand; and (3) Do not buy.

Few studies that described why consumers responded in these ways related behaviors to buyer and product characteristics (Scharly and Christopher, 1979); "product-related attributes" and "situational factors" (Emmelhainz et al., 1991); "retail competition", and "shopping patterns" (Verbeke et al., 1998); consumer, situational and perceived store characteristics (Zinn and Liu, 2001); product, consumer and situational characteristics (Campo et al., 2003) .

### **Customer Loyalty, Customer Value, Customer Satisfaction, Logistics, Logistics value and out of stock condition**

Customer loyalty is a buyer's overall commitment to a product, service, brand, or organization (Oliver 1999). Customer loyalty concept is quite similar to relationship commitment, which is described in the literature of relationship marketing as a continuing desire to be in a cherished relationship (Anderson and Weitz 1992; Moorman et al.1992; Morgan and Hunt 1994). Customer loyalty manifests itself in a variety of behaviors exhibited by the customers, the more common one being the positive word of mouth about a retailer to other customers and repeatedly patronizing the provider (Dwyer, Schurr, and Oh 1987; Fornell 1992).

Customer value can be conceptualized as a comparison of weighted "get" attributes to "give" attributes (Heskett et al. 1994). Customer value is a ratio or trade-off between total benefit received to total sacrifices, taking into consideration the available suppliers' offerings and prices (Buzzell and Gale 1987). The sacrifice or price that a customer pays or considers consists of transaction costs, life cycle costs, and some degree of risk (Naumann 1995).

Customer satisfaction is usually defined as a positive emotional state resulting from the assessment of all aspects of a firm's working relationship with the customer. Two general conceptualizations of customer satisfaction exist in the literature: service encounter or transaction- specific satisfaction and overall or cumulative satisfaction (Bolton and Drew 1991; Cronin and Taylor 1994; Shankar et al. 2003). While transaction-specific satisfaction may provide specific analytical information about a particular product or service encounter, cumulative satisfaction (satisfaction that accumulates across a series of transactions or service encounters) is a more fundamental indicator of the firm's past, current, and future performance (Bitner and Hubbert 1994; Oliver 1996; Rust and Oliver 1994).

The Council of Logistics Management defines Logistics as the process of planning, implementing, and controlling the efficient, effective flow and storage of goods, services, and related information from point of origin to point of consumption for the purpose of conforming to customer requirements. Logistics can also be defined as a systems approach to planning, operating and controlling the total materials flow (raw-material, in-process inventories and finished goods) within the firm. Effective and efficient logistics management results in the right materials getting to the right place at the right time in useable condition for the lowest total logistics cost.

There are many definitions and descriptions of how logistics creates value. The traditional ones are based on the attributes of the creation of time and place utility (Mentzer *et al.*, 1989; Perreault and Russ, 1974). The “Seven Rs” describes the attributes of the company’s product/service offering that lead to utility creation for customer through logistics value, i.e. part of a product’s value is the company’s ability to deliver the right product in the right amount at the right place at the right time for the right customer in the right condition at the right price (Coyle *et al.*, 1992; Shapiro and Heskett, 1985; Stock and Lambert, 1993). This definition implies that part of the value of a product is created by logistics service, i.e. the attributes of the process by which the item gets to the end user.

La Londe and Zinszer (1976) provide a good explanation of how customer service adds logistics value through three components (1) An activity to satisfy customers’ needs; (2) Measures to ensure customer satisfaction; and (3) A philosophy of a firm-wide commitment.

Out of Stock condition from a retailer’s perspective can be described as condition when a particular percentage of products are not there on the retail store shelf at a particular point in time. It is usually measured by audits, normally in selected categories, and then aggregated.

Out of Stock condition from a shopper’s perspective can be described as condition when a shopper looks for an item in the store and does not find it on the expected shelf. This can be calculated as a percentage and is usually measured by estimation from store POS data. This is quite helpful for examining fast-moving items.

## **Relationship between Customer Value, Customer Satisfaction, Customer Loyalty and Out of stock conditions**

### **Customer value affects customer satisfaction**

Existing models of customer satisfaction which are based on the disconfirmation-of-expectations model (e.g., Cadotte *et al.*, 1987) have rarely addressed the role of customer perceived value as a precursor of customer satisfaction. Although most of these models incorporate benefits as a measure of performance, they ignore any sacrifice component of the customers. Shortcomings in benefits (such as stock outs) may be offset

by perceived reduction in sacrifices (e.g., price), making a customer still satisfied. Thus, sacrifices made by customers need to be taken into account when the precursors of customer satisfaction are investigated.

Review of service management literature suggests that customer satisfaction is the result of a customer's perception of the value received in a transaction or relationship (Heskett et al. 1997). Customer value can be considered as a cognition-based construct capturing benefit-sacrifice incongruity, whereas customer satisfaction is primarily an affective and evaluative response (Oliver 1993). Satisfied customers are found to be more willing to repeat patronizing the particular retailers and also to recommend the retailer to other customers

### **Customer satisfaction affects customer loyalty**

Customer satisfaction is considered a critical value driver of the long-term relationship between retailers and customers (Geyskens et al.1999). Many studies have found that customer satisfaction affects variables that are indicators of customer loyalty (Ganesan 1994; Mittal and Kamakura 2001; Ross, and Baldasare 1998). A satisfied customer's response toward a retailer could motivate the customer to patronize the retailer again and recommend the retailer to other customers. Previous research has found support for both increasing and decreasing returns to scale in the effect of customer satisfaction on repurchase intention (Anderson and Sullivan 1990; Mittal and Kamakura 2001). Heskett et al. (1997) suggested that customer loyalty increase rapidly after customer satisfaction passes a certain threshold--that is, there are increasing returns to scale in the relationship between customer satisfaction and customer loyalty. Consistent with this "threshold" argument, research on the concept of customer delight has found that "tremendously satisfied" or "delighted" customers are much more likely to remain customers of a retailer than those who are merely "satisfied" (Oliver, Rust, and Varki 1997).

### **Customer loyalty has a reciprocal effect on customer satisfaction.**

Customer loyalty can drive customer satisfaction in a positive manner, and there could be a reciprocal effect between the two constructs. Loyal customers could derive important personal, noneconomic satisfactions from repeated social exchanges with a retailer and consequently find the overall experience more satisfying than disloyal customers (Dwyer et al. 1987; Shankar et al. 2003). Furthermore, loyal customers are much less susceptible to negative information about a service than are disloyal customers (Ahluwalia, Unnava, and Burnkrmut 1999). Therefore, there is a reciprocal effect of customer loyalty on customer satisfaction.

We can suggest that customer value affects customer satisfaction and customer satisfaction affects customer loyalty. Customer value is also found to be positively related to customer loyalty (Bolton and Drew 1991; Sirdeshmukh et al. 2002).

## **Out of stock conditions affect on customer satisfaction**

Research by Emmelhainz et al. (1991) which performed in-store interviews with customers who experienced stock outs and indicated that 32% switched brands, 41% purchased a different size or variety, while 14% planned to go to another store. Peckham (1963) categorized behavioral responses to out-of-stock conditions into three types: (1) Go for a substitute brand; (2) Buy different stock keeping unit (size/colour) in same brand; and (3) Do not buy.

Review of literature also suggests that consumer response to stock outs is driven in large part by two factors: the effect of a stock out on the complexity of making a choice from the set and the degree of personal commitment to the out of stock alternative. It is found that personal commitment to an out of stock choice option is a function of preference for the alternative. As personal commitment to the out of stock option increases, consumers react substantially and negatively to the stock out—they report lower satisfaction and show a higher likelihood of switching stores on subsequent shopping trips. Overall it is found that out of stock conditions have negative impacts on the customer's satisfaction.

## **Discussions and Managerial Implications**

### **Discussions**

In order to survive in a global economy, Retailers needs to be involved in the value-adding activities of inbound logistics, operations, outbound logistics, marketing and sales, and service at a lower cost. It is going to be necessary to have a low cost producer and a value-added supplier. One need to manage its merchandising and logistics functions as cost effectively and efficiently. Underperformance in these two functions not only reduces retailer's effectiveness but also affect the shopping experience for the customers that can affect satisfaction and loyalty of customers. Inventory management and logistics in particular has become a critical activity in retail. Poor logistic management can result in either over stocking (leading to cash flow problems and unnecessary discounts) or lost sales due to stock outs.

We conducted several rounds of discussions with managers of retail stores, logistic managers, purchase managers, consultants and customers visiting the retail stores to have a view about the impact of stock outs on customers. Retailers visited and consulted for this study are: Big Bazaar, Easyday, Planet M, LM365, Vishal Mega Mart, Artdinox and Shoppers Stop in New Delhi, India. We discussed the problems faced by retailers and customers in relation to stock out conditions. Some of the findings of our discussions are:

- In spite of heavy investments to improve retail logistics, average stock out conditions faced by the shoppers still range between 8-10%
- Approximately 20% of shopper's time is wasted in looking for out of stock item
- Stock outs reduce the effectiveness of approximately 15% of promotional campaigns

- One of every 12 items on a shoppers list is usually not available
- Usually a retailer loses about 4 percent of sales due to having items out-of-stock.
- 70-75% of out of stocks conditions happen because of poor management of merchandising and logistics functions.
- Wrong ordering and forecasting accounts for 50% of stock outs
- 25-30% times goods are in the store but not on the shelf

Intuitively most of us may think that supply-chain inventory levels positively correlate with on-shelf availability but we found the opposite to be true. Higher supply-chain inventory actually correlates with higher rates of stock outs. This obvious paradox can be explained by the fact that the retailers with lower inventory levels tend to manage their logistics better and have their inventories in the right places.

It is found that although many retailers have invested heavily in new technologies but the impact of technology improvements implemented by the retailers have been offset by process complexity because of SKU proliferations, store level assortments and promotional proliferation. Many hindrances in retail logistics are faced at point of sales (POS). Here if the data does not get transferred from the warehouse to POS then neither is the store in a position to sell the products nor does it reflect in their stocks & this finally leads to stock discrepancy. This poor inventory control could lead to either over stocking or lost sales due to stock outs.

Consumer's when faced with stock out conditions have exhibited the following behaviour:

- Do not purchase
- Purchase elsewhere
- Substitute with the same brand
- Substitute with a different brand
- Delay their purchase

### **Managerial Implications**

Too much dependence on "rule-of-thumb" forecasting and past historical data, multiple inventory databases and inadequate planning integration make it hard to manage the required inventory levels, promotions and replenishment effectively. Poor store replenishment procedures, manual ordering systems and contradictory goals and metrics also contribute to stock outs and inventory errors. In aggregate, these problems mean that the retail shelves are filled with goods customers do not want, while the goods they require are out of stock.

Our discussions and findings lead us to the following implications of stock out conditions at retail stores:

- Stock outs lower the impact of promotions and trade promotion funds.
- Stock outs distort the true shopper demand and thus decrease the accuracy of forecasting and ordering.

- Stock outs distort the true store demand so forecasting and category management becomes less accurate and effective.
- Stock outs result in direct loss of brand loyalty and brand equity for products.
- Stock outs result in direct loss of store loyalty.
- Stock outs prompts the trial and adoption of competitor's brands
- Stock outs encourages the trial of other competitor's stores
- Stock outs impacts customer value and satisfaction
- Stock outs lead to increase in operational costs through personnel looking for stock out items
- Stock outs reduce the effectiveness of special promotional campaigns
- Not all stock outs are the same. A slow-moving item that is out of stock will be less costly to the store than a fast-moving item.

In fact, shoppers consider stock out as a negative factor and many times stop visiting a particular retailer after 2-3 such incidences. Many times a good experience is also affected by stock outs of promotional products. In the long term stock out conditions may also affect future patronage of the retailer; either by the same customer or by others because of negative word of mouth by dissatisfied customers.

The implications of our findings suggest that the cost of stock outs to retailer is greater than what has been considered by the retailers earlier. Based on our study, we felt that stock out is a serious condition that can have a long term impact on the revenues and profits of a business.

## **Recommendations**

In today's volatile economic environment retailers need to implement advanced technology solutions that optimize prices, incorporate intelligent inventory planning, and implement high-powered POS systems to speed checkout and enhance customer experience. Monitoring and analyzing real time inventory, forecasting accurate sales, optimizing store and shelf replenishment to reduce stock outs, and providing advanced customer analytics: This will help them to offer better service to shoppers and will increase customer value and satisfaction. This will also help food and grocery retailers do all of the above in ways that optimize costs and improve productivity.

Upon thorough review of literature and detailed discussions and interactions with various stakeholders, we advocate the following measurements to manage stock outs in retail logistics that can help to increase customer loyalty, value and customer satisfaction:

- **Understand consumer's reactions to retail stock outs**

Understanding of consumer's reactions to stock out conditions can help retailers to develop better merchandising and inventory management practices. Sometimes consumers shifts to private labels of the retailers because of stock out of their preferred brand and here stock out is having a positive impact on the retailer in the short term.

- **Inventory control Management**

Retailers and suppliers need to work in tandem to reduce total supply chain inventory. Too much dependence on “rule-of-thumb” forecasting and past historical data and inadequate planning integration need to be avoided as it reduce the effectiveness of inventory management.

- **Develop a completely integrated merchandising and supply organization.**

Retailers will have to develop common planning mechanisms, systems, processes, metrics and information flows to connect employees working in different merchandising and supply chain functions. This will help their staff to work as teams, share expertise and skills, and coordinate their activities. They will eventually have to include external suppliers and partners to leverage the full potential of this integrated structure. This will help to reduce the stock out conditions at point of sales

- **Make use of supply chain analytics and systematic data to further improve forecasting and ordering process**

Supply chain analytics combines technology with human effort to identify trends, perform comparisons and highlight opportunities in supply chain management even in the cases where huge amount of data is involved. It helps retailers to control, measure and improve their business strategies, plans and operations Retailers will have to foster a culture that embraces the extensive use of store data, implement the latest technologies and tools required to collect and analyze that data efficiently, and develop methodologies and practices to encourage data-based forecasting and ordering.

- **Align the offerings with actual customer demand.**

Retailers will have to know what different customer segments value, and how those values shape their behavior while shopping. They will have to give dynamic access to this information to their employees in the merchandising-supply chain networks, so that they can make decisions which take the needs and preferences of specific customer segments into account. In addition, retailers need to measure their performance for customer satisfaction parameters on a regular basis.

- **Modify operations to develop the most effective and efficient paths to market.**

Retailers will have to reconfigure their merchandising and supply chain processes and infrastructure to meet the needs of different customer segments, products, and markets. They will have to mold their service levels, sourcing strategies, transportation methods, distribution centers, stock levels and replenishment cycles accordingly. This model of retail logistics will enable retailers to cater to different customer segments, make their products more innovative and appealing. This will also ensure that different products are available in the right amounts and the right channels at the right times.

## Conclusions

This paper gives valuable insights on relationships between retail logistics, customer service, customer satisfaction, loyalty and out of stock conditions affecting them. Long-term stock out problems affects not only the sales of the product, but also the likely potential of a consumer to switch retailers.

In today's unpredictable economic climate, retail logistics is becoming more important than ever before. Getting the right amount of goods to the right place at the right time is significant, especially in an age when budgets are tight and customer's demands are unpredictable and unforgiving. In the best of times, logistics managers only execute 80% of the time. However, in tougher economic times, this margin for error is too high. Logistics management is evolving in significant ways to address these problems. Internet utilization, combined with the proliferation of reverse logistics and the impact of technology advancements in real-time logistics event management and visibility, are fundamentally changing the role of retail logistics in organizations. In order to succeed in today's competitive marketplace, companies must be aware of these trends and develop a retail logistics strategy that capitalizes on the best-of-breed technology solutions available today, so that they can meet the demands of their customers today and be well prepared for the future.

It is found that the retailers with efficient logistic practices that satisfy customers with lower rates of stock outs are more likely to succeed in this tough economic environment. As retailers improve their logistic management and meet the demands of customers more efficiently, they are more likely to generate greater value for all their stakeholders.

In conclusion, we can say that reducing stock outs is essential but it comes at a price. Retailers in India need to take initiatives that cut across functional boundaries and also require a basic rethinking of retailer processes. Thus, it's not surprising that some of the retailers and suppliers did not follow through with the necessary actions even after having measured the extent of stock outs in their business. Clearly, there is a minimum out-of-stock rate where cost to reduce further is more than the benefit to a retailer. In fact, in some cases, occasional stock outs can be even beneficial as certain availability may eventually increase price competition. In these cases, a retailer can gain more by stocking less. Regardless, stock outs remain a major issue for not only the retailers, but also for all parties in the retail logistics. As many retailers in India begin to address stock outs with the newer, technologically superior solutions, they are benchmarking new standards followed in the western countries.

## References:

- Ahluwalia, Rohini, H. Rao Unnava, and Robert E. Bumkrant. 1999. "Towards Understanding the Value of a Loyal Customer: An Information-processing Perspective." Report No. 99-116. Marketing Science Institute, Cambridge, MA.
- Anderson, Erin and Barton Weitz. 1992. "The Use of Pledges to Build and Sustain Commitment in Distribution Channels." *Journal of Marketing Research* 24 (February): 18-34.
- Anderson, Eugene W. and Mary W. Sullivan. 1990. "The Antecedents and Consequences of Customer Satisfaction for Firms." *Marketing Science* 12 (2): 125-143.

- Bayus, B. L. and W. Putsis (2001). "An Empirical Analysis of Firm Product Line Decisions", *Journal of Marketing Research*, 38 (February), 110-118.
- Bitner, Mary J. and A. R. Hubbert. 1994. "Encounter Satisfaction Versus Overall Satisfaction Versus Quality?" In *Service Quality: New Direction in Theory and Practice*, chap. 3. Eds. Roland T. Rust and Richard L. Oliver. Thousand Oaks, CA: Sage, 72-94.
- Boatwright, Peter, Joseph C. Nunes. 2001. Reducing assortment: An attribute-based approach. *J. Marketing* 65(July) 50-63.
- Bolton, Ruth N. and J. H. Drew. 1991. "A Multistage Model of Customer's Assessments of Service Quality and Value" *Journal of Consumer Research* 17 (4): 375-384.
- Bowersox, D.J., Closs, D.J., Stank, T.P., 2000. Ten mega-trends that will revolutionize supply chain logistics. *Journal of Business Logistics* 21 (2), 1-16.
- Cadotte, Ernest R., Robert B. Woodruff, and Roger L. Jenkins. 1987. "Expectations and Norms in Models of Consumer Satisfaction" *Journal of Marketing Research* 24 (August): 305-314.
- Campo, K., E. Gijbrecchts, P. Nisol. 2003. The impact of retailer stockouts on whether, how much, and what to buy. *Internat. J. Res. Marketing* 20 273-286.
- Charlton, P., A. S. C. Ehrenberg. 1976. An experiment in brand choice. *J. Marketing Res.* 13(2) 152-160.
- Christopher, M. (1992), *Logistics & Supply Chain Management*, Pitmans, London.,
- Coopers and Lybrand (1997) *Efficient Consumer Response - Europe: Value chain analysis project overview*, <http://www.coopers.co.uk/managementconsulting/ecr/>, last access: Nov 2009.
- Copacino, W.C. (1997), *Supply Chain Management: The Basics and Beyond*, St Lucie Press, Boca Raton, FL.,
- Coyle, J.J., Bardi, E.J. and Langley, C.J. Jr (1992), *The Management of Business Logistics*, Fifth Edition, West Publishing Co., St Paul, MN, pp. 38-9.
- Cronin and S. A. Taylor. 1994. "SERVPERF Versus SERVQUAL: Reconciling Performance-Based and Perceptions-Minus-Expectations Measurement of Service Quality." *Journal of Marketing* 58 (i): 125-131.
- Definition provided by the Council of Logistics Management, 1986.
- Dwyer, E Robert, Paul H. Schurr, and Sejo Oh. 1987. "Developing Buyer-Seller Relationships?" *Journal of Marketing* 51 (April): 11-27.
- Emmelhainz, M. A., J. R. Stock, L. W. Emmelhainz. 1991. Consumer responses to retail stockouts. *J. Retailing* 67(2) 138-147.
- Fornell, Claes. 1992. "A National Customer Satisfaction Barometer: The Swedish Experience?" *Journal of Marketing* 56 (1): 6-21.
- Buzzell, R. and B. Gale. 1987. *The PIMS Principles*. New York: Free Press.
- Ganesan, Shankar. 1994. "Determinants of Long-Term Orientation in Buyer-Seller Relationships?" *Journal of Marketing* 58 (April): 1-19.
- Geyskens, Inge, Jan-Benedict E. M. Steenkamp, and Nirmalya Kumar. 1999. "A Meta-Analysis of Satisfaction in Marketing Channel Relationships?" *Journal of Marketing Research* 36 (May): 223-238.
- Gronhaug, Kjell and Mary C. Gilly. 1991. "A Transaction Cost Approach to Consumer Dissatisfaction and Complaint Actions?" *Journal of Economic Psychology* 12 (1): 165-183.
- Heide, Jan B. and Allen M. Weiss. 1995. "Vendor Consideration and Switching Behavior for Buyers in High-Technology Markets." *Journal of Marketing* 59 (July): 30-43.
- Heskett, James L., Thomas O. Jones, Gary W. Loveman, Earl W. Sasser, and Leonard A. Schlesinger. 1994. "Putting the Service-Profit Chain to Work." *Harvard Business Review* 72 (2): 164-174.

- Heskett, J.L., 1987. Lessons in the service sector. *Harvard Business Review* 65, 118-126.
- Heskett, Earl W. Sasser, and L. A. Schlesinger. 1997. *The Service Profit Chain*\_9 New York: Free Press.
- IBM (2006). 'Charting a new course, "The retail merchandising-supply network"'. Retrieved on 22<sup>nd</sup> Dec, 09 from [www-935.ibm.com/services/us/gbs/bus/pdf/g510-6283-00-charting-a-new-course.pdf](http://www-935.ibm.com/services/us/gbs/bus/pdf/g510-6283-00-charting-a-new-course.pdf)
- LaLonde, B.J., Zinszer, P.H. (1976), *Customer Service Meaning and Measurement*, National Council of Physical Distribution Management,, Chicago, IL
- Lambert, D.M. and Stock, J.R., *Strategic logistics Management*, 3rd ed., Richard D. Irwin, Homewood, IL, 1993, p. 42.
- Larsen, P. D., & Lusch, R. F. (1990). Quick response retail technology: Integration and performance measurement. *The International Review of Retail, Distribution and Consumer Research*, (October), 17-34.
- Lusch, R.F. (1986), "The new algebra of high performance retail management", *Retail Control*, pp.15-35
- Mentzer, J. T., Gomes, R., & Krapfel, R. E. (1989). Physical distribution service: A fundamental marketing concept? *Journal of the Academy of Marketing Science*, 17(Winter), 53-62.
- Mittal, Vikas and Wagner A. Kamakura. 2001. "Satisfaction, Repurchase Intent, and Repurchase Behavior: Investigating the Moderating Effect of Customer Characteristics." *Journal of Marketing Research* 38 (February): 131-142.
- Mittal, Vikas , William T. Ross, and Patrick M. Baldasare. 1998. "The Asymmetric Impact of Negative and Positive Attribute-Level Performance on Overall Satisfaction and Repurchase Intentions?" *Journal of Marketing* 62 (January): 33-47.
- Moorman, Christine, Gerald Zaltman, and Rohit Deshpande. 1992. "Relationships Between Providers and Users of Marketing Research: The Dynamics of Trust Within and Between Organizations?" *Journal of Marketing Research* 29 (August): 314-329.
- Morgan, Robert M. and Shelby D. Hunt. 1994. "The Commitment-Trust Theory of Relationship Marketing?" *Journal of Marketing* 58 (July):20-38.
- Motes, W. H., S. B. Castleberry. 1985. A longitudinal field test of stockout effects on multi-brand inventories. *J. Acad. Marketing Sci.* 13(Fall) 54-68.
- Naumann, Earl. 1995. *Creating Customer Value: The Path to Sustainable Competitive Advantage*. Cincinnati, OH: Thomson Executive Press.
- Nevill, S.J., Rush, D.G. and Sadd, D.W. (1998), "Real-world examples of inventory effectiveness", *Supply Chain Management Review*, Vol. 2 No. 3, pp. 39-46.
- Oliver, Richard L. 1993. "Cognitive, Affective, and Attribute Bases of the Satisfaction?" *Journal of Consumer Research* 20 (3): 451-466. \_9 1996. *Satisfaction: A Behavioral Perspective on the Consumer*. New York: McGraw Hill.
- Oliver, Richard L. 1999. "Whence Consumer Loyalty?" *Journal of Marketing* 63 (Special Issue): 33-44.
- Oliver, Richard L, Roland Rust, and S. Varki. 1997. "Customer Delight: Foundations, Findings and Managerial Insight." *Journal of Retailing* 73 (3):311-36.
- Orenstein, D. (1999), "Sales data helps 7-eleven maximize space, selection", *Computerworld*, pp.38..
- Paul H. Zinszer and Jack A. Lesser, " An Empirical Evaluation of the Role of Stock-out on Shopper Patronage Processes," in *Marketing in the 80's:AMA Educators Conference Proceedings*(1980): 221-224
- J.O. Peckham, The consumer speaks, *Journal of Marketing* 27 (1963) (4), pp. 21-26.

- Perreault, W.D., Russ, F.A. (1974), "Physical Distribution Service: A Neglected Aspect of Marketing Management", MSU Business Topics, No.Summer, pp.37-45.
- Philip B. Schary and Boris W. Becker, "The Impact of stock-out on Market Share: Temporal Effects," *Journal of Business Logistics* 1(1)(1978):31-44
- Rust, Roland T. and Richard L. Oliver. 1994. *Service Quality: New Directions in Theory and Practice*. Thousand Oaks, CA: Sage.
- Schary, P. B., M. Christopher. 1979. The anatomy of a stockout. *J. Retailing* 55(2) 59-70.
- Shankar, Venkatesh, Amy K. Smith, and Arvind Rangaswamy. 2003."Customer Satisfaction and Loyalty in Online and Offiine Environments"*International Journal of Research in Marketing* 20:153-175.
- Shapiro, R.D., Heskett, J.L. (1985), *Logistics Strategy: Cases and Concepts*, West Information Publishing Group, London
- Sirdeshmukh, Deepak, Jagdip Singh, and Barry Sabol. 2002. "Consumer Trust, Value, and Loyalty in Relational Exchanges?" *Jourmd of Marketing* 66 (1): 15-37.
- Schiller, Z., "Stalking the New Consumer", *Business Week*, 28 August 1989, pp. 54-62 (at p. 62).
- The Global Retail Development Index Emerging Market Priorities for Global Retailers" Copyright 2007, A.T.Kearney, Inc.
- W. Verbeke, P. Farris and R. Thurik, Consumer response to the preferred brand out-of-stock situation, *European Journal of Marketing* 32 (1998) (11/12), pp. 1008-1028.
- Walter, C. K., J. R. Grabner. 1975. Stockout cost models: Empirical tests in a retail situation. *J. Marketing* 39(July) 56-68.
- William T. Ross, and Patrick M. Baldasare. 1998. "The Asymmetric Impact of Negative and Positive Attribute-Level Performance on Overall Satisfaction and Repurchase Intentions?" *Journal of Marketing* 62 (January): 33-47.
- Wilson, B.L., Kingdon, M., Reeve, T. (1995), "Best practices in retailing: quick hits in store-level merchandise and inventory management", *Chain Store Age*, pp.100.
- W. Zinn and P.C. Liu, Consumer response to retail stockouts, *Journal of Business Logistics* 22 (2001) (1), pp. 49-72.